

Date 2 Jan 2023

To,
The Regional officer, MPCB – Navi Mumbai
7th Floor, Raigad Bhavan, Sector 11, CBD Belapur,
Navi Mumbai, Maharashtra 400614

Subject: Submission of Six-Monthly Compliance Report for Period of June 2022 to Dec 2022

Reference: Environmental Clearance Letter Number: **EC22B038MH187924** dated 4th May, 2022

Respected Sir,

As per above mentioned subject, AMANTHIN INFO PARKS PVT. LTD has proposed a Data Centre [IT/ITes] project at Plot No. D -31 & D-32, TTC Industrial Area, Turbhe, Navi Mumbai Dist. Thane

AMANTHIN INFO PARKS PVT. LTD. has obtained Environmental Clearance for the proposed project from Environment Department and as per the condition of EC, herewith submitting the Six-Monthly Compliance Report of obtained EC for your reference.

AMANTHIN INFO PARKS PVT. LTD requests your good selves to acknowledge the same and oblige.

Thanking you,
For AMANTHIN INFO PARKS PVT. LTD



Rahul Nair;
Director



CC;

1. Member Secretary, MPCB, Mumbai
2. The Regional Officer, Nagpur
3. The Chairman, SEIAA, Mumbai
4. The Municipal Commissioner – Thane
5. Secretary, MOEF & CC, IA-Division MOEF & CC
6. District Collector, Thane
7. CEO, MIDC, Mumbai

Amanthin Info Parks Private Limited

Registered Office

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CIN: U45500MH2021PTC356317

Six Monthly Compliance Report of AMANTHIN INFO PARKS PVT. LTD.

1st July 2022 to 31st Dec 2022

Environmental Consultant



202, Hem Opal, Plot No. 26, Ekta Society,
Near Joshi Wadewale Lane, Wakadewadi,
Pune 411003

Website: www.technogreen.co.in

Submitted By
AMANTHIN INFO PARKS PVT LTD.
Plot No. D-31 & D-32, TTC Industrial
Area, Turbhe, Navi Mumbai Dist.
Thane.

Document Name: TES/C/PECR/AIPPL/2022-23/004

ENVIRONMENTAL CLEARANCE SIX MONTHLY COMPLIANCE REPORT

1. Summary

1.	Name of the Project	:	Proposed Data Centre Project by Amanthin Info Parks Pvt. Ltd.
2.	Name of Company/Organization	:	AMANTHIN INFO Parks S PVT. LTD.
3.	Project Type	:	Expansion
4.	Category	:	B2
5.	Project/Activity including Schedule No.	:	8 (a) Building and Construction Projects
6.	EC Identification Number	:	EC22B038MH187924
7.	File No.	:	SIA/MH/MIS/260695/2022
8.	EC Issue Date	:	04.05.2022
9.	Location	:	
	a. District	:	Thane
	b. State	:	Maharashtra
	c. Latitude/Longitude	:	19° 3'49.08"N 73°1'32.98"E
10.	Plot Area [m²]	:	39,980.00
11.	Built up Area [m²]	:	55,431.61
12.	Green Belt Area [m²]	:	4,005.00
13.	Address of correspondence	:	<ul style="list-style-type: none"> ▪ Name: Mr. Rahul Nair ▪ Mobile: 91-22 4043 6106 ▪ Email: rnair@everstonecapital.com ▪ Address: Plot No. D-31 & D-32, TTC Industrial Area, Turbhe, Navi Mumbai Dist. Thane
	(a) Address of concerned project Head	:	<ul style="list-style-type: none"> ▪ Name: Mr. Rahul Nair ▪ Mobile: 91-22 4043 6106 ▪ Email: rnair@everstonecapital.com ▪ Address: Plot No. D-31 & D-32, TTC Industrial Area, Turbhe, Navi Mumbai Dist. Thane
	(b) Address of Corporate Office	:	Plot No. D-31 & D-32, TTC Industrial Area, Turbhe, Navi Mumbai Dist. Thane

2. Introduction

has proposed a Data Centre [IT/ITes] project at Plot No. D-31 & D-32, TTC Industrial Area, Turbhe, Navi Mumbai Dist. Thane. PP has obtained Environmental Clearance [**Annexure 1**] under “8(a) ‘B2’ Building & Construction Projects” vide no. **EC22B038MH187924** on 04.05.2022 for the proposed project for the Plot area of 39,980.00 m² and BUA 55,431.61 m² from Environment Department, Maharashtra.

Proposed project is comprising of 5 buildings and open transformer area. Details of the project is presented in following table.

Project Details as per the Granted Environmental Clearance

S. N.	Particulars	:	Details
1.	Name of the Project	:	AMANTHIN INFO PARKS PVT. LTD
2.	Plot Area [m²]	:	39,980.00m ²
3.	Built up Area [m²]	:	55.431.61 m ²
4.	Green Belt Area [m²]	:	4,005.00
5.	Building Configuration	:	1 Bldg.– G + 4 Floors [Data Centre: G+2 and 2 Gantry: G+4]
6.	Project Cost	:	2,417.5Cr.
7.	EMP Cost	:	Capital Cost: 6.72 Cr. & O&M Cost: 0.64Cr./Year
8.	Population	:	Fixed - 188 Nos. Visitors: 12 Nos. Total: 200
9.	Total Water Requirement	:	40.8CMD [Fresh: 4.8+ Recycled: 3.9]
10.	Sewage Generation	:	8.2CMD
11.	STP Capacity	:	10CMD
12.	Solid Waste	:	Hazardous Waste <ul style="list-style-type: none"> ▪ Used / Waste Oil: 26,680LPA ▪ E-Waste: 188 kg/Year ▪ Used Batteries: 5,966 Nos./Year Non-Hazardous Waste <ul style="list-style-type: none"> ▪ Biodegradable: 24 kg/day ▪ Non-Biodegradable: 36 kg/day ▪ STP Sludge: 19.1 kg/Month ▪ Total: 60.627 Kg/day
13.	Power Requirement	:	Construction Phase: <ul style="list-style-type: none"> ▪ Connected Load: 200KVA ▪ D.G. Set: 125KVA x 2 Operation Phase: <ul style="list-style-type: none"> ▪ Source: MSEDCL ▪ Connected Load: 1,19,688KVA ▪ Demand Load: 1,08,807KVA ▪ Transformer Capacity: 4 X 220kV/22kV 60MVA ▪ D.G. Set: 2200KVA x 58. ▪ Fuel: HSD:24,824LPH ▪ Stack Height: 9m Each Above building roof
14.	Parking	:	<ul style="list-style-type: none"> ▪ Four-Wheeler: 294 Nos. ▪ Two-Wheelers: 28 Nos.

S. N.	Particulars	:	Details
			▪ Total Parking Area Provided: 3,752m ²

3. Current Status of Project

PP has obtained Environmental Clearance, PP had applied for the Consent to Establish and obtained on 5th Oct 2021 vide format no. Format1.0/CAC/UAN No.0000114958/CE 2110000151– **Annexure 2**. Accordingly, PP has started site preparation and excavation work on the site. Details of ongoing work is presented as below;

Project Status: Construction Status As on date: 30.12.2022

Sr. No.	Activity	Completion [Descriptive & %]
1.	Site Preparation	Site preparation done
2.	Excavation	Site excavation is in progress.
3.	RCC	Not Started
4.	Finishing	Not Started
5.	STP	Not Started
6.	OWC	Not Started
7.	Rainwater Harvesting and Storm water drainage	Not Started
8.	Landscape	Not Started

As per the condition of EC, herewith PP is submitting first Six-Monthly compliance report of granted EC conditions as presented in below table.

Specific Conditions:

Sr. No.	Conditions	Project Proponent's Response / Compliance Status
A. SEAC Condition		
1.	PP to submit IOD / IOA / Concession Document/Plan Approval or any other form of documents as applicable clarifying its conformity with local planning rules and provisions thereunder as per the circular dated 30.01.2014 issued by the Environment Department, Govt. of Maharashtra.	PP has obtained sanctioned Master Plan from MIDC on 03.11.2021. Annexure 3
2.	PP to obtain following NOCs as per revised planning: a. Sewer Connection b. Sewar Remark c. CFO NOC d. SWD NOC e. SWM/C&D NOC f. Tree NOC	Sewer Connection, Sewer Remark PP has obtained permission from MIDC for disposal of treated sewage through letter No. EE/Dn.II.IFMS/B16731/2022 dated 04.04.2022 – Annexure 4 CFO NOC PP has obtained Provisional Fire NOC from MIDC through Letter No. MIDC/FIRE/B-01659 dated 23.03.2022 – Annexure 5 SWD NOC PP has obtained Storm water Disposal NOC from MIDC through no.EE/Dn.II.IFMS/B12781/2022 dated 31.03.2022 & attached as Annexure 6 . SWM/C&D NOC PP has obtained Construction and Demolition NOC from MIDC through No. EE/DnII/MHP/SPA/A36066/2022 dated 31.01.2022 and attached as Annexure 7 . Tree NOC PP has obtained Tree transplantation NOC from MIDC through Letter No. MIDC/IFMS/THANE I/E&MD/EE Thane 2/2022/A38166 dated 01.02.2022 attached as Annexure 8 .
3.	PP to obtain Petroleum and Explosives Safety Organization (PESO) license from competent authority for storage of Diesel in the project premises.	PP has obtained provisional PESO license for Phase 1 through letter No. A/P/WC/MH/15/3357 (P515179) dated 24.11.2021 & Phase 2 through letter No. A/P/WC/MH/15/3362 (P524608) dated 27.12.2021 attached as Annexure 9
4.	PP proposes separate wing of building for placing floor wise DG sets in different compartment. PP to submit structural stability certificate of building for carrying entire load DG sets. PP to maintain stack height of DG sets as per CPCB norms.	PP shall provide adequate stack height as per CPCB norms.
5.	PP to explore possibility of developing Mijawaki forest.	PP has proposed to developed greenbelt as per the miiawaki scheme.
6.	PP to ensure disposal of e-waste, plastic waste and other waste as per norms and declare premises as plastic free zone.	PP ensures the disposal of E-waste, plastic waste & other waste as per norms & declare premises as plastic free zone. Undertaking

		of the same is attached as Annexure 10.
7.	PP to get NOC from competent authority with reference to Thane creek flamingo sanctuary.	As per Flamingo Notification issued on 14 th Oct 2021 Construction of any new commercial project shall not be permitted within 1km from boundary of the protected area or up to extent of the Eco-sensitive zone, Whereas the distance of project site from ESZ is more than 1km i.e. 3.72km. The Google image showing distance is attached as Annexure 11.
8.	PP to maintain 1.5Mtr. distance between STP & OWC.	The distance between STP & OWC is 2m. The master layout showing location of STP & OWC is attached as Annexure 3.
9.	PP to submit revise energy calculation with terrace floor plants.	PP has revised energy simulation calculation with terrace floor plants same attached as Annexure 12.
B. SEIAA Condition		
1.	PP to conduct tree census and to submit details of compensatory tree plantation clearly demarcating both trees to be cut & trees to be transplanted as per amended Maharashtra (Urban Areas) Protection & Preservation of Trees Act, 1975. PP to plant as many trees as the cumulative age of trees to be cut & transplanted. PP has proposed to plant 3419 trees as compensatory plantation. PP has provided area of 4005.m ² for compensatory tree plantation.	PP has carried out Tree survey & Tree plantation will be done according to the amended Maharashtra (Urban Areas) Protection & Preservation of Trees Act, 1975.
2.	PP to keep open space unpaved so as to ensure permeability of water. However, Whenever paving is deemed necessary, PP to provide grass pavers of suitable types & strength to increase the water permeable area as well as to allow effective fire tender movement.	PP shall ensure that it will keep maximum open space unpaved and whenever paving is deemed necessary, PP will provide grass paver of suitable types & strength to increase the water permeability as well as allow effective fire tender movement.
3.	PP to achieve at least 5% of total energy requirement from solar/other renewable sources.	PP proposed to save 10% energy requirement of FS building from solar.
4.	PP Shall comply with Standard EC conditions mentioned in the Office Memorandum Issued by MoEF& CC vide F.No.22-34/2018-IA.III dt.04.01.2019.	Noted and PP will comply
5.	SEIAA after deliberation decided to grant EC for- FSI- 37241.21m ² , non-FSI- 7142.71m ² . Total BUA-44383.92m ² . (Plan approval from Executive Engineer Mahape dated 27.12.2021).	Noted

General Conditions:

Sr. No.	Conditions	Project Proponent's Response / Compliance Status
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.	PP has provided separate dust bins for dry waste and wet waste collection and segregation of generated solid waste from construction labours. Dry waste shall be handed over to the authorized recycler and wet waste shall be handed over to the authorized vendor for proper treatment and disposal
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.	PP has provided adequate solid waste management system during construction phase and maximum construction debris and construction waste within the site for the leveling and filling purpose and balanced material will be disposed off at authorized site allocated by the Municipal Corporation / local authorities.
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.	Hazardous waste generation during construction phase will be Used/Spent oil from the DG Set and construction machineries. PP shall assure that it will be collected properly and disposed off to the authorized recycler as per the norms.
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.	Adequate drinking water and sanitary facilities is provided for construction workers at the site. Provision has been made for the toilets. PP has provided Septic Tank followed by soak pit for the treatment of sewage generated from construction labours & Installation of STP of 5KLD is in progress for treatment of sewage generated labours. Separate bins are provided for collection and segregation of solid waste generated and it will dispose off as per the applicable norms.
V.	Arrangement shall be made that waste water and storm water do not get mixed.	PP has proposed to provide separate dedicated stormwater system and sewerage system to ensure that there will be no mixing of wastewater and storm water
VI.	Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices.	PP has proposed to use pre-mixed concrete during construction phase to reduce the water consumption and also has proposed to utilize treated waste water for construction activity.
VII.	The ground water level and its quality should be monitored regularly in consultation with Ground Water Authority.	PP is not utilizing or extracting the ground water within the project site

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.	PP has obtained water supply permission from MIDC and no ground water shall be extracted for the construction activity as well as during operation phase.
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.	PP has proposed to use low flow fixture for the toilet flushing and drinking and also shall explore use of aerators or pressure reducing devices / sensor-based control to reduce the water consumption
X.	The Energy Conservation Building code shall be strictly adhered to.	PP shall abide the Energy Conservation Building code
XI.	All the topsoil excavated during construction activities should be stored for use in horticulture/landscape development within the project site.	PP has stored the topsoil excavated during construction within the project site and same shall be utilize for gardening purpose within the project premises only.
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.	Excavated material/soil will be used for the filling and leveling purpose and there will be no requirement for procuring soil from the outside the project premises
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.	PP shall monitor the ground water and soil quality to check the contamination of any heavy metals
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	PP shall strictly adhere to all the conditions mentioned in the Maharashtra (Urban Areas) Protection and Preservation of Trees Act, 1975 as amended. PP has obtained permission from MIDC for felling and transplantation of trees and shall abide all the conditions mentioned in the permission
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.	DG Sets of 125KVA x 2nos installed on site is used as power back up only and is being used during power failure only. PP proposed to use low Sulphur diesel only. It confirms noise level as per the prescribed norms PP has provided adequate stack height for proper dispersion of the emission
XVI.	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	PP shall strictly adhere to all the conditions mentioned in the Maharashtra (Urban Areas) Protection and Preservation of Trees Act, 1975 as amended. PP has obtained permission from MIDC for felling and transplantation of trees and shall abide all the conditions mentioned in the permission

XVII.	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.	The vehicle hired for transportation of Raw material will be adequately covered to avoid spillage/leakages
XVIII.	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.	PP has carried out Ambient Air Monitoring and Ambient noise monitoring to check the levels and monitored results are well within the residential standards. Adequate measures like fencing with adequate height around the site boundary is done and tree plantation work is in progress to reduce ambient air during construction phase, so as to conform to the stipulated standards by CPCB/MPCB. The monitoring Reports are attached as Annexure 13 .
XIX.	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	PP has provided acoustic enclosure to the installed DG set- 125KVA x 2nos and also provided adequate stack height.
XX.	Regular supervision of the above and other measure for monitoring should be place in all through the construction phase, so as to avoid disturbance to the surroundings by a separate environment cell/designated person	PP has appointed dedicated person for the monitoring and supervision of all environmental measures.
B. Operation phase		
I.	<p>a. The solid waste generated should be properly collected and segregated.</p> <p>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.</p> <p>c. Dry/inert solid waste should be disposed of to the approved sites for land filling after recovering recyclable material.</p>	<p>a. PP assures that Solid waste generated shall be collected and segregated</p> <p>b. PP has proposed to provide Organic Waste convertor for treatment of wet waste and manure shall be utilized for gardening purpose within the project premises</p> <p>c. Dry/inert solid waste will be disposed of through approved vendors</p>

II.	E-waste shall be disposed through Authorized vendor as per E-waste (Management and Handling) Rules, 2016.	PP assures that E waste will be disposed through Authorized vendor only
III.	<p>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.</p> <p>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.</p>	<p>a. PP assure that installation of STP will be certified by an independent expert and a report will be submitted to the MPCB before commissioning of the project. Treated sewage will be utilized to the maximum extent for gardening purpose. Necessary measures will be taken to mitigate odour issue.</p> <p>b. PP has proposed to provide full-fledged STP to treat the 100% generated sewage and maximum utilization of treated waste</p>
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.	PP shall start operation of data center only after completion of STP, MSW disposal facility, green belt development. Treated water shall be reutilized for the gardening purpose within the project premises.
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.	Noted
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.	PP assures that no public space will be utilized for the parking by employees of proposed data centers. PP has proposed parking facility provision as per the local norms and has provided adequate parking space for the employees and visitor within the project premises only.

VII.	PP to provide adequate electric charging points for electric vehicles (EVs).	Total 4 wheelers proposed are 294 nos & 28 two wheelers out of which electric charging facility will be provided for the 40% of the vehicles
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	PP has proposed to provide green belt area of 4005m ² and assures that green belt development will be done considering CPCB guidelines and in consultation with the local DFO/Agriculture department and as per the Tree NOC obtained
IX.	A separate environment management cell with qualified staff shall be set up for implementation of the stipulated environmental safeguards	PP shall set-up a separate environment management cell with qualified staff 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. This 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.	PP has proposed a Separate funds allocated for the implementation of environmental protection measures/EMP along with item-wise breaks-up. Capital cost proposed for EMP will be INR. 6.72Cr. and maintenance cost will be INR. 0.64Cr per year.
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 http://parivesh.nic.in	PP has advertised in the two local news-paper [Navshakti – Marathi Newspaper & Free Press – English Newspaper] informing that the project has been accorded environmental clearance. Annexure 14 News-paper cutting
XII.	Project management should submit half yearly compliance reports in respect of the stipulated prior environment clearance terms and conditions in hard & soft copies to the MPCB & this department, on 1st June & 1st December of each calendar year.	PP has submitted its immediate compliance report after obtaining EC and this is FIRST 6 MONTHLY COMPLIANCE REPORT and PP assures that it shall submit the report on regular basis as per the norms.
XIII.	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.	Copy of Environmental Clearance Letter is sent to the Municipal Commissioner, Thane and Local NGO. Ack. Copy of submitted letters is attached as Annexure 15 . PP has uploaded Copy of Environmental Clearance Letter on company website.

XIV.	The proponent shall upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; SPM, RSPM, SO ₂ , 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.	PP shall upload the status of compliance of stipulated EC conditions including results of monitored data on its website and assure that it shall update it periodically and 6 monthly compliance report shall be sent to the various concerned agencies in soft copies.
C. General EC Conditions		
I.	PP has to strictly abide by the conditions stipulated by SEAC& SEIAA.	Noted, PP assure that it shall abide all the conditions stipulated by the 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.	PP has obtained consent to establish from MPCB through Consent no. Consent Letter No.: Format1.0/CAC/UAN/No. 0000114958/CE - 2110000151 dated 05.10.2021
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.	Noted
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.	PP assures that it shall submit six monthly reports on the status of compliance of the stipulated EC conditions including results of monitored data
V.	The environmental statement for each financial year ending 31st March in Form-Vas it 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	PP shall submit environmental statement report once, operation is started

	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.	Noted, PP assures that 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
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.	Not Applicable
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.	Noted
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.	Noted, PP assures that it shall obtain all applicable permissions/NOCs before starting proposed work at site from the concerned agencies
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.	Noted

7.	Validity of Environment Clearance: The environmental clearance accorded shall be valid as per EIA Notification, 2006, amended from time to time.	Noted
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.	Noted
9.	Any appeal against this Environment clearance shall lie with the National Green Tribunal (Western Zone Bench, Pune), New Administrative Building, 1 st Floor, D-Wing, Opposite Council Hall, Pune, if preferred, within 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.	Noted

**List of Annexure for SIX Monthly Compliance Report
AMANTHIN INFO PARK PVT LTD**

Annexure	Particulars
1.	Environmental Clearance Copy
2.	Consent to Establish Copy
3.	Sanctioned Master Plan
4.	Permission from MIDC for disposal of treated sewage
5.	Provisional Fire NOC from MIDC
6.	Storm Water NOC
7.	Construction and Demolition NOC from MIDC
8.	Tree Cutting NOC from MIDC
9.	Provisional PESO License
10.	E Waste Battery HW Disposal Undertaking
11.	Distance from Eco sensitive zone
12.	Energy Simulation Report
13.	Monitoring Reports
14.	Newspaper Advertisement
15.	Ack. Copy of submitted EC letters to the NGO & Municipal Commissioner

ENVIRONMENTAL
CLEARANCE

Government of India
Ministry of Environment, Forest and Climate Change
(Issued by the State Environment Impact Assessment
Authority(SEIAA), Maharashtra)

To,

The Director
 AMANTHIN INFO PARK PVT. LTD.
 One Indiabulls center, 16th Floor, Tower 2A, Senapati bapat Marg,
 Mumbai-400013 -400703

Subject: Grant of Environmental Clearance (EC) to the proposed Project Activity under the provision of EIA Notification 2006-regarding

Sir/Madam,

This is in reference to your application for Environmental Clearance (EC) in respect of project submitted to the SEIAA vide proposal number SIA/MH/MIS/260695/2022 dated 09 Mar 2022. The particulars of the environmental clearance granted to the project are as below.

1. EC Identification No.	EC22B038MH187924
2. File No.	SIA/MH/MIS/260695/2022
3. Project Type	Expansion
4. Category	B2
5. Project/Activity including Schedule No.	8(a) Building and Construction projects
6. Name of Project	Proposed Data Centre Project by Amanthin Info Parks Pvt. Ltd.
7. Name of Company/Organization	AMANTHIN INFO PARK PVT. LTD.
8. Location of Project	Maharashtra
9. TOR Date	N/A

The project details along with terms and conditions are appended herewith from page no 2 onwards.

Date: 04/05/2022

(e-signed)
Manisha Patankar Mhaiskar
 Member Secretary
 SEIAA - (Maharashtra)

Note: A valid environmental clearance shall be one that has EC identification number & E-Sign generated from PARIVESH. Please quote identification number in all future correspondence.

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STATE LEVEL ENVIRONMENT IMPACT ASSESSMENT AUTHORITY

No. SIA/MH/MIS/260695/2022
Environment & Climate
Change Department
Room No. 217, 2nd Floor,
Mantralaya, Mumbai- 400032.

To
M/s. Amanthin Info Parks Pvt. Ltd.,
Plot No. D-31 & D-32, Turbhe MIDC,
TTC Industrial Area, Navi Mumbai,
Thane.

Subject : Environmental Clearance for Proposed Construction Project "Data Center (IT/ITEs)" located at Plot No. D-31 & D-32, Turbhe MIDC, TTC Industrial Area, Navi Mumbai, Thane by M/s. Amanthin Info Parks Pvt. Ltd.

Reference : Application no. SIA/MH/MIS/260695/2022

This has reference to your communication on the above-mentioned subject. The proposal was considered by the SEAC-2 in its 153rd & 168th meeting under screening category 8 (a) B2 as per EIA Notification, 2006 and recommend to SEIAA. Proposal then considered in 242nd (Day-1) meeting of State Level Environment Impact Assessment Authority (SEIAA).

2. Brief Information of the project submitted by you is as below:-

Sr. No.	Description	Details
1.	Plot Area (sq.m.)	39,980.00 m ²
2.	FSI Area (sq.m.)	53,404.6 m ²
3.	Non-FSI (sq.m.)	2,027.01 m ²
4.	Proposed built-up area (FSI + Non FSI) (sq.m.)	55,431.61 m²
5.	Earlier EC details with total construction area if any	EC No. SEIAA-2019/CR-49/SEIAA Dated 31.03.2020 Plot Area of 39,980m ² & Total BUA of 66,401.36m ²
6.	Construction completed as per earlier EC (FSI + Non FSI) (sq.m.)	No Construction is done on site
7.	Proposed Building Configuration	1 Building [G + 4 Floors]
8.	No. of Tenements & Shops	1 Building, no. shops as it is a Data Centre
9.	Total Population	▪ Fixed - 188 Nos. ▪ Visitors – 12 Nos.
10	Total Water Requirements CMD	Total Water – 40.8CMD ▪ Domestic Fresh – 4.8CMD

		<ul style="list-style-type: none"> ▪ Flushing Recycled – 3.9CMMD ▪ Gardening Fresh -27.8CMD ▪ Gardening Recycled -4.3CMD 	
11	Sewage Generation CMD	8.2CMD	
12	STP Capacity & Technology	Capacity: 10CMD Technology: Moving Bed Bioreactor (MBBR)	
13	STP Location	Near Sub Station	
14	Total Solid Waste Quantities with capacity of OWC to be installed	<ul style="list-style-type: none"> ▪ Dry Waste: 36kg/day ▪ Wet Waste: 24kg/day ▪ STP Sludge: 19.1kg/day ▪ Proposed OWC capacity – 30kg/day 	
15	R.G. Area in Sq.m.	RG Required	3,998m ²
		RG Provided on Mother Earth	4,005m ²
		RG Provided on ground	4,005.00m ²
		Total	4,005.00m ²
16	Power requirement	During Operation Phase:	
		Details	
		Connected load (kW)	1,03,367KW
		Demand load (kW)	1,08,807KVA
17	Energy Efficiency	The Total Energy saving only by solar is 10% of the FS Building Load	
18	D.G. set capacity	2200KVA x 58Nos.	
19	Parking 4W & 2W	<ul style="list-style-type: none"> ▪ Parking 4W: 294 ▪ Parking 2W: 28 	
20	Rain water harvesting scheme	Rooftop rainwater harvesting is proposed Industry has proposed to collect the Rooftop Rainwater to the tune of 450m ³ and has proposed Collection Tank of 450m ³	
21	Project Cost in (Cr.)	Rs. 2,417.5Cr.	
22	EMP Cost	<ul style="list-style-type: none"> ▪ Capital Cost: 6.72 Cr. ▪ O&M Cost: 0.64Cr./Year 	
23	CER Details with justification if any	CER Fund is calculated as per new Office Memorandum dated 1.05.2018 issued by MoEF&CC	
		Project Type	Brownfield Project
		CER Amount	12.0875Cr.
24	Details of Court Cases/ litigations w.r.t the project and project location, if any.	Not any	

The comparative statement regarding project details sanctioned in earlier EC and present proposal is as follows:

Sr. No.	Details	As per Existing EC No. SIA/MH/MIS/145018/2020 dated 31.03.2020	Proposed Configuration	Remark
A	General & Area Details			
1	Name of Project	Proposed Development of Commercial IT Park by Greenscape Builtcon LLP	Proposed Development of Data Centre by Amanthin Info Parks Pvt. Ltd.	
2	Address	Plot No. D- 31 and D-32, TTC Industrial Area, Turbhe, Navi Mumbai, Dist. Thane	Plot No. D- 31 and D-32, TTC Industrial Area, Turbhe, Navi Mumbai, Dist. Thane	No Change
3	Plot Area – m ²	39,980.0	39,980.0	No Change
4	FSI Area - m ²	39,077.08	53,404.6	Increased by 14,327.2m ² i.e., 26%
5	Non FSI Area - m ²	27,324.36	2,027.01	Decrease by 25,297.35m ² i.e., 92.5%
6	Total BUA Area - m²	66,401.44	55,431.61	Reduced by 10,969.83m² i.e., 16.5%
7	Ground Coverage	-	16,283.89m ² [40.73%]	NA
8	No. of Buildings	2 Buildings	1 Building + Water Tank + STP + Electrical Substation	Decreased by 1 Building
9	Floor	Bldg. 1 – G +1st Floor Bldg. 2 – G + 1st Floor Podium (Parking) + 12 Upper Floor	Bldg. 1 – G + 4 Floors [Data Centre: G+2 and 2 Gantry: G+4]	-
10	Height	-	51m	51m
11	Tenements	Office – 25Nos.	1 Data Centre Building	-
12	Population	Fixed - 6009 Nos. Visitors – 590 Nos.	Fixed - 188 Nos. Visitors – 12 Nos.	Fixed decreased by 5821

Sr. No.	Details	As per Existing EC No. SIA/MH/MIS/145018/2020 dated 31.03.2020	Proposed Configuration	Remark
				Visitors decreased by 578
13	Project Cost – Cr.	Rs. 287.07	Rs. 2,417.5	Increased by 2130.43Cr.
B	Water Consumption & Wastewater Generation			
1	Total Water Demand	Domestic Fresh – 154CMD Flushing Recycled – 126CMMD Gardening Recycled - 35CMD Total Water – 315CMD	Domestic Fresh – 4.8CMD Flushing Recycled – 3.9CMMD Gardening Fresh - 27.8CMD Gardening Recycled - 4.3CMD Total Water – 40.8CMD	Domestic Fresh Water requirement decreased by 149.2CMD Flushing Recycled Water requirement decreased by 122.1CMD Total Water Requirement decreased by 274.2CMD
2	Sewage Generation	249CMD	8.2CMD	Decreased by 240.8CMD
3	STP Capacity	275CMD	10CMD	Decreased by 265CMD
4	Rain Water Harvesting	2 Tanks [385Cub.M] 135Cub.M & 250Cub.M	1 Tank of 500Cub.M	Increased By 115Cub.M
C	Solid Waste Details			
NON-HAZARDOUS WASTE				
1	Dry Waste	808.51kg/day	36kg/day	Decreased by 772.51kg/day due to decrease

Sr. No.	Details	As per Existing EC No. SIA/MH/MIS/145018/2020 dated 31.03.2020	Proposed Configuration	Remark
				in population
2	Wet Waste	539kg/day	24kg/day	Decreased by 515kg/day due to decrease in population
3	STP Sludge	-	19.1kg/day	-
HAZARDOUS WASTE				
1	Used / Spent Oil	-	26,680LPA	-
2	E Waste	-	188kg/Year	-
3	Used Battery	-	5,966Nos./Year	-
D	Energy Details			
CONSTRUCTION PHASE				
1	Connected Load	-	200KVA	-
2	DG Set	-	125KVA x 2	-
OPERATION PHASE				
1	Source of Power	MSEDCL	MSEDCL	No Change
2	Connected Load	6,507.46KW	1,19,688KVA	Increased by 113180.54KVA as it is a Data Centre
3	Demand Load	5,472KW	1,08,807KVA	Increased by 10333.5KVA as it is a Data Centre
4	Transformer	2000KVA x 3	4 X 220kV/22kV 60MVA	Increased as it is a Data Centre
5	DG Set	1500KVA x 4	2200KVA x 58	Increased as it is a Data Centre
6	Fuel	-	HSD - 24,824LPH	Increased as it is a Data Centre
7	Stack Height	-	3m Each Above building roof	-

Sr. No.	Details	As per Existing EC No. SIA/MH/MIS/145018/2020 dated 31.03.2020	Proposed Configuration	Remark
8	Annual Energy Savings only by solar %	5.5%	10% of the FS Building Load	-
E	Parking Details			
1	4 Wheelers	881	294	Decreased by 587 due to decrease in Population
2	2 Wheelers	88	28	Decreased by 48 due to decrease in Population
3	Area Provided For 4 Wheelers	-	3,696m ²	-
4	Area Provided For 2 Wheelers	-	56m ²	-
5	Total Parking Area	-	3,752m ²	-

3. Proposal is for Expansion of existing construction project. PP obtained earlier EC vide SIA /MH / MIS /145018/2020, Dated: 31/03/2020 for plot area of 39,980.00 Sq. Mtrs, Total construction area of 66,401.44 Sq.Mtrs and FSI area of 39,077.08 Sq.Mtrs. Proposal has been considered by SEIAA in its 242nd (Day-1) meeting 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:

A. SEAC Conditions-

1. PP to submit IOD/IOA/Concession Document/Plan Approval or any other form of documents as applicable clarifying its conformity with local planning rules and provisions as per the Circular dated 30.01.2014 issued by the Environment Department, Govt. of Maharashtra.
2. PP to obtain following NOCs as per revised planning:
 - a) Sewer Connection, b) Sewer remarks, c) CFO NOC, d) SWD NOC, e) SWM /C&D
 - b) NOC, f) Tree NOC.
3. PP to obtain Peso license from competent authority for storage of Diesel in project premises.
4. PP proposes separate wing of building for placing floor wise DG sets in different compartment. PP to submit structural stability certificate of building for carrying entire load DG sets. PP to maintain stack height of DG sets as per CPCB norms.

5. PP to explore possibility of developing Miyawaki forest.
6. PP to ensure disposal of e-waste, plastic waste and other waste as per norms and declare premises as plastic free zone.
7. PP to get NOC from competent authority with reference to Thane creek flamingo sanctuary.
8. PP to maintain 1.5 Mtr. distance between STP & OWC.
9. PP to submit revise energy calculation with terrace floor plans.

B. SEIAA Conditions-

1. PP to conduct tree census and to submit details of compensatory tree plantation clearly demarcating both trees to be cut and trees to be transplanted as per amended Maharashtra (Urban Areas) Protection and Preservation of Trees Act, 1975. PP to plant as many trees as the cumulative age of trees to be cut and transplanted. PP has proposed to plant 3419 trees as compensatory plantation. PP has provided area of 4005.00 m² for compensatory tree plantation.
2. PP to keep open space unpaved so as to ensure permeability of water. However, whenever paving is deemed necessary, PP to provide grass pavers of suitable types & strength to increase the water permeable area as well as to allow effective fire tender movement.
3. PP to achieve at least 5% of total energy requirement from solar/other renewable sources.
4. PP Shall comply with Standard EC conditions mentioned in the Office Memorandum issued by MoEF& CC vide F.No.22-34/2018-IA.III dt.04.01.2019.
5. SEIAA after deliberation decided to grant EC for – FSI- 53,404.60 m², Non-FSI- 2,027.01 m², Total BUA- 55431.61 m². (Plan approval-MIDC/IFMS/Thane-1/E&MD, dated 03.11.2021).

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. 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.
- XVII. 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.
- XVIII. 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.
- XIX. 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.
- XX. 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 <http://parivesh.nic.in>
- XII. Project management should submit half yearly compliance reports in respect of the stipulated prior environment clearance terms and conditions in hard & soft copies to the MPCB & this department, on 1st June & 1st December of each calendar year.
- XIII. 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.

- XIV. 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

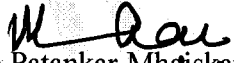
prejudice to any court cases and all other applicable permissions/ NOCs shall be obtained before starting proposed work at site.

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.


Manisha Patankar-Mhaikar
(Member Secretary, SEIAA)
21/5/2022

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, Thane.
6. CEO, MIDC, Mumbai
7. Regional Officer, Maharashtra Pollution Control Board, Navi Mumbai.

Signature Not Verified

Digitally signed by Manisha
Patankar Mhaiska
Member Secretary

Date: 5/4/2022 6:35:24 AM



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 ()

No:- Format1.0/CAC/UAN No.0000114958/CE - 2110000151

Date: 05/10/2021

To,
M/s Amanthin Info Parks Pvt. Ltd.,
Plot Nos. D-31 & D-32, TTC Industrial Area, Turbhe,
Navi Mumbai, Dist. Thane - 400703.



Your Service is Our Duty

Sub: Grant of Consent to Establish for proposed construction of Data Center Building.

- Ref:**
1. Environment Clearance accorded vide No. SIA/ MH/ MIS/ 145018/ 2020 dtd. 31.03.2020.
 2. Previous Consent to Establish accorded by Board vide No. Format 1.0/ BO/ JD(WPC)/ UAN No. 90824/ CE/ CC-2008000975 dtd. 26.08.2020.
 3. Minutes of Consent Appraisal Committee meeting held on 03, 17 & 20.08.2021.

Your application No.MPCB-CONSENT-0000114958 Dated 31.05.2021

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 commissioning of the unit or up to 5 year whichever is earlier.**
2. **The capital investment of the project is Rs.2417.5 Crs. (As per undertaking submitted by pp)**
3. **Consent is valid for the construction of Data Center Building:**

Sr No	Product	Maximum Quantity	UOM
Products			
Data Center Building construction on total plot area 39,980 sq. mtrs. for total construction BUA of 55,431.61 sq. mtrs.			

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	As per Schedule-I	Not Applicable



Sr No	Description	Permitted	Standards to	Disposal
2.	Domestic effluent	8.2	As per Schedule-I	60% recycled for secondary purposes and remaining shall be utilized on land for gardening and/ or connected to local body sewer line with water metering system.

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-58	D.G. Sets (58 x 2200 KVA)	58	As per Schedule -II

6. **Non-Hazardous Wastes:**

Sr No	Type of Waste	Quantity	UoM	Treatment	Disposal
1	Biodegradable Waste	24	Kg/Day	OWC followed by Composting	Used as manure
2	Non Biodegradable Waste	36	Kg/Day	Segregation	Auth. Vendor/ Local Body
3	STP Sludge	19	Kg/M	Drying	Used as manure

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	26680	Ltr/A	Recycle	Sale to Auth. Party/ Recycler

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

Sr No	Type of Waste	Quantity	UoM	Disposal Path
1	Battery Waste	5966.00	Nos./Y	Sale to Auth. Party/ Recycler

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.

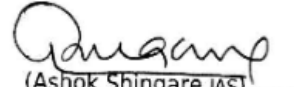
9. **Conditions under E-Waste Management:**

Sr No	Type of Waste	Quantity	UoM	Disposal Path
1	E-Waste	188.00	Kg/Annum	Sale to Auth. E-waste handler/ Recycler

10. The Board reserves the right to review, amend, suspend, revoke this consent and the same shall be binding on the industry.

11. This consent should not be construed as exemption from obtaining necessary NOC/ permission from any other Government authorities.
12. PP shall not take effective steps till obtaining amendment in Environment Clearance.
13. PP shall provide STP of adequate capacity to achieve the treated domestic effluent standard for the parameter BOD - 10 mg/lit including disinfection facility for treated sewage.
14. The treated effluent shall be 60% recycled for secondary purposes such as toilet flushing, air-conditioning, cooling tower make up, firefighting etc. and remaining shall be utilized on land for gardening and/ or connected to local body sewer line with water metering system.
15. PP shall provide Organic waste digester along with composting facility/bio-digester (biogas) for the treatment of wet garbage and compost obtained shall be utilized as manure for gardening in own premise.
16. PP shall make provision of charging ports for electric vehicles at least 10% of total available parking slots.
17. PP shall comply with the conditions stipulated in Environment Clearance.
18. PP shall submit Bank Guarantee of Rs. 25 Lakh towards compliance of conditions stipulated in Environment Clearance and Consent to Establish.
19. This consent is issued with overriding effect on earlier Consent to Establish granted by the Board vide No. Format 1.0/ BO/ JD(WPC)/ UAN No. 90824/ CE/ CC-2008000975 dtd. 26.08.2020.

For and on behalf of the
Maharashtra Pollution Control Board.


(Ashok Shingare IAS)
Member Secretary

Received Consent fee of -

Sr.No	Amount(Rs.)	Transaction/DR.No.	Date	Transaction Type
1	4835000.00	MPCB-DR-6288	07/06/2021	RTGS

Copy to:

1. Regional Officer, MPCB, Navi Mumbai and Sub-Regional Officer, MPCB, Navi Mumbai
|
- They are directed to ensure the compliance of the consent conditions.
2. Chief Accounts Officer, MPCB, Sion, Mumbai
3. CC-CAC Desk- for record & website updating purpose.



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 of designed capacity 10 CMD with MBBR technology for the treatment of 8.2 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	50
2	BOD 3 days 27°C	Not to exceed	30
3	COD	Not to exceed	100

- C) The treated effluent shall be 60% recycled for secondary purposes such as toilet flushing, air-conditioning, cooling tower make up, firefighting etc. and remaining shall be utilized on land for gardening and/ or connected to local body sewer line with water metering system. In no case, sewage shall find its way outside factory 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	0.00
2.	Domestic purpose	8.60
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
5.	Gardening	27.8

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:

- 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.	APC System provided/proposed	Stack Height(in mtr)	Type of Fuel	Sulphur Content(in %)	Pollutant	Standard
S-1 to S-58	D.G. Sets (58 x 2200 KVA) Acoustic Enclosure	30.00	HSD 24824 Kg/Hr	1	SO2	11916 Kg/Day

- 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.
- The applicant shall operate and maintain above mentioned air pollution control system, so as to achieve the level of pollutants to the following standards:

Parameters	Standards (mg/l)
Total Particulate Matter	Not to exceed 150 mg/ Nm3

- 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.
- 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	2500000	Within 15 days	Towards compliance of the Environmental Clearance & Consent to Establish conditions	31.08.2026	31.12.2026

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. The Energy source for lighting purpose shall preferably be LED based
6. 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
7. 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.
8. The applicant shall maintain good housekeeping.
9. 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.



Maharashtra Pollution Control Board

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10. 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.
11. 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.
12. 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).
13. The industry shall submit official e-mail address and any change will be duly informed to the MPCB.
14. 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.
15. 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.
16. 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.
17. The PP shall provide personal protection equipment as per norms of Factory Act
18. Industry should monitor effluent quality, stack emissions and ambient air quality monthly/quarterly.
19. 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.
20. 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.
21. 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.
22. An inspection book shall be opened and made available to the Board's officers during their visit to the applicant.
23. 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).



Maharashtra Pollution Control Board

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24. 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.
25. Neither storm water nor discharge from other premises shall be allowed to mix with the effluents from the factory.
26. The industry should not cause any nuisance in surrounding area.
27. 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.
28. 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.
29. 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.
30. 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.
31. 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.
32. 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.
33. 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.
34. 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.
35. 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.
36. 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).



37. 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.

For and on behalf of the
Maharashtra Pollution Control Board.


(Ashok Shingare IAS),
Member Secretary



Maharashtra Pollution Control Board
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APPROVAL STAMP OF MIDC

Rajaram
m
Rathod

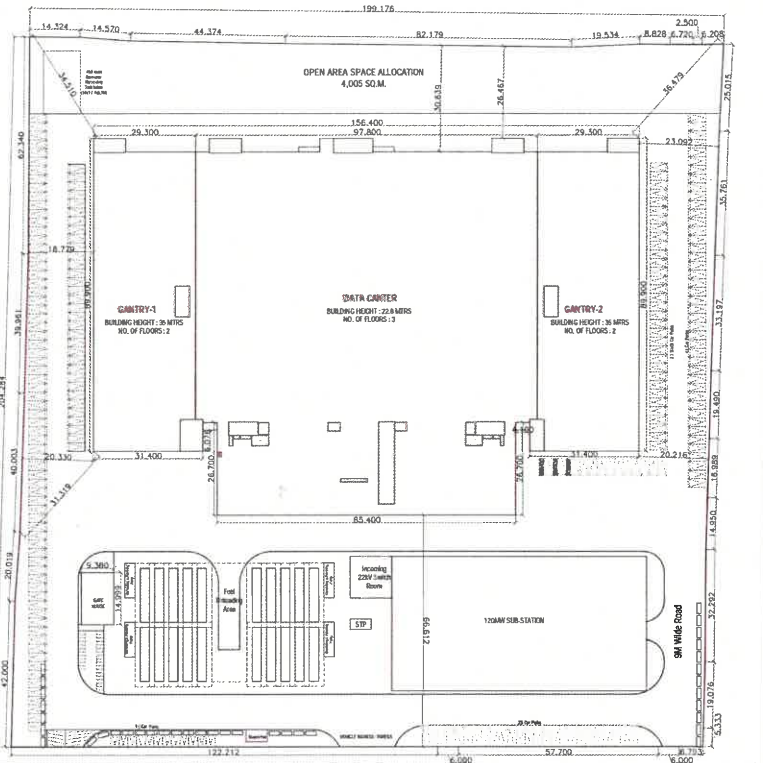
Duly signed by Rajaram Rathod
D-31, Ammanah Road, off
at Marol Nagar Industrial
Development Corporation
Plot No. 16, Survey No. 100
Sector 10, MIDC, Marol Nagar,
Mumbai - 400 051
Date: 20/11/20
13:26:00:30

SUMMARY OF AREA CALCULATIONS			
FLOOR	FSI AREA - SQ.M	NON-FSI AREA - SQ.M	TOTA BUA - SQ.M
GROUND FLOOR	14768.74	524.49	14667.98
FIRST FLOOR	14667.98	524.49	14667.98
SECOND FLOOR	14667.98	524.49	14667.98
THIRD FLOOR	4649.95	226.77	4649.95
FOURTH FLOOR	4649.95	226.77	4649.95
TERRACE FLOOR	FREE OF FSI	---	FREE OF FSI
TOTAL AREA	53404.60	2027.01	55431.61

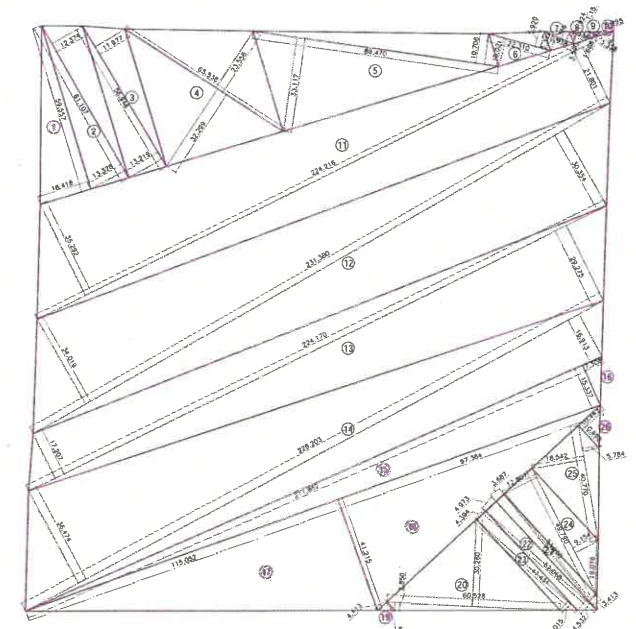
OPEN AREA STATEMENT		
S.NO.	OPEN AREA REQUIRED	PROVIDED
1	10% OF PLOT AREA = 3,998 SQ.M	4005 SQ.M
2	GREEN AREA	4005.SQ.M

PARKING STATEMENT			
S.NO.	BUA (SQ.M)	PARKING REQUIRED	PROVIDED
1	53404.60	1 PARKING / 200 SQ.MT (FOR BUILDING = 267 Nos.)	267 Nos.
2		VISITERS PARKING (10% OF BUILDING) = 27 Nos.	27 Nos.
3		TOTAL	294 Nos.
		TWOWHEELER PARKING (10% OF BUILDING) = 27 Nos.	28 Nos.
TOTAL PARKING AREA = 3696 (CARS) + 56 (2 WHEELERS)			3,752 SQ.M

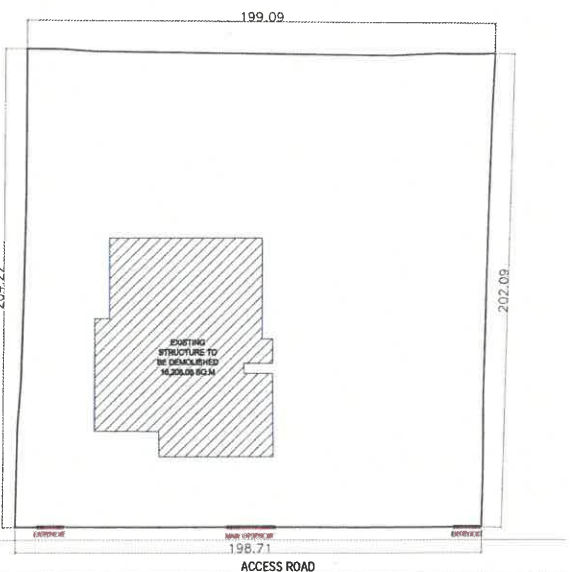
GROUND COVERAGE AREA STATEMENT		
S.NO.	BLOCK NAME	AREA
1	B1- PROPOSED DATA CENTER	15192.97 SQ.M
2	S1 - GATE- HOUSE (SECURITY BLOCK)	100.73 SQ.M
3	U1 - UTILITY 01 - PROPOSED STP	13.75 SQ.M
4	U2 - UTILITY 02 - PROPOSED SUB-STATION	976.44 SQ.M
TOTAL AREA		16283.89 SQ.M
TOTAL ROAD AREA PROVIDED		7199.16 SQ.M



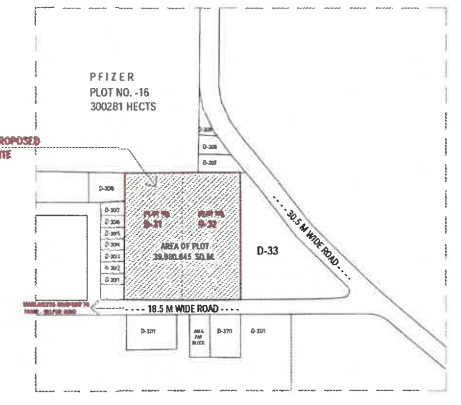
LAYOUT PLAN
SCALE: 1:200



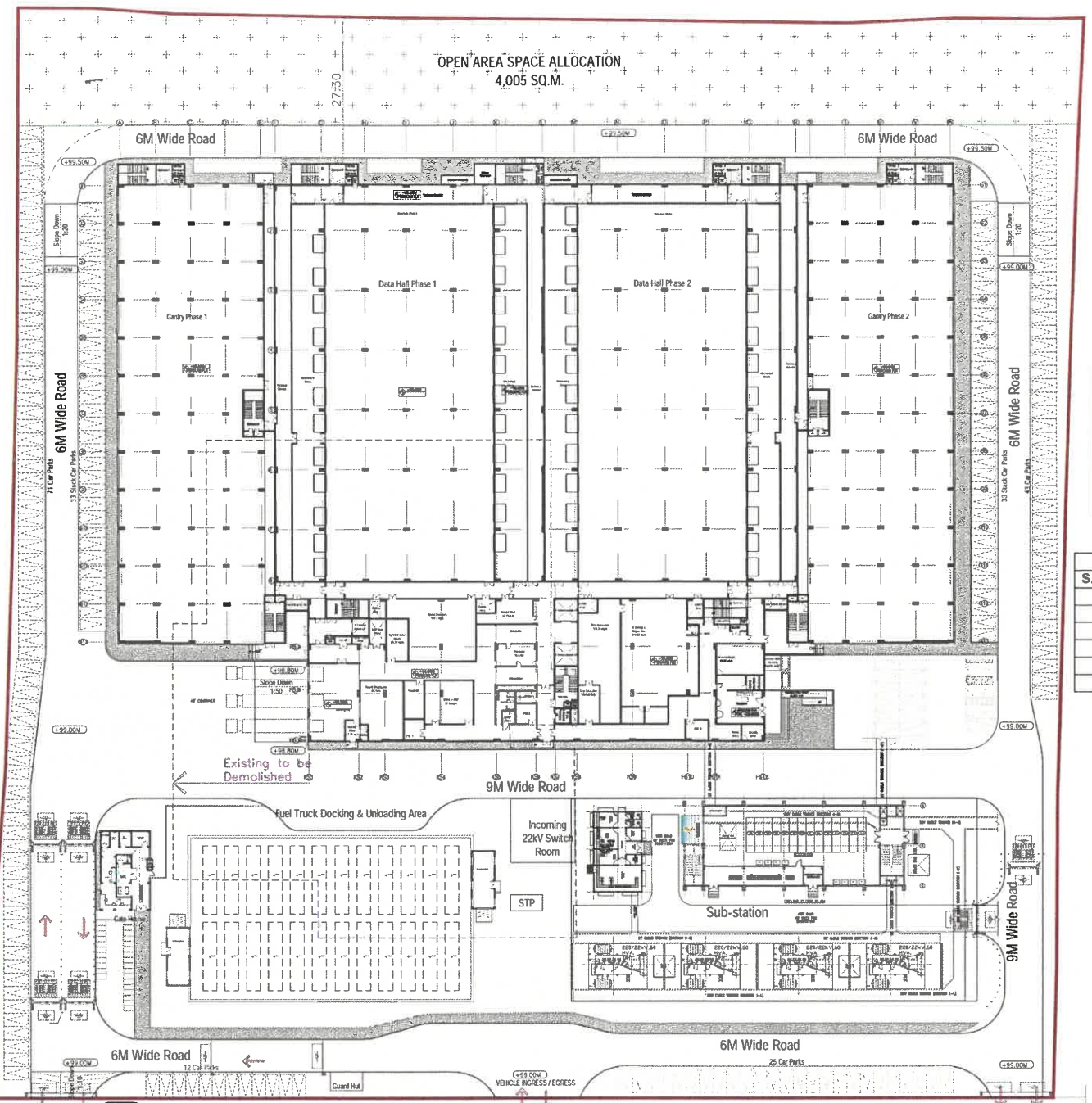
TRIANGULATION PLAN



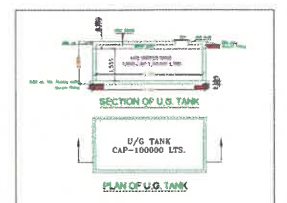
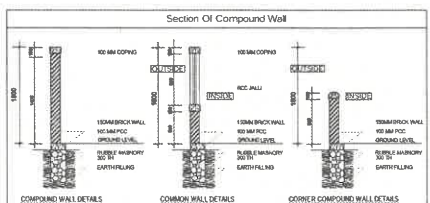
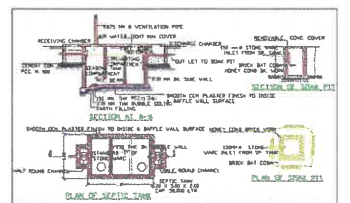
DEMOLITION PLAN	
SCALE: NTS	
EXISTING AREA BUILT UP AREA	16208.08 SQ.M
EXISTING AREA TO BE DEMOLISHED	16208.08 SQ.M



LOCATION PLAN
SCALE: NTS



MASTER PLAN
SCALE: 1:200



- 1)-0.50 X 18.418 X 55.557 = 548.460
 - 2)-0.50 X 61.107 X (13.328 + 12.374) = 785.286
 - 3)-0.50 X 55.945 X (13.219 + 11.977) = 717.405
 - 4)-0.50 X 65.538 X (52.299 + 23.556) = 1830.312
 - 5)-0.50 X 86.470 X (53.117 + 10.706) = 1894.687
 - 6)-0.50 X 22.310 X (16.027 + 5.525) = 177.821
 - 7)-0.50 X 10.928 X (5.374 + 3.336) = 47.634
 - 8)-0.50 X 7.738 X (3.590 + 1.804) = 21.333
 - 9)-0.50 X 3.338 X (1.668 + 1.159) = 4.718
 - 10)-0.50 X 5.995 X 1.613 = 4.834
 - 11)-0.50 X 22.426 X (8.282 + 21.801) = 6400.582
 - 12)-0.50 X 231.390 X (34.019 + 30.354) = 7447.312
 - 13)-0.50 X 224.170 X (17.307 + 29.275) = 5208.934
 - 14)-0.50 X 228.203 X (36.474 + 16.813) = 6091.536
 - 15)-0.50 X 211.862 X 15.337 = 1624.663
 - 16)-0.50 X 7.306 X 15.337 = 56.041
 - 17)-0.50 X 115.052 X 41.215 = 2370.934
 - 18)-0.50 X 97.364 X 41.215 = 2006.429
 - 19)-0.50 X 4.065 X 4.413 = 8.969
 - 20)-0.50 X 65.528 X (2.850 + 30.250) = 1002.041
 - 21)-0.50 X 47.431 X (4.394 + 4.015) = 190.427
 - 22)-0.50 X 52.068 X (4.973 + 4.532) = 247.453
 - 23)-0.50 X 51.560 X (2.687 + 3.413) = 184.458
 - 24)-0.50 X 49.790 X (12.807 + 9.154) = 545.719
 - 25)-0.50 X 40.770 X (18.542 + 5.784) = 495.895
 - 26)-0.50 X 10.443 X 10.698 = 55.859
- TOTAL (PLOT BOUNDARY) = 38980.721**

CERTIFICATE OF AREA

I CERTIFIED THAT THE PLOT D-31 AND D-32 TTC MIDC UNDER REFERENCE WAS SURVEYED BY ME AND THE DIMENSION OF SIDES ETC ON PLOT STATED ON THE PLAN AREA AS MEASURED ON SITE AND THE AREA SO WORKED OUT TALLIES WITH THE AREA STATED IN THE DOCUMENT OF OWNERSHIP MIDC RECORDS.

SIGNATURE OF ARCHITECT

DESCRIPTION OF PROPOSAL AND PROPERTY

PROPOSED FACTORY BUILDING ON PLOT NO. D-31 AND D-32 TTC MIDC.

NAME OF THE OWNERS

M/S AMANTHIN INFO PARKS PVT LTD.

NAME OF THE ARCHITECT

ARCHITECT
SHOEB MOHAMMED
REGISTERED ARCHITECT
SOURCE: SHOEB MOHAMMED
PHONE: 98200 11111

ARCHITECT
SHOEB MOHAMMED
REGISTERED ARCHITECT
SOURCE: SHOEB MOHAMMED
PHONE: 98200 11111

SHEET NAME: 145-AP-01-SITE PLAN-140201.

SCALE	DATE	DRN BY	CHK BY	JOB NO.	REV	DRG NO.
AS SHOWN	14/09/21	SURESH	SHOEB	145	00	MUN-01

MAHARASHTRA INDUSTRIAL DEVELOPMENT CORPORATION
(A Government of Maharashtra Undertaking)

OFFICE :- Office of the Executive Engineer,
MIDC, Division No. II, Mahape,
Navi Mumbai - 400710.
Phone No. :- 022-27784427, Fax No. 2778425.
Email :- eethanedn2@midcindia.org.



EE/Dn.II/IFMS/816731 /2022.
Date :- 04/04/2022

To,
✓ M/s. Amanthin Info Parks Pvt. Ltd.,
Plot No. D-31 & D-32, TTC Industrial Area,
Turbhe, Navi Mumbai.

Sub : Provisional approval for releasing additional treated sewage water into MIDC sewerage system in Mahape, TTC Industrial Area, Navi Mumbai.

Ref : 1) Consent to Establish bearing UAN No. MPCB-CONSENT-0000114958/CE-2110000151, dtd. 05/10/2021.
2) Environmental Clearance Parivesh proposal file No. SIA/MH/MIS/213408/2021/260695, dtd. 29/05/2021.
3) Your letter No. NIL, dtd. 09/02/2022 received on Dt. 30/03/2022.

Dear Sir,

With reference to above mentioned subject vide Sr. No. 3, you have requested for approval cum no objection for releasing treated sewage water to MIDC's drainage system.

In this respect this is to inform you that, your request is provisionally considered by MIDC subject to condition that the MPCB norms shall be fulfilled before disposing the excess treated sewage water to MIDC's drainage system.

Thanking you,

Yours faithfully,

(R.G. Rathod)
Executive Engineer & SPA,
MIDC, Division No.II, Mahape.

MAHARASHTRA INDUSTRIAL DEVELOPMENT CORPORATION
(A Government of Maharashtra Undertaking)

HEAD OFFICE : "Udyog Sarthi", Mahakali Caves Road,
Andheri (E), Mumbai – 400 093.
Tele: (022) 26870052/54/27/73 Fax: (022) 26871587
PRINCIPAL OFFICE : 4,4 (A), 12th Floor, World Trade Centre, Complex-1,
Cuffe Parade, Mumbai – 400 005
Tele : (022) 22151451/52/53 Fax : (022) 22188203



No. MIDC/Fire/B-01659
Date: 23/03/2022.

M/s, Amanthin Info Parks Pvt. Ltd,
Plot No: D-D-31 AND D-32 MIDC
TTC Indl. Area.

Sub: Grant of "Provisional No-Objection Certificate" for your construction of Data Centre building, on plot No, D-D-31 AND D-32 at MIDC, TTC Indl. Area.

Ref: Your application vide no. SWC/14/521/20211214/799347.

Dear Sir,

This has reference to your application under reference above. This office has **"NO Objection (Provisional)"** for your proposed construction; on plot No, D-D-31 AND D-32 at MIDC, TTC Indl. Area. The details of the constructions as per the Drawing submitted by you are as mapped under your BPAMS application. The plot area is **39,980.00 Sq. mtrs.** The proposed built up area is **48,346.84 Sq. mtrs.** The height of the structure is **46.50 mtr.** The details of the proposed construction are as under;

Building	Proposed FSI Area	Double Ht. FSI Area	Terrace	Stair	Lift	Lift Lobby	Staircase Lobby
	Ind.	Ind.					
A (DATA CENTER BUILDING)	44930.38	0.00	9893.63	1043.29	300.66	350.03	14.85
B (GATE HOUSE)	177.27	0.00	0.00	0.00	0.00	0.00	0.00
B (SUBSTATION BUILDING)	2692.04	431.23	0.00	181.26	12.60	42.09	0.00
C (PUMP ROOM)	57.96	0.00	0.00	0.00	0.00	0.00	0.00
D (PUMP ROOM-2)	57.96	0.00	0.00	0.00	0.00	0.00	0.00
Grand Total	47915.60	431.23	9893.63	1224.55	313.26	392.12	14.85

- The occupant load in above buildings should not exceed in any case as prescribed in Table – 3 of National Building Code 2016, part IV.

This N.O.C. is valid subject to fulfillment of the following conditions:

1. The plans of the proposed construction (adhering to the D.C. Rules of MIDC & National Building Code-2016 where necessary), should be approved by the Executive Engineer, Division Mahape, (Special Planning Authority).
2. The Drainage completion certificate & Occupation certificate should be obtained from Executive Engineer Division Mahape. The B.C.C. & D.C.C. shall be issued subject to "Final NO-Objection Certificate" from fire department.
3. The approval from CCEO/ PESO shall be obtained for the proposed layout for storage of Petroleum Products of A, B & C Class.
4. Under Section 3 of Maharashtra Fire Prevention and Life Safety Measures Act, 2006 (hereinafter referred to as "said Act") The applicant (developer, owner, occupier by whatever name called) shall comply with all the Fire and Life Safety measures adhering to National Building Code of India, 2016 and as amended from time to time failing which it shall be treated as a violation of the said Act.
5. **As per the provision as under: - 10 of the said Act.** No person other than the License Agency shall carry out the work of providing Fire Prevention and Life Safety Measures or performing. Such other related activities required to be carried out in any place or building or part thereof: A list of License Agency is available on Maharashtra Fire Services website www.mahafireservice.gov.in. No Licensed Agency or any other person claiming to be such Licensed Agency shall give a certificate under sub-section (3) of section 3 regarding the compliance of the fire

- prevention and life safety measures or maintenance thereof in good repair and efficient condition, without there being actual such compliance or maintenance.
6. **Under Section 11 of the said Act**, the fire service fees shall be assessed and the same shall be payable after serving the notice to that effect or prior to issue of the building completion certificate or occupancy certificate whichever is earlier.
 7. **Under Section 45 of the said Act**, the owner/occupier or developer shall appoint Fire Officer/Officers and staff for taking adequate Fire and Life Safety Measures, qualifications and experience of such persons be got approved from the Chief Fire Officer & Fire Advisor, MIDC Fire Services.
 8. Though certain conditions are stipulated from the said Act and the National Building Code of India, it is obligatory on part of the applicant that is developer, builder, occupier, owner, tenant, by what so ever named called to abide with the provisions of the said Act failing which it shall be actionable under the provisions of said act.
 9. Proper roads in the premises should be provided for easy mobility of the Fire Brigade Appliance & Marginal spaces around the building should be kept free from obstructions & open to sky at all the time. Minimum marginal spaces should be confirming with **Table No.10 of D.C. Rules of MIDC, 2009**. The load bearing capacity of internal roads shall not be less than **45 Tons**.
 10. All portable firefighting equipment installed at various locations as per local hazard such as Co2-DCP, Foam as per **IS: 15683**, & it must be strictly confirming to relevant IS specification. It is recommended for every 100 Sq. Meter one fire extinguisher should be provided for electrical installation Co2 extinguisher of 4.5 Kg should be provided.
 11. All the firefighting equipment shall be well maintained and should be easily accessible in case of emergency.
 12. Emergency Telephone numbers like **“Police”, “Fire Brigade”, “Hospital”, “Doctors”,** and **“Responsible persons of the office”** should be displayed in Fire Control Room, Security Office and in Reception area.
 13. It shall be ensured that security staff & every employee of the office, security are trained in handling **firefighting equipment & in firefighting**.
 14. The Fire Exit Drill or Evacuation Drill should be plan and instruction should be given to the staff minimum **four times in a year** and drill should be carried out **twice in a year**.
 15. Cautionary boards such as **"DANGER", "NO SMOKING", "EXIT", "FIRE ESCAPE", "EXTINGUISHER", "FIRE HYDRANT"** etc. should be displayed on the strategic location to guide the occupants in case of emergency. The signs should be of florescent type and should glow in dark.
 16. **“On-Site” & “Off-Site”** emergency plan shall be prepared & mock drills shall be conducted twice a year & instructions to every employee shall be given once in three months.
 17. The use of combustible surface finishes on walls (including facade of the building) and ceiling affects the safety of the occupants of the building. Such finishes tend to spread the fire and even though the structural elements may be adequately fire resistant, serious danger to life may result. It is therefore, essential to have adequate precautions to minimize spread of flame on wall, façade of building and ceiling surfaces.
 18. The finishing materials used for various purposes and décor shall be such that it shall not generate toxic fumes / smoke.
 19. Automatic smoke venting facilities shall be provided for safe use of exits in windowless buildings.
 20. Natural draft smoke venting shall utilize roof vents in walls at or near the ceiling level, such vents shall be normally open, or, if closed, shall be designed for automatic opening in case of fire, by release of smoke sensitive devices.
 21. Where smoke venting facilities are installed for purposes of exit safety, these shall be adequate to prevent dangerous accumulation of smoke during the period of time necessary to evacuate the area served, using available exit facilities with a margin of safety to allow for unforeseen contingencies.
 22. The fluorescent glow signs like **“Staircase”, “Extinguisher”, “Fire Escape” “Hydrant Point”, Manual Call Point” “Exit”, “Lift”** shall be installed on strategic locations in all common areas of the building like passages, Corridors etc.

23. Fire evacuation orders & exit map shall be provided in every floor & in lobbies of the buildings.
24. LPG banks should not be stored on upper floor for cooking etc. The kitchen for commercial purpose on upper floors is not permitted.
25. The Glassing and facade other Glasses should have at least one-hour fire resistance and should be UL approved and in accordance with NFPA requirements.
26. This being a very special type of building if any additional recommendations to be added or deleted depending upon the need of the fire safety requirement of buildings.
27. The Chief Fire Officer & Fire Advisor, M.I.D.C. reserves all right to modify the fire safety recommendations and it shall be responsibility of company authorities to maintained close liaison with fire department.
28. **A high rise building during construction shall be provided with the following fire protection measures, which shall be maintained in good working condition at all times:**
 - **Dry riser of minimum 100 m.m. dia. Pipe with hydrant outlets on the floors constructed with a fire service inlet.**
 - **The use of combustible surface finishes on walls (including facade of the building) and ceiling affects the safety of the occupants of the building. Such finishes tend to spread the fire and even though the structural elements may be adequately fire resistant, serious danger to life may result. It is therefore, essential to have adequate precautions to minimize spread of flame on wall, façade of building and ceiling surfaces.**
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 - **Automatic smoke venting facilities shall be provided for safe use of exits in windowless buildings.**
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 - **Where smoke venting facilities are installed for purposes of exit safety, these shall be adequate to prevent dangerous accumulation of smoke during the period of time necessary to evacuate the area served, using available exit facilities with a margin of safety to allow for unforeseen contingencies.**
 - **If the building or part of building is Sub-leased, sold to some other company then the prospective buyer / sub-leased must obtain “No – Objection Certificate” form this office before occupying the building / floors. You are hereby informed to incorporate suitable clause to that effect in sub-leases agreement or agreement for sale.**
 - **Pressurization should be provided to the all the staircases and Lift Shaft’s & Lift lobbies of the building. The mechanism for the pressurization shall act automatically with the fire alarm/ sprinkler system and it shall be possible to operate this mechanically also.**
29. **The Final NOC for the above building will be issued after satisfactory installation of Fire Prevention & Fire Protection arrangement. This building should not be occupied without obtaining Final NOC from this Dept. & OC from the SPA, MIDC, failing which you will be solely responsible for the consequences, if any.**
30. **The IS 12456: Code of Practice for FIRE PROTECTION OF ELECTRONIC DATA PROCESSING INSTALLATION shall be followed.**

Standard Specifications and Regulations to be followed: -

- a. D.C. Rules of MIDC & Part-3 & 4 National Building Code: 2016,
- b. **IS: 3844** – for installation and maintenance of internal fire hydrants and hose reels on premises.
- c. **IS: 2189** – for selection, installation and maintenance of automatic fire detection and alarm system.
- d. **IS: 15683** – for selection, installation and maintenance of portable first aid fire extinguishers.
- e. IS : 9583 : 1981 Emergency lighting units.

- f. IS 12456 : 1988 Code of practice for fire protection of electronic data processing installation.
- g. IS 4963 : 1987 Recommendations for buildings and facilities for physically handicapped.
- h. IS 3614 (Part I) :1966 Specification for fire check doors.

Other Important Codes & Standards:-

1. Code of practice for Fire Safety Buildings IS-1642 – for Details of Construction.
2. Code of Practice of Fire Safety of Buildings IS-1643– Exposure Hazard.
3. Code of Practice of Fire Safety of Buildings IS-1644 – Exit requirement and Personal Hazard.
4. IS : 15105 – Design and installation of fixed automatic sprinkler fire extinguishing system.
5. IS 9668 : 1990 Code of practice for provision and maintenance of water supplies and firefighting.
6. IS 2175 : 1988 Specification for heat sensitive fire detectors for use in automatic fire alarm system.
7. IS 11360 : 1985 Specification for smoke detectors for use in automatic electrical fire alarm system.
8. IS 9457 : 1980 Safety colours and safety signs.
9. IS 12349 : 1988 Fire protection – Safety sign
10. IS 12407 : Graphic symbols for fire protection plan.

FIRE PREVENTION

Passive Fire protection required.

Requirement and Provision: - The following passive fire protection systems will have to be followed and installed for the Life Safety of the building as per Part 3 & 4 of National Building Code 2016:-

Sr. No.	Clause Number	Description.
1.	Clause NO: 3.3.1 & 3.3.2	Fire Test General Requirement: Element / Component shall have the requisite fire resistance performance when tested in accordance with the accepted standards.
2.	Clause NO: C-9	Compartmentation: The building shall be suitably compartmentalized so that the fire & smoke remain confined to the area where the fire incident has occurred & does not spread to other part of the building.
3.	Clause NO: 4.10.5	Smoke Extraction System: The exhaust system may be continued, provided the construction of the ductwork & fans is such that it will not be rendered inoperable by hot gases & smoke & there is no danger of spread of smoke to other floors via the path of extraction system.
4.	Clause NO: 3.4.12.3	Smoke management: Where smoke venting facilities are installed for the purpose of exit safety these shall be adequate to prevent dangerous accumulation of smoke during the period of time necessary to evacuate the area served using available exit facilities, with margin of safety to allow for unforeseen contingencies.
5.	Clause NO: C-1.17	Fire rated ducts: Where the ducts passes through fire walls, the opening around the duct shall be sealed with fire resisting materials having the fire resistant rating of the compartment. Where the duct crosses the compartment which is fire rated for same fire rating. Depending on the services passing around the duct work, which may be affected in case of fire temperatures rising, the ducts shall be insulated
6.	Clause NO: C-1.12 a	Cable ducts: The electric distribution cables/wiring shall be laid in separate duct. The duct shall be sealed at every floor with non-combustible material having the same fire resistance as the fire rating of the duct.
7.	Clause NO: C-1.12 e	Fire rated ceilings: The exhaust system may be continued, provided the construction of the ductwork & fans is such that it will not be rendered inoperable by hot gases & smoke & there is no danger of spread of smoke to other floors via the path of extraction system.

8.	Clause NO: 3.3.3	Steel protection: Load bearing steel beams & columns of building having total covered area of 500Sq.Mtrs. and above shall be protected against failure collapse of structure in case of fire. This could be achieved by using appropriate methodology using suitable fire rated materials as per the accepted standards.
9.	Clause NO: 4.13	Fire escape enclosure: Fire towers shall be constructed of walls with a 2 hours fire rating without openings other than the exit doorway, with platforms, landings & balconies with the same fire rating of 2 Hours.
10.	Clause NO: C-1.4	Glazing: If glazing or glass bricks are used in a stair case shall have fire rating of minimum 2 hours.
11.	Clause NO: 3.4.19	Glazing: If glass is used as a façade for building it shall have minimum 1 hour fire rating.
12.	Clause NO: 3.4.8.3	Fire stopping: Every vertical opening between the floors of a building shall be suitably enclosed or protected as necessary to provide reasonable safety to the occupants while using the means of egress by preventing spread of fire, smoke or fumes through vertical openings from floor to floor, which will allow the occupants to complete their safe use of means of egress.
13.	Clause NO: 3.4.8.4	Fire Stopping: Openings in the walls or floors which are provided for the passage of all building services like cables, electrical wiring & telephone cables etc. Shall be protected by the enclosure in the form of Ducts/shafts with a fire resistance of not less than 2 Hours.
14.	Clause NO: C-1.9	Fire stopping service ducts & shafts: Service ducts & shafts shall be enclosed by walls of 2 hours & doors of 1 hour fire rating. All such ducts/shafts shall be properly sealed & fire stopped at all floors.
15.	Clause NO: C-1.12	Fire stopping cable ducts penetration: The electrical distribution cables/wiring shall be laid in separate duct. The duct shall be sealed at every floor with non-combustible materials having the same fire resistance as the fire rating of the cable duct.

REQUIREMENT AND PROVISION: - The following Fire Protection System is required for the fire safety of the Proposed Data Centre and other building: -

Sr. No.	FIRE FIGHTING INSTALLATION	Requirements	Provision	Remarks
1.	Portable Fire Extinguishers	Required in all buildings on each floor.	IS: 15683 & 2190.	Portable Fire Extinguisher should be installed confirming to IS 15683 & other I.S. codes
2.	Hose Reel	Required at prominent places.	At Various strategic Locations.	On each floor in the Staircase landing for Fire Fighting. The first aid hose reel shall be connected directly to riser/down comer main and diameter of the hose reel shall not be less than 19mm confirming to IS 884:1985
3.	Wet Risers & Down Comers	Required in entire Bldg.	In all staircases & fire escape staircases	Required to provide in the Staircase and Fire Escape Staircase. Landing of Valve should be installed confirming to IS:5290.
4.	Yard Hydrant or Ring hydrant system around the building.	Required around the proposed building.	Fire Brigade Inlet connection should be provided. Hydrant points should be provided with 2 Nos. of Delivery Hose confirming to IS-636 along with Standard Branch (Universal) confirming to IS-2871. The distance between 2 Hydrants should not be more than 30 Mtrs. The guidelines should be followed as per IS 3844:1989 & IS 13039:2012.	
5.	Manually Operated Fire Alarm System	Required in entire building	At every floor on strategic location	Manually Operated Fire Alarm should be provided; it should be connected to alternate power supply.

Sr. No.	FIRE FIGHTING INSTALLATION	Requirements	Provision	Remarks
6.	Underground Static Storage Tank	Required 3,00,000 liters		This water storage should be exclusively for Fire Fighting.
7.	Terrace Level Tank	Required 20,000 Ltrs.		For wet riser cum down comer. On terrace of DC building
8.	Fire Pump	2 No. 2850 lpm electrical driven main pumps 1 No. 2850 lpm Diesel driven stand by pump 2 No. 180 lpm electric driven jockey pump. 1 No. 900 lpm electric driven Booster Pump		Fire Fighting pumps shall be well maintained. A separate arrangement of pumping should be done for sprinkler system. All the fire pumps must be centrifugal pumps only. Booster pump should be provided on terrace of DC Building.
9.	Automatic smoke Detection System & Fire alarm system.	Required in entire building at all floors (If false ceiling voids exceeding 800mm of height above false Detection System should be provided)		Standards and guidelines given in IS-11360-1985 specification for Smoke Detectors for use in Automatic Electrical Fire Alarm system & IS 2189:2008 Selection, Installation and Maintenance of Automatic Fire-Detection and Alarm System should be followed.
10.	Automatic Sprinkler system.	Required in entire building at all floors and Fire Pump Room (If false ceiling voids exceeding 800mm of height above false ceiling sprinkler should be provided)		Separate Pumping arrangement should be provided for the Sprinkler system. Guidelines are given in IS 15105 Design and installation of Fixed Automatic sprinkler fire Extinguishing system
11.	Fire Doors	Required for all staircases. it should be self-closing type.	Fire Doors of 2 hrs. Fire Resistance Rating should be provided in all buildings at the entrance of all the staircases on all floors. Certification from the Competent Authority shall be obtained & submitted to this office for record.	
12.	Manual Call Point	Required in all building.	Manual Call Point should be provided at prominent places in all buildings	
13.	Emergency Lights	Required in escape routes.	For speedy evacuation in case of emergency. With alternate power backup.	
14.	Gas Flooding System	Required	Shall be provided Data Centre and Server Rooms	
15.	PA System with Talk Back Facility	Required	To guide the occupants in case of emergency.	
16.	Auto D.G. Backup	Required	Required for all fire safety systems.	
17.	Pressurization	Required	In all staircase, Lobbies & Lift shaft in entire Bldg.	
18.	Sign Indicators for all fire safety, safe evacuation of occupants in case of emergency signs	Required at Prominent Places.	Sign indicators should provide at prominent places as per the guidelines given in IS:9457 for Safety colour and Safety IS:12349 for Fire Protection Safety Signs IS: 12407 for Graphics symbols for Fire Protection Plan.	
19.	Fire Brigade Connection- For Static Water Tank and For Hydrant System		Required at the Main Gate and on fire water tank	

*****Guidelines for Refuge Area:-**

Refuge Area: Horizontal Exits/Refuge Area:-

A horizontal exit shall be through a fire door of 120 min rating in a fire resistance wall. Horizontal exit require separation with the refuge area or adjoining compartment through 120 min fire barrier. The adjoining compartment of the horizontal exit should allow unlocked and ease of egress and exits for the occupants using defend in place strategy.

- Requirements of horizontal exits are as under:

- a) Width of horizontal exit doorway shall be suitable to meet the occupant load factor for egress.
- b) Doors in horizontal exits shall be openable at all times from both sides.
- c) All doors shall swing in the direction of exit travel. For horizontal exits, if a double leaf door is used, the right hand door leaf shall swing in the direction of exit travel.
- d) Refuge area shall be provided in buildings of height more than 24 m. Refuge area provided shall be planned to accommodate the occupants of two consecutive floors (this shall consider occupants of the floor where refuge is provided and occupants of floor above) by considering area of 0.3 m² per person for the calculated number of occupants and shall include additionally to accommodate one wheelchair space of an area of 0.9m² for every 200 occupants, portion thereof, based on the occupant load served by the area of refuge or a minimum of 15 m², whichever is higher, shall be provided as under:
 - 1) The refuge area shall be provided on the periphery of the floor and open to air at least on one side protected with suitable railings.
 - 2) Refuge area(s) shall be provided at/or immediately above 24 m and thereafter at every 15 m or so.
The above refuge area requirement for D-6 occupancy requirement shall however be in accordance with 6.4.2.2.
- e) A prominent sign bearing the words 'REFUGE AREA' shall be installed at entry of the refuge area, having height of letters of minimum 75 mm and also containing information about the location of refuge areas on the floors above and below this floor. The same signage shall also be conspicuously located within the refuge area.
- f) Each refuge area shall be ventilated and provided with first aid box, fire extinguishers, public address speaker, fire man talk back, and adequate emergency lighting as well as drinking water facility.
- g) Refuge areas shall be approachable from the space they serve by an accessible means of egress.
- h) Refuge areas shall connect to firefighting shaft (comprising fireman's lift, lobby and staircase) without having the occupants requiring to return to the building spaces through which travel to the area of refuge occurred.
- i) The refuge area shall always be kept clear. No storage of combustible products and materials, electrical and mechanical equipment, etc. shall be allowed in such areas.
- j) Refuge area shall be provided with adequate drainage facility to maintain efficient storm water disposal.
- k) Entire refuge area shall be provided with sprinklers.
- l) Where there is difference in level between connected areas for horizontal exits, ramps of slope not steeper than 1 in 12 shall be provided (and steps should be avoided).

NOTE – Refuge area provided in excess of the requirements shall be counted towards FAR.

High rise apartment buildings with apartments having balcony, need not be provided with refuge area; however apartment buildings without balcony shall provide refuge area as given above. Refuge area for apartment buildings of height above 60 m while having balconies shall be provided at 60 m and thereafter at every 30 m. The refuge area shall be an area equivalent to 0.3 m² per person for accommodating occupants of two consecutive floors, where occupant load shall be derived on basis of 12.5 m² of gross floor area and additionally 0.9 m² for accommodating wheel chair requirement or shall be 15 m², whichever is higher.

GUIDELINES FOR INTERNAL STAIRWAYS as per NBC 2016:

- a) Stairways shall be constructed of non-combustible materials throughout. Hollow combustible construction shall not be permitted. Width of Staircase should be **1.5 M.**
- b) **No Gas piping shall be laid down in the stairway.**
- c) Internal staircase shall be constructed as a self-contained unit with at least one side adjacent to an external walls and shall be completely enclosed.
- d) Internal staircase shall not be arranged around lift shaft unless the later is entirely enclosed by material of fire resistance rating as that for type of construction itself.

- e) The access to main staircase shall be gained through at least half-an-hour fire resisting automatic closing doors, placed in the enclosing walls of the staircase. They shall be swing type doors opening in the direction of the escape.
- f) No living space, store or other space, involving fire risk, shall open directly in to staircase.
- g) The external exit door of a staircase enclosure at ground level shall open directly to the open space or should be accessible without passing through any door other than a door provided to form a draught lobby.
- h) The exit signs with arrows indicating the escape routes shall be provided at a height of 1.5 m. from the floor level on the wall and shall painted with fluorescent paint. All exit signs should be flush with the wall and so designed that no mechanical damage to them can result from the removing furniture, material or any other equipment.
- i) **Exits shall be so located that it will not be necessary to travel more than 30 Mtrs. from any point to reach the nearest exit.**

Staircase Design requirement:

1. The minimum headroom in a passage under the landing of a staircase and under the staircases shall be **2.2 Mtrs.**
2. Access to main staircase shall be through a fire / smoke check door of a minimum 2 hours fire resistance rating.
3. No living space, store or other fire risk shall open directly in to the staircases. The main and external staircases shall be continuous from ground floor to the terrace level.
4. No electrical shafts, A/c ducts or gas pipe etc. shall pass through or open in the staircases. Lifts shall not open in staircases.
5. The width of the staircase shall not be less than **1.5 Mtrs.**
6. **All the staircases shall be provided with mechanical Pressurization devices, which will inject the air in to staircase, lobbies or corridors to raise their pressure slightly above the pressure in adjacent parts of the building so the entry of toxic gases or smoke in to the escape routes is prevented.**

Staircase Enclosures:-

1. The external enclosing walls of the staircase shall be of the brick or the RCC construction having the fire resistance of not less than two hours. All enclosed staircases shall have access through self-closing door of one hour fire resistance. These shall be single swing doors opening in the direction of escape. The door shall be fitted with the check action door closers.
2. The staircase enclosures on the external wall of the building shall be ventilated to the atmosphere at each landing.
3. Permanent vent at the top equal to the 5% of the cross section area of the enclosure and openable sashes at each floor level with area equal to 1 to 15 % of the cross sectional area of the enclosure on external shall be provided. The roof of the shaft shall be at least 1 meter above the surrounding roof. There shall be no glazing or the glass bricks in any internal closing wall of staircase. If the staircase is in the core of the building and cannot be ventilated at each landing a positive pressure of 5 mm w.g. by an electrically operated blower/ blowers shall be maintained.
4. The mechanism for pressurizing the staircase shaft shall be so installed that the same shall operate automatically on fire alarm system/ sprinkler system and be provided with manual operation facilities.

FIRE ESCAPE: (ENCLOSED TYPE) SHALL COMPLY THE FOLLOWING: -

1. **Travel Distance should be maintained as per the guidelines given in D.C. Rules of MIDC. Exits and staircase guidelines should be followed as per MIDC's DC Rules and National Building Code-2016.**
2. **Fire escape constructed of M.S. angles, wood or glass is not permitted.**
3. **Opening of the Fire Escape Staircase should be from outside.**
4. Fire Escape staircase should be enclosed type. These should always be kept in sound operable condition .
5. Fire Escape Staircase shall be directly connected to the ground.
6. Entrance to the Fire Staircase shall be separate and remote from the internal staircase.

7. Care shall be taken to ensure that no wall opening or window opens on to or close to Fire Escape Stairs.
8. The route to the external staircase shall be free of obstructions at all times.
9. The Fire Escape stairs shall be constructed of non-combustible materials, and any doorway leading to it shall have the required fire resistance.
10. No Staircase, used as a fire escape, shall be inclined at an angle greater than 45° from the horizontal
11. **The width of the staircase should as given in DC Rules of MIDC. The other detailed provision for exits in accordance with National building code - 2016.**
12. Fire Staircase shall have straight flight not less than **150 c.m. wide** with 20 c.m. treads and risers not more than 19 c.m. The number of risers shall be limited to 15 per flight.
13. Handrails shall be of a height not less than 100 c.m. and not exceeding 120 c.m.
14. **All the staircase doors on every floor shall be provided with two hours fire resistive doors having panic bars at both the sides.**

FIRE PROTECTION REQUIREMENTS FOR LIFTS:

(Fire Protection Requirements of Lifts in High Rise Buildings) For Building of Height 15 m and Above

Following requirements over and above those specified in 6 and 8 and in Part 4 'Fire and Life Safety' of the Code are applicable to all lifts provided in buildings having height more than 15 m:

- a) All materials of constructions in load bearing elements, stairways and corridors and facades shall be non-combustible.
- b) The interior finishing materials shall be of very low flame spread type.
- c) Walls of the lift shall have a fire rating of 120 min. The lift well shall have a vent at the top, of area not less than 0.2 m² per lift.
- d) Landing doors – Lift landing doors shall be imperforate. Collapsible doors shall not be permitted. Lift landing doors provided in the lift enclosure shall have a minimum fire resistance rating of 60 min.
- e) Lift car door – Lift car doors shall be imperforate. Collapsible car doors shall not be permitted.
- f) Telephone or other communication facilities shall be provided in the lift car and the lift main lobby. Communication system for lifts shall also be connected to the fire control room of the building if provided. For lifts for use by persons with disabilities, the facilities shall be provided in accordance with 13 of Part 3 'Development Control Rules and General Building Requirements' of the Code.
- g) Photo luminescent safety signs shall be posted and maintained on every floor at or near the lift indicating that in case of fire, occupants shall use the stairs unless instructed otherwise. The sign shall have the plan of the respective floor showing location of the stairways. The plan shall also indicate the direction to and maintained on every floor of buildings open to and used by the public shall comply with the requirements of accessible signage given in 13 of Part 3 'Development Control Rules and General Building Requirements' of the Code.
- h) All lifts (fireman's lifts/non fireman's lifts) shall be provided with Phase I operation and per 7.1.1(k)(x) (grounding operation).
- j) The grounding operation may be initiated by individual switches for lifts or a common switch for a group of lifts or by a signal from fire alarm system of the building if available.
- k) Fireman lift – The fireman's lift is provided in a building for the purpose of aiding firefighters in evacuating trapped persons in the building and to take a equipments for fighting fire to upper levels with minimum delay. Some lifts out of all the lifts shall be identified as fireman's lifts.

The number of required fireman's lifts and their locations in a building will vary depending on the size, design, complexity of the building. Some considerations are as follows:

- 1) There shall be at least one fireman's lift per building.
- 2) If there are multiple wings in the building, there shall be at least one fireman's lift per wing.
- 3) If there are multiple banks of lifts in the building there shall be at least one fireman's lift per bank of lift.
- 4) If the building height is up to 60 m and it is zoned height-wise and it does not have single fireman's lift serving every floor of the building, then there

shall be at least one fireman's lift per zone which shall serve the main level/fire access level and shall serve all the landings in the respective zone.

- 5) If the building height is more than 60 m and it does not have any single fireman's lift serving all the floors, that is, it has all lifts serving only respective zones, the fireman's lift shall be provided in each zone separately, serving all landings in respective zone, with transfer landing transferring from one zone to another.

Considering all the above, the fireman's lift(s) shall be identified on the building plan and duly displayed in Fire Command Centre.

To be effective in firefighting operation, the fireman's lift shall have following requirements:

- i) The fireman's lift may be used by the occupants in normal times.
- ii) The fireman's lift shall be provided with a fireman's switch. The switch shall be a two position (ON/OFF) switch fixed at the evacuation floor (normally main entrance floor) for enabling the lift to be put into fireman's mode. The switch shall be situated in a glass-fronted box with suitable label and fixed adjacent to the lift at the entrance level. When the switch is on, landing call-points shall become inoperative and the lift shall be on the car control only or on a priority control device. When the switch is off, the lift will return to normal working.
- iii) The fireman's lift shall be provided with an audio and visual signal in the car.
- iv) The fireman's lift shall have a floor area of minimum 1.43 m². It shall have loading capacity of not less than 544 kg (8 persons lift).
- v) The fireman's lift shall be provided with power operated (automatic) doors of minimum 0.8 m width.
- vi) The speed of the fireman's lift shall be 1.0 m/s or more such that it can reach the top floor from main floor/ firefighting access level within 1 min. In case the building is zoned, the fireman's lift shall operate from the lowest served landing to the topmost served landing in 1 min.
- vii) Reliable alternative source of power supply should be provided for all fireman lifts through a manually/automatically operated changeover switch. The route of wiring shall be safe from fire.
- viii) Suitable arrangements such as providing slope in the floor of lift lobby shall be made at all the landings to prevent water used during firefighting from entering the lift shafts.
- ix) The words 'Fireman Lift' shall be conspicuously displayed in fluorescent pain on the lift landing.
- x) Operational requirement of fireman's lift- The lift shall be provided with the following operational control, Phase I and Phase II.

Phase I – Return to evacuation floor –

- Shall start when the fireman's switch at the evacuation floor is turned to the 'ON' position or the signal from smoke detector (if provided by the Building Management System is on. All lifts controlled by this switch shall cancel all existing car calls and separate from landing calls and no landing or car calls shall be registered. The audio and visual signal shall be turned on. All heat and smoke sensitive door reopening devices shall be rendered inoperative.
- If the lift is travelling towards the evacuation floor, it shall continue driving to that floor.
- If the lift is travelling away from the evacuation floor, it shall reverse its direction at the nearest possible floor without opening its door and return non-stop to the evacuation floor.
- If the lift is standing at a floor other than the evacuation floor, it shall close the doors and start travelling non-stop to the evacuation floor.
- When at the evacuation floor, the lift shall park with doors open.
- The continuous audio signal is turned off after this return drive.

Note – If the building is designed for alternative evacuation floor, in case of fire at main floor the lifts shall park at the alternative evacuation floor with doors open.

Phase II – Operation of the lift shall be as defined below –

- The phase 2 is started after phase 1, if the fireman's switch is 'ON'.
- If the lifts are grounded by the smoke detector signal, for phase II to begin it shall be necessary to turn the fireman's switch 'ON'.

- The lift does not respond to landing call but registered car calls. All heat and smoke sensitive door reopening devices are rendering inoperative.
- When the car call button is pressed, the doors start closing. If the button is released before the doors are fully closed, they re-open. The car call is registered only when the doors are fully closed. After registering a car call the lift starts driving to the call. If more than one car call is registered, only the nearest call is answered and the remaining call will be cancelled at the fire stop.
- At the floor the doors are opened by pushing the door open button. If the button is released before the doors are fully open, they re-close.
- The lift returns to normal service when it stands at the evacuation floor with doors open and the switch is turned 'OFF' thereafter.
- The operation of fireman's lift shall be by means of a full set of push buttons in the car. Other operating systems shall be rendering inoperative.

Compartmentation :-

General –

- a) It is important to limit the spread of fire in any building. The usual method is to use fire barriers. In some instances these barriers need to be penetrated for ductwork, plumbing and electrical systems, and in such cases, use of passive fire protection measures shall be done so that the integrity of these barriers is not compromised.
- b) Floor(s) shall be compartmented with area as given below.

All floors shall be compartmented/ zoned with area of each compartment being not more than 750 m². The maximum size of the compartment shall be as follows, in case of sprinklered basement/building:

Sr. No.	Use	Compartmentation Area m²
(1)	(2)	(3)
i)	Basement car parking	3000
ii)	Basement (other than car parking)	2000
iii)	Institutional Buildings: Subdivision C-1	1800
iv)	Institutional Buildings: Subdivision C-2 and C-3	1125
v)	Mercantile and assembly buildings	2000
vi)	Business buildings	3000
vii)	All other buildings (Excluding low hazard and moderate hazard industrial buildings and storage buildings) ¹⁾	750
¹⁾ Compartmentation for low hazard and moderate hazard industrial buildings and storage buildings shall be done in consultation with local fire department.		

In addition, there shall be requirement of a minimum of two compartments if the floor plate size is equal or less than the areas mentioned above. However, such requirement of minimum two compartments shall not be required, if the floor plate is less than 750 m². Compartmentation shall be achieved by means of fire barrier having fire resistance rating of 120 min.

Staircase and Corridor Lightings:

- a) The staircase and corridor lighting shall be on separate service and shall be independently connected so as it could be operated by one switch installation on the ground floor easily accessible to firefighting staff at any time irrespective of the position of the individual control of the light points, if any. It should be of miniature circuit breaker type of switch so as to avoid replacement of fuse in case of crisis.
- b) Staircase and corridor lighting shall also be connected to alternate source of supply. The alternative source of supply may be provided by battery continuously trickle charged from the electric mains.
- c) Suitable arrangements shall be made by installing double throw switches to ensure that the lighting installed in the staircase and the corridor do not get connected to the sources of supply simultaneously. Double throw switch shall be installed in the service room for terminating the stand by supply.
- d) Emergency lights shall be provided in the staircase/corridor.
- e) All wires & other accessories used for emergency lights shall have fire retardant property.

- f) A stand-by electric generator shall be installed to supply power to staircase and corridor lighting circuits, fire lifts, the stand-by fire pump, pressurization fans & blowers, smoke extraction and damper system in case of failure of normal electric supply. The generator shall be capable of taking starting current of all the machines & circuits stated above simultaneously. If the stand-by pump is driven by diesel engine, the generator supply need not be connected to the stand-by pump or parallel HV/LV supply from a separate substation shall be provided with appropriate transformer for emergency. If this arrangement is provided then the arrangement of generator is not mandatory.

Emergency and Escape Lighting :-

1. Emergency lighting shall be powered from a source independent of that supplying the normal lighting.
2. Escape lighting shall be capable of
 - A) Indicating clearly and unambiguously the escape routes.
 - B) Providing adequate illumination along such routes to allow safe movement of persons towards and through the exits.
 - C) Ensuring that fire alarm call points and firefighting equipment's provided along the escape routes can be readily located.
3. The horizontal luminance at floor level on the centerline of an escape route shall be not less than 10 lux. In addition, for escape routes up to 2 m wide, 50 percent of the route width shall be lit to a minimum of 5 lux.
4. The emergency lighting shall be provided to be put on within 1 s of the failure of the normal lighting supply.
5. Escape lighting luminaries should be sited to cover the following locations
 - a) Near each intersection of corridors
 - b) At each exit door
 - c) Near each change of direction in the escape route
 - d) Near each staircase so that each flight of staircase receives direct light.
 - e) Near any other change of floor level.
 - f) Outside each final exit and close to it
 - g) Near each fire alarm call point.
 - h) Near firefighting equipment, and
 - i) To illuminate exit and safety signs as required by the fire department.
6. Emergency lighting systems shall be designed to ensure that a fault or failure in any one luminaire does not further reduce the effectiveness of the system.
7. The luminaries shall be mounted as low as possible but at least 2 m above the floor level.
8. Signs are required at all exits, emergency exits and escape routes, which should comply with the graphic requirements of the relevant Indian Standard.
9. Emergency lighting luminaries and their fittings shall be of nonflammable type.
10. It is essential that the wiring and installation of the emergency lighting system are of high quality so as to ensure their perfect serviceability at all times.
11. The emergency lighting system shall be capable of continuous operation for a minimum duration of 1 hour and 30 minutes even for the smallest premises.
12. The emergency lighting system shall be well maintained by periodical inspections and tests so as to ensure their perfect serviceability at all times.

Illumination of Means of Exit :-

Staircase and corridor lights shall conform to the following:-

- a) The staircase and corridor lighting shall be on separate circuit and shall be independently connected so that it could be operated by one switch installation on the ground floor easily accessible to firefighting staff at any time irrespective of the position of the individual control of the light points, if any. It should be of miniature circuit breaker type of switch so as to avoid replacement of fuse in case of crises.
- b) Staircase and corridor lighting shall also be connected to alternative supply. The alternative source of supply may be provided by battery continuously trickle charged from the electric mains; and
- c) Suitable arrangements shall be made by installing double throw switches to ensure that the lighting installed in the staircase and the corridor does not get connected

to two sources of supply simultaneously. Double throw switch shall be installed in the service room for terminating the sand by supply.

Exit Requirement:

1. An exit may be doorway, corridor, Passageway(s) to an internal staircase, or external staircase, or to a verandah or terrace(s), which have access to the street, or to the roof of a building or a refuge area. An exit may also include a horizontal exit landing to an adjoining building at the same level.
2. Every exit, exit access or exit discharge shall be continuously maintained free of all obstructions or impediments to full use in the case of fire or other emergency.
3. Exits shall be clearly visible and the route to reach the exits shall be clearly marked and signs posted to guide the occupants of the floor concerned. Signs shall be illuminated and wired to an independent electric circuit on an alternative source of supply.
4. To prevent spread of fire and smoke, fire doors with 2 hours fire resistance shall be provided at appropriate places along the escape routes and particularly at the entrance to lift lobby and stair well where a 'funnel or flue effect' may be created inducing an upward spread of fire.
5. All exits shall provide continuous means of egress to the exterior of a building or to an exterior open spaces leading to the street.
6. Exits shall be so arranged that they may be reached without passing through another occupied unit.

Glass Facade

1. If the glass cladding is used / provided to the building the glass used for the cladding must be toughened glass.
2. The use of combustible surface finishes on walls (including facade of the building) and ceiling affects the safety of the occupants of the building. Such finishes tend to spread the fire and even though the structural elements may be adequately fire resistant, serious danger to life may result. It is therefore, essential to have adequate precautions to minimize spread of flame on wall, façade of building and ceiling surfaces.
3. The finishing materials used for various purposes and décor shall be such that it shall not generate toxic fumes / smoke.
4. Automatic smoke venting facilities shall be provided for safe use of exits in windowless buildings.
5. Natural draft smoke venting shall utilize roof vents in walls at or near the ceiling level, such vents shall be normally open, or, if closed, shall be designed for automatic opening in case of fire, by release of smoke sensitive devices.
6. **Where smoke venting facilities are installed for purposes of exit safety, these shall be adequate to prevent dangerous accumulation of smoke during the period of time necessary to evacuate the area served, using available exit facilities with a margin of safety to allow for unforeseen contingencies.**

GLAZING:-

The glazing shall be in accordance with Part 6 'Structural Design, Section 8 Glass and Glazing' of the Code. The entire glazing assembly shall be rated to that type of construction as given in Table 1. This shall be applicable along with other provisions of this Part related to respective uses as specified therein. The use of glass shall not be permitted for enclosures of exits and exit passageway.

Glass facade shall be in accordance with the following:

- a) For fully sprinklered building having fire separation of 9 m or more, tempered glass in a non-combustible assembly, with ability to hold the glass in place, shall be provided. It shall be ensured that sprinklers are located within 600 mm of the glass facade providing full coverage to the glass.
NOTE- In case of all other buildings, fire resistance rating of glass facade shall be in accordance with Table 1.
- b) All gaps between floor-slabs and facade assembly shall be sealed at all levels by approved fire resistance sealant material of equal rating as that of floor slab to prevent fire and smoke propagation from one floor to another.
- c) Openable panels shall be provided on each floor and shall be spaced not more than 10 m apart measured along the external wall from centre-to-centre of the access openings. Such openings shall be operable at a height between 1.2 m and 1.5 m

from the floor, and shall be in the form of openable panels (fire access panels) of size not less than 1000 mm X 100 mm opening outwards. The wordings, '**FIRE OPENABLE PANEL OPEN IN CASE OF FIRE, DO NOT OBSTRUCT**' of at least 25 mm letter height shall be marked on the internal side. Such panel shall be suitably distributed on each floor based on occupant concentration. These shall not be limited to cubicle areas and shall be also located in common areas/corridors to facilitate access by the building occupants and fire personnel for smoke exhaust in times of distress.

Smoke Control of Exits :-

- a) In building design, compartmentation plays a vital part in limiting the spread of fire and smoke. The design should ensure avoidance of spread of smoke to adjacent spaces through the various leakage openings in the compartment enclosure, such as cracks, openings around pipes ducts, airflow grills and doors. In the absence of proper sealing of all these openings, smoke and toxic gases will obstruct the free movement of occupants of the building through the exits. Pressurization of staircases is of great importance for the exclusion of smoke and toxic gases from the protected exit.
- b) Pressurization is a method adopted for protecting the exits from ingress of smoke, especially in high-rise buildings. In pressurization, air is injected into the staircases, lobbies, etc., as applicable, to raise their pressure slightly above the pressure in adjacent parts of the buildings. As a result, ingress of smoke or toxic gases into the exits will be prevented. The pressurization of staircases and lift lobbies shall be adopted as given in Table 6. The pressure difference for staircases shall be 50 Pa. Pressure difference for lobbies (or corridors) shall be between 25 Pa and 30 Pa. Further, the pressure differential for enclosed staircase adjacent to such lobby (or corridors) shall be 50 Pa. For enclosed staircases adjacent to non-pressurized lobby (or corridors), the pressure differential shall be 50 Pa.

Pressurization of Staircases and Lift Lobbies

(Clause 4.4.2.5 (b) and E-2)

Sr. No.	Component	Height of Building		
		Less than 15 m	15 m to 30 m	More than 30
(1)	(2)	(3)	(4)	(5)
i)	Internal staircases not with external wall	Pressurized except for residential buildings (A-2 and A-4)	Pressurized	Pressurized
ii)	Internal staircase with external wall	Pressurized except for residential buildings (A-2 and A-4) or Naturally ventilated	Naturally ventilated or Pressurized	Cross-ventilated or Pressurized
iii)	Lift lobby	Not required at ground and above. However lift lobby segregation and pressurization is required for lift commuting from ground to basement	Naturally ventilated or Pressurized ¹⁾	Cross-ventilated or Pressurized ¹⁾

NOTES :

1. The natural ventilation requirement of the staircase shall be, achieved through opening at each landing, of an area 0.5 m² in the external wall. A cross ventilated staircase shall have 2 such openings in opposite/adjacent walls or the same shall be cross-ventilated through the corridor.
2. Enclosed staircase leading to more than one basement shall be pressurized.

¹⁾ Lift lobby with fire doors (120 min) at all levels with pressurization of 25-30 PA is required. However, if lift lobby cannot be provided at any of the levels in air conditioned buildings or in internal spaces where funnel/flue effect may be created, lift hoistway shall be pressurized at

50 Pa. For building greater than 30 m, multiple point injection air inlets to maintain desired pressurization level shall be provided. If the lift lobby, lift and staircase are part of firefighting shaft, lift lobby necessary has to be pressurized in such case, unless naturally ventilated.

- c) Equipment and ductwork for staircase pressurization shall be in accordance with one of the following:
 - 1) Directly connected to the stairway by ductwork enclosed in non-combustible construction.
 - 2) If ducts used to pressurize the system are passed through shafts and grills are provided at each level, it shall be ensured that hot gases and smoke from the building cannot ingress into the staircases under any circumstances.
- d) The normal air conditioning system and the pressurization system shall be designed and interfaced to meet the requirements of emergency services. When the emergency pressurization is brought into action, the following changes in the normal air conditioning system shall be effected:
 - 1) Any re-circulation of air shall be stopped and all exhaust air vented to atmosphere.
 - 2) Any air supply to the spaces/areas other than exits shall be stopped.
 - 3) The exhaust system may be continued provided
 - i) The positions of the extraction grills permit a general air flow away from the means of egress;
 - ii) The construction of the ductwork and fans is such that, it will not be rendered inoperable by hot gases and smoke; and
 - iii) There is no danger of spread of smoke to other floors by the path of the extraction system which can be ensured by keeping the extraction fans running.
- e) For pressurized stair enclosure systems, the activation of the systems shall be initiated by signalling from fire alarm panel.
- f) Pressurization system shall be integrated and supervised with the automatic/manual fire alarm system for actuation.
- g) Wherever pressurized staircase is to be connected to unpressurized area, the two areas shall be segregated by 120 min fire resistant wall.
- h) Fresh air intake for pressurization shall be away (at least 4 m) from any of the exhaust outlets/grille.

Smoke Control:-

Smoke Exhaust and Pressurization of Areas above Ground -

Corridors in exit access (exit access corridor) are created for meeting the requirement of use, privacy and layout in various occupancies. These are most often noted in hospitality, health care occupancies and sleeping accommodations. Exit access corridors of guest rooms and indoor patient department/areas having patients lacking self-preservation and for sleeping accommodations such as apartments, custodial, penal and mental institutions, etc., shall be provided with 60 min fire resistance wall and 20 min self-closing fire doors along with all fire stop sealing of penetrations. Smoke exhaust system having make-up air and exhaust air system or alternatively pressurization system with supply air system for these exit access corridors shall be required. Smoke exhaust system having make-up and exhaust air system shall also be required for theatres/auditoria. Such smoke exhaust system shall also be required for large lobbies and which have exit through staircase leading to exit discharge. This would enable eased exit of people through smoke controlled area to exit discharge. All exit passageway (from exit to exit discharge) shall be pressurized or naturally ventilated. The mechanical pressurization system shall be automatic in action with manual controls in addition. All such exit passageway shall be maintained with integrity for safe means of egress and evacuation. Doors provided in such exit passageway shall be fire rated doors of 120 min rating. Smoke exhaust system where provided, for above areas and occupancies shall have a minimum of 12 air changes per hour smoke exhaust mechanism. Pressurization system where provided shall have a minimum pressure differential of 25-30 Pa in relationship to other areas. The smoke exhaust fans in the mechanical ventilation system shall be fire rated, that is, 250°C for 120 min. For naturally cross-ventilated corridors or corridors with operable windows, such smoke exhaust system or pressurization system will not be required.

Smoke Exhaust and Pressurization of Areas below Ground –

Each basement shall be separately ventilated. Vents with cross-sectional area (aggregate) not less than 2.5 percent of the floor area spread evenly round the perimeter of the basement shall be provided in the form of grills, or breakable stall board lights or pavement lights or by way of shafts. Alternatively, a system of mechanical ventilation system may be provided with following requirements:

- a) Mechanical ventilation system shall be designed to permit 12 air changes per hour in case of fire or distress call. However, for normal operation, air changes schedule shall be as given in Part 8 'Building Services, Section 3 Air Conditioning, Heating and Mechanical Ventilation' of the Code.
- b) In multi-level basements, independent air intake and smoke exhaust shafts (masonry or reinforced concrete) for respective basement level and compartments therein shall be planned with its make-up air and exhaust air fans located on the respective level and in the respective compartment. Alternatively, in multi-level basements, common intake masonry (or reinforced cement concrete) shaft may serve respective compartments aligned at all basement levels. Similarly, common smoke exhaust/outlet masonry (or reinforced cement concrete) shafts may also be planned to serve such compartments at all basement levels. All supply air and exhaust air fans on respective levels shall be installed in fire resisting room of 120 min. Exhaust fans at the respective levels shall be provided with back draft damper connection to the common smoke exhaust shaft ensuring complete isolation and compartmentation of floor isolation to eliminate spread of fire and smoke to the other compartments/floors.
- c) Due consideration shall be taken for ensuring proper drainage of such shafts to avoid insanitation condition. Inlets and extracts may be terminated at ground level with stall board or pavement lights as before. Stall board and pavement lights should be in positions easily accessible to the fire brigade and clearly marked '**AIR INLET**' or '**SMOKE OUTLET**' with an indication of area served at or near the opening.
- d) Smoke from any fire in the basement shall not obstruct any exit serving the ground and upper floors of the building.
- e) The smoke exhaust fans in the mechanical ventilation system shall be fire rated, that is, 250^oc for 120 min.
- f) The smoke ventilation of the basement car parking areas shall be through provision of supply and exhaust air ducts duly installed with its supports and connected to supply air and exhaust fans. Alternatively, a system of impulse fans (jet fans) may be used for meeting the requirement of smoke ventilation complying with the following:
 - 1) Structural aspects of beams and other down stands/services shall be taken care of in the planning and provisions of the jet fans.
 - 2) Fans shall be fire rated, that is, 250^oC for 120 min.
 - 3) Fans shall be adequately supported to enable operations for the duration as above.
 - 4) Power supply panels for the fans shall be located in fire safe zone to ensure continuity of power supply.
 - 5) Power supply cabling shall meet circuit integrity requirement in accordance with accepted standard [4(13)].

The smoke extraction system shall operate on actuation of flow switch actuation of sprinkler system. In addition, a local and/or remote 'manual start-stop control/switch' shall be provided for operations by the fire fighters. Visual indication of the operation status of the fans shall also be provided with the remote control. No system relating to smoke ventilation shall be allowed to interface or cross the transformer area, electrical switchboard, electrical rooms or exits. Smoke exhaust system having make-up air and exhaust air system for areas other than car parking shall be required for common areas and exit access corridor in basements/underground structures and shall be completely separate and independents of car parking areas and other mechanical areas. Supply air shall not be less than 5 m from any exhaust discharge openings.

CAR PARKING FACILITIES: GENERAL

- a) Where both parking and repair operations are conducted in the same building, the entire building shall comply with the requirements for group G occupancies, unless the parking and repair sections are effectively separated by separation walls of 120 min.
- b) Floor surface shall be non-combustible, sloping towards drains to remove accumulation of water.

- c) Those parts of parking structures located within, immediately above or below, attached to, or less than 3 m away from a building used for any other purpose shall be separated by fire resistant walls and floors having fire resistance rating not less than 120 min. This shall exclude those incidental spaces which are occupied by cashier, attendant booth or those spaces used for toilets, with a total area not exceeding 200 m².
- d) Vehicle ramps shall not be considered as exists unless pedestrian facilities provided.
- e) Other occupancies like fuel dispensing, shall not be allowed in the building. Car repair facilities, if provided, shall be separated by 120 min fire resistance construction.
- f) In addition to fire protection requirements as per table 7, appropriate fire detection and suppressions systems shall be provided for the protection of hydraulic oil tank and pumps located below ground level for operation of car lifts.
- g) Means of egress shall meet the requirements specified

OPEN PARKING STRUCTURES (INCLUDING MULTY-LEVEL PARKING AND STILT PARKING)

- a) The term of open parking structure specifies the degree to which the structures exterior walls must have openings. Parking structures that meet the definition of the term open parking structure provide sufficient area in exterior walls to vent the products of combustion to a greater degree than enclosed parking structure.
- b) A parking structure having each parking level wall openings open to the atmosphere, for an area of not less than 0.4 m² for each linear meter of its exterior perimeter shall be constructed as open parking structure. Such openings shall be distributed over 40 percent of the building perimeter or uniformly over two opposing sides. Interior wall lines shall be at least 20 percent open, with openings distributed to provide ventilation, else, the structure shall be deemed as enclosed parking structures.

NOTE :- A car park located at the stilt level of a building (not open to sky) can be considered an open or an unenclosed car park if any part of the car park is within 30 m of a permanent natural ventilation opening and any one of the following is complied with towards the permanent natural ventilation requirement :-

- i. 50 percent of the car park perimeter shall be open to permanent natural ventilation.
- ii. At least 75 percent of car park perimeter is having the 50 percent natural ventilation opening.
- c) All stilt parking are required to be provided with sprinkler system where such buildings are required to be sprinklered.
- d) Open parking structures are not required to be provided with compartmentation.
- e) Open car parking (open to sky) within building complex having fire hydrant systems shall also need to be protected with yard hydrant installation system in accordance with good practice. [4(29)].

ENCLOSED PARKING STRUCTURES

- a) Those car parking structures which are enclosed on all sides and on top, not falling within the definition of open car parking and also those situated in the basements shall be known as enclosed car parking structures.
- b) All sprinklers in car parking shall be standard response type with minimum K-Factor of 80, area coverage of 9 m² and designed as per good practice [4(20)].
- c) For the basement car parking, compartmentation can be achieved, with fire barrier or with water curtain nozzle (K-23) or with combination thereof. Automatic deluge system comprising deluge valve, piping, nozzles, etc shall be used to zone the compartment in case of water curtain system. In case of water curtain, existing water storage shall be supplemented by water demand for water curtain nozzles for 60 min considering the largest compartments perimeter out of all compartments of car parking in any of the basements.
- d) The water supply for the water curtain nozzles shall be through independent electric pump of adequate capacity (flow and head) with piping/riser for the water supply to the nozzles.
- e) The water curtain shall be operated by the actuation of flow switch actuating sprinkler system.
- f) For smoke ventilation requirement of car parking.

- g) All fire exit doors from the car parking to exits shall be painted green and shall display exit signage.

FIRE FIGHTING SHAFT (FIRE TOWER) :-

- An enclosed shaft having protected area of 120 min fire resistance rating comprising protected lobby, staircase and fireman's lift, connected directly to exit discharge or through exit passageway with 120 min fire resistance wall at the level of exit discharge to exit discharge.
- These shall also serve the purpose of exit requirement / strategy for the occupants.
- The respective floors shall be approachable from fire-fighting shaft enabling the fire fighters to access the floor and also enabling the fire fighters to assist in evacuation through fireman's lift.
- The firefighting shaft shall be equipped with 120 min fire doors.
- The firefighting shaft shall be equipped with firemen talk back, wet riser and landing valve in its lobby, to fight fire by fire fighters

Service Ducts and Shafts :-

- Openings in walls or floors which are necessary to be provided to allow passages of all buildings services like cables, electrical wirings, telephone cables, plumbing pipes, etc. shall be protected by enclosure in the form of ducts/shafts having a fire resistance not less than 120 min. The inspection door for electrical shafts/ducts shall be not less than 120 min. Further, medium and low voltage wiring running in shafts/ducts, shall either be armoured type or run through metal conduits.
- The space between the electrical cables/conduits and the walls/slabs shall be filled in by a fire stop material having fire resistance rating of not less than 120 min. This shall exclude requirement of fire stop sealing for low voltage services shaft.
- For plumbing shafts in the core of the building, with shaft door opening inside the building, the shafts shall have inspection doors having fire resistance rating not less than 30 min.
- For plumbing shafts doors which open in wet areas or in naturally ventilated areas or on external wall of the building, the shafts may not require doors having any specified fire rating.

NOTE- In the case of buildings where it is necessary to lower or lift heavy machinery or goods from one floor to the other, it may be necessary to provide larger openings in the floor. Such openings shall be provided with removable covers which shall have the same strength and fire resistance as the floor.

Fire or Fire/Smoke Dampers:-

- These dampers shall be evaluated to be located in supply air ducts, fresh air and return air ducts/passages at the following points:
 - At the fire separation wall,
 - Where ducts/passages enter the vertical shaft,
 - Where the ducts pass through floors, and
- At the inlet of supply air duct and the return air duct of each compartment on every floor.
- Damper shall be of motorized type/fusible link. Damper shall be so installed to provide complete integrity of the compartment with all passive fire protection sealing. Damper should be accessible to maintain, test and also replace, if so required. Damper shall be integrated with Fire Alarm Panel and shall be sequenced to operate as per requirement and have interlocking arrangement for fire safety of the building. Manual operation facilities for damper operation shall also be provided.

Hazardous Areas, Gaseous, Oil Storage Yard, ETC.:-

- Rooms containing high pressure boilers, refrigerating machinery, transformers or other service equipment subject to possible explosion shall not be located directly under or adjacent to exits.
- All such rooms shall be effectively cut-off from other parts of the building and shall be provided with adequate vents to the outside air.
- All rooms or areas or high hazard in additions to those hereinbefore mentioned, shall be segregated or shall be protected with fire resistance walls having fire rating of 120 min as fire, explosion or smoke there from is likely to interfere with safe egress from the building. Further,

- Each building shall be provided with an approved outside gas shut-off valve conspicuously marked. The detailed requirements regarding safe use of gas shall be as specified in Part 9 'Plumbing Services, Section 4 Gas Supply' of the Code; and
- All exterior openings in a boiler room or rooms contain central heating equipment, if located below opening in another storey or if less than 3 m from other doors or windows of the same building shall be protected by a fire assembly. Such assemblies shall be fixed, automatic or self-closing.

THE H.S.D & F.O. STORAGE TANK AREA:

1. The design, construction & installation of "A" class "B" Class & "C" class petroleum storage tank should be as per the specification laid down by **Chief Controller of Explosives. Approval from C.C.E. must be obtained.**
2. Sufficient Distance from all the sides of tank should be kept and barbed wire fencing should be provided of minimum 1.5 Mtr. Height.
3. Caution boards "**DANGER**" and "**NO SMOKING**" should be displayed on the gate of the fence yard.
4. Vent pipe of the storage tank should be provided as per the specification laid down in relevant standard.
5. The surface of the tank farm area should be made up surface & no grass or shrubs shall be allowed to grow within the tank farm area.
6. Two water monitors & two hydrant points shall be installed around the tank farm area diagonally opposite to each other. The jet of the monitors should reach the top most part of the highest tank in tank farm area. The peripheral ring with sprinklers shall be provided to each tank intank farm area.
7. The lightening arrestor shall be installed on the highest part of the tank farm area.
8. All electrical fittings, fixtures in "A", "B", "C" class petroleum storage, loading/unloading pumps must be strictly flame proof & must be confirming to relevant IS specifications.
9. The tankers entering in to "A", "B", "C" class loading/unloading shall be provided with spark arrester on the silencer and proper earthing facility shall be provided to the tanker while loading/unloading. The water spray system shall be provided to loading / unloading platform.
10. Proper earthing shall be provided to storage tanks, pipelines, loading/unloading gadgets to dissipate the static current generated during the transportation of hydrocarbons.
11. The Storage tank should be as per the specification laid down by C.C.E. & approval of Chief Controller of Explosives must be obtained.
12. **The barbed wired fencing of 1.5 M height should be provided to Solvent Storage Yard.** The gate shall be painted in "**RED**" colour & it shall be kept always in locked position to avoid the entry of unauthorised person. The key of the storage yard shall be kept with responsible person of the Company.
13. Caution boards like "**Danger**", "**No smoking**" shall be displayed on the gate of fence yard.
14. The marginal space around the tank farm should be kept free from any obstructions as per the drawing approved by Chief Controller of Explosives.
15. The surface of the tank farm area should be made up surface & no grass or shrubs shall be allowed to grow within the tank farm area.
16. The proper Earthing facility shall be provided to the tanks installed in tank farm area as well as the truck while loading/unloading the F.O. The spark arrester shall be provided to the silencer of the truck before entering the premises.

KITCHEN AREA (LPG Storage):

- **Guidelines for Commercial Kitchens (Annexure-G) Clause No. 6 of Part IV NBC 2016 shall be followed**
- If L.P.G. is used for cooking purpose in canteen the L.P.G. pipelines & fittings & accessories used shall be strictly confirming to **IS: 6044 Part-I.** The L.P.G. pipeline & related installation shall be done by reputed and authorized agency. The agency shall issue a certificate that the work is carried out as per **IS: 6044 Part-I.**
- The L.P.G. storage area shall be provided with a separate shed painted in "**RED**" colour, "**Danger**" "**No-Smoking**" signs shall be painted on the door of L.P.G. shed. The shed should be always kept in lock and key & the key of the L.P.G. shed shall be kept with responsible person of the company.

- Minimum Two Exits should be provided diagonally opposite to each other.
- **4 Nos. of DCP Fire Extinguishers of 10 Kgs each should be provided near LPG Battery.**

Guidelines for Firefighting pump house

The requirements shall be as given below:

- It is preferable to install the pump house at ground level. Pump house shall be situated so as to be directly accessible from the surrounding ground level.
- Pump house shall be installed not lower than the second basement. When installed in the basement, staircase with direct accessibility (or through enclosed passageway with 120 min fire rating) from the ground, shall be provided. Access to the pump room shall not require to negotiate through other occupancies within the basement.
- Pump house shall be separated by fire walls all around and doors shall be protected by fire doors (120 min rating).
- Pump house shall be well ventilated and due care shall be taken to avoid water stagnation.
- No other utility equipment shall be installed inside fire pump room.
- Insertions like flexible couplings, bellows, etc, in the suction and delivery piping shall be suitably planned and installed.
- Installation of negative suction arrangement and submersible pumps shall not be allowed.
- Pump house shall be sufficiently large to accommodate all pumps, and their accessories like PRVs, installation control valve, valves, diesel tank and electrical panel.
- Battery of diesel engine operated fire pump shall have separate charger from emergency power supply circuit.
- Exhaust pipe of diesel engine shall be insulated as per best engineering practice and taken to a safe location at ground level, considering the back pressure.
- Fire pumps shall be provided with soft starter or variable frequency drive starter.

ELECTRICAL SERVICES:

1. For the requirements regarding installations from the point of view of Fire Safety, guidelines should be followed as mentioned in **IS Standard :1646 Code of practice for Fire safety Buildings : Electrical Installations.**
2. The electric distribution cables/wiring shall be laid in separate duct. The duct shall be sealed at every alternate floor with non-combustible materials having same fire resistance as that of the duct.
3. **Water mains, telephone lines, intercom lines, gas pipes or any other service lines shall not be laid in the duct of electric cables.**
4. Separate circuits for water pumps, staircase & corridor lighting shall be provided directly from the main switch gear panel and these circuits shall be laid in separate conduit pipes so that fire in one circuit will not affect the others.
5. The inspection panel doors and any other opening in the shaft shall be provided with **air tight doors having fire resistance of not less than 2hrs.**
6. Medium & low voltage wiring running in shaft and within false ceiling shall run in metal conduit.
7. An independent & well-ventilated service room shall be provided on the ground floor with direct access from outside or from the corridor for the purpose of termination of electric supply. **The doors provided for the service room shall have fire resistance of not less than two hours.**

Electrical services shall conform to the following: (High Rise building)

- a) The electric distribution cables/wiring shall be laid in a separate duct. The duct shall be sealed at every floor with non-combustible materials having the same fire resistance as that of the duct. Low and medium voltage wiring running in shaft and in false ceiling shall run in separate conduits;
- b) Water mains, telephone lines, intercom lines, gas pipes or any other service line shall not be laid in the duct for electrical cables; use of bus ducts/solid rising mains instead of cables is preferred;
- c) Separate circuits for firefighting pumps, lifts, staircases and corridor lighting and blowers for pressurizing system shall be provided directly from the main switch gear panel and these circuits shall be laid in separate conduit pipes, so that fire in one circuit will not affect the others. Such circuits shall be protected at origin by

- an automatic circuit breaker with its no-volt coil removed. Master switches controlling essential service circuits shall be clearly labeled;
- d) The inspection panel doors and any other opening in the shaft shall be provided with air-tight fire doors having fire resistance of not less than 2 h;
 - e) Medium and low voltage wiring running in shafts, and within false ceiling shall run in metal conduit. Any 230 V wiring for lighting or other services, above false ceiling, shall have 660 V grade insulation. The false ceiling, including all fixtures used for its suspension, shall be of non-combustible material and shall provide adequate fire resistance to the ceiling in order to prevent spread of fire across ceiling reference may be made to good practice.
 - f) An independent and well ventilated service room shall be provided on the ground level or first basement with direct access from outside or from the corridor for the purpose of termination of electric supply from the licensees' service and alternative supply cables. The doors provided for the service room shall have fire resistance of not less than 2 h;
 - g) If the licensees agree to provide meters on upper floors, the licensees' cables shall be segregated from consumers' cables by providing a partition in the duct. Meter rooms on upper floors shall not open into stair case enclosures and shall be ventilated directly to open air outside; and
 - h) Suitable circuit breakers shall be provided at the appropriate points.

Guidelines for Substation/Transformers

- Areas in substation shall not be used as storage/dump areas or for other utility purposes other than those required for the functioning of the substation.
- The substation area should be adequately ventilated.
- An independent, ventilated or air conditioned MV panel room shall be provided on the ground level or first basement. This room shall be provided with access from outside (or through exit passageway accessible from outside). The MV panel room shall be provided with fire resistant walls and doors of fire resistance of not less than 120 min.
- If the licensees agree to provide meters on upper floors, the licensees cables shall be segregated from consumers cables by providing a partition in the shaft.
- Meter rooms on upper floors shall not open into staircase enclosures and should be ventilated directly to open air outside or in electrical room of 120 min fire resistant walls.
- Electrical MV main distribution panel and lift panels shall be provided with CO2/inert gas flooding system for all panel compartments with a cylinder located beside the panel.

Oil filled substation

- A substation or a switch-station with oil filled equipment shall be limited to be installed in utility building or in outdoor location. Such substation/utility building shall be at least 7 m away from the adjoining building(s).
- Substation equipment (exceeding oil capacity of 2 000 litre) in utility building shall have fire rated baffle walls of 240 min rating constructed between such equipment, raised to at least 600 mm above the height of the equipment (including height of oil conservators) and exceeding 300 mm on each side of the equipment.
- All transformers where capacity exceeds 10 MVA shall be protected by high velocity water spray systems or nitrogen injection system.

Dry type substation

- Transformers located inside a building shall be of dry type and all substation/switch room walls, ceiling, floor, opening including doors shall have a fire resistance rating of 120 min.
- Access to the substation shall be provided from the nearest fire exit/exit staircase for the purpose of electrical isolation.

In addition to the above, all provision under the D.C. Rules of MIDC and N.B.C. shall be strictly adhered, also if any change in activity or Proposed expansion or Subletting of Plot or Transfer of Plot, NOC from this department is essential.

This is a **Provisional No Objection Certificate**. After providing the above fire prevention and protection system and after compliance of above recommendations inspection of the premises & fire prevention & protection arrangements will be carried out by this department and after satisfactory compliance "**Final No Objection Certificate**" will be issued. **This "Provisional No-Objection Certificate" will be treated valid for the period of one year from the date of issue.**

Details of "Fire Protection Fund Fees" are as follow:

	Total Amount	Advance "Fire Protection Fund fees" paid by M/s. Amanthin Info Parks Pvt. Ltd vide receipt no. : GL22513956 Dt. 31-12-2021.	Balance "Fire Protection Fund fees" needs to be recovered by SPA
(i)	(ii)	(iii)	(iv)
Initial "Fire Protection Fund fees"	Rs. 15,66,995.40/-	Rs. 00.00/-	Rs. 15,66,995.40/-
Additional "Fire Protection Fund fees"	Rs. 74,64,948.80/-	Rs. 00.00/-	Rs. 74,64,948.80/-
Total	Rs. 90,31,944.20/-	Rs. 00.00/-	Rs. 90,31,944.20/-

The undersigned reserves the right to amend any additional recommendations deemed fit during the stage wise inspection due to the statutory provisions amended from time to time and in the interest of the protection of the company.

Thanking you.

Yours faithfully

Santosh S Warick Digitally signed
by Santosh S Warick
Date: 2022.03.23
19:44:06 +05'30'

(S. S. Warick)
Chief Fire Officer & Fire Adviser,
MIDC, Mumbai 400093.

Copy to The Executive Engineer, MIDC, Sub Division Mahape, for information. He is requested to recover the Balance fees mentioned in column no. (iv) of above table before issuing work commencement certificate/plan approval.

MAHARASHTRA INDUSTRIAL DEVELOPMENT CORPORATION
(A Government of Maharashtra Undertaking)

OFFICE :- Office of the Executive Engineer,
MIDC, Division No. II, Mahape,
Navi Mumbai - 400710.
Phone No. :- 022-27784427, Fax No. 2778425.
Email :- eethanedn2@midcindia.org.



EE/Dn.II/IFMS/B12781/2022.
Date :- 31/03/2022.

To,
✓ **M/s. Amanthin Info Parks Pvt. Ltd.,**
Plot No. D-31 & D-32, TTC Industrial Area,
Turbhe, Navi Mumbai.

Sub : Provisional approval of releasing storm water for connection to external storm water line for Plot No. D-31 and D-32, TTC Industrial Area, Turbhe, Navi Mumbai.

Ref : 1) Consent to Establish bearing UAN No. MPCB-CONSENT-0000114958/CE-2110000151, dtd. 05/10/2021.
2) Environmental Clearance Parivesh proposal file No. SIA/MH/MIS/213408/2021/260695, dtd. 29/05/2021.
3) Your letter No. NIL, dtd. 09/02/2022 received on Dt. 30/03/2022.

Dear Sir,

You have requested for approval cum no objection for releasing additional storm water to connect adjacent NMMC storm water drain during the high rainfall connecting with adjacent storm water drain vide letter cited under reference at Sr. No. 3, above.

In this respect this is to inform you that, your request is provisionally approved subject to condition to maintain the invert level of internal storm water drainage arrangement connecting external NMMC storm water drain as per requirement & norms of NMMC.

Thanking you,

Yours faithfully,

(R.G. Rathod)
Executive Engineer & SPA,
MIDC, Division No. II, Mahape.

MAHARASHTRA INDUSTRIAL DEVELOPMENT CORPORATION
(A Government of Maharashtra Undertaking)



No. MIDC/IFMS/THANE I/E&MD/ EETHane2 /
2022/ A38166
Office of the Executive Engineer, M.I.D.C.,
Division No.2, Mahape, Navi Mumbai
Date 01/02/2022.

To,
M/s. Amanthin Info Parks Pvt. Ltd.,
Plot No. D-31 & D-32,
MIDC ,TTC Industrial Area,
Turbhe, Navi Mumbai.

Sub :- TTC Industrial Area.....
Permission for felling & transplantation of trees on Plot
no.D-31 & D-32.

Ref :- Your application vide No. SWC/14/522/20211007/787646.

Dear Sir,

Since Tree Authority of MIDC has approved the proposal on the said plot and you have also paid tree authority fund of Rs. 6000/- (SGST+ CGST) vide Receipt No. GL22342352 date 06/10/2021 & Security deposit of Rs. 20,10,000/- vide Receipt No. GL22566897.dated 25/01/2022, permission for felling of 26 nos. of trees & transplantation of 175 nos. of trees. is hereby granted as shown in the tree layout drawing attached herewith subject to following conditions:

- 1) You have to fell the trees by planting additional trees with the ratio of 1:5 or more trees against approval given for felling trees as shown in the drawing.
- 2) You have to replant the trees and additionally plant new trees with the ratio 1:3 i.e. or more trees against approval given for re-plantation of trees as shown in the drawing.
- 3) The Security Deposit shall be refunded after three years, subject to following conditions.
 - i) It shall be the duty of applicant/owner to see the growth of trees and shall give the report to the Tree Officer once in a six month about the condition of trees for a period of three years.
 - ii) In case of failure, the Tree Officer will initiate action as per the Maharashtra (Urban Areas) Protection & Preservation of Tree Act (1975) as mentioned in affidavit & modified act on 16th Jan. 2017.
- 4) The felling & disposal of tree is at the risk & cost of the applicant.

- 5) Whoever fells any tree or causes any tree to be felled in contraventions of the provisions of the act or without reasonable excuse fails to comply with any order issued or condition imposed by the Tree Officer or the Tree authority or voluntarily obstructs any member of the Tree Authority or the Tree officer or any Officer and Servant, subordinate to him in the discharge of their functions under this Act, shall, on conviction, be punished with the fine of not less than one thousand rupees which may extend up to five thousand rupees for every offence and also with imprisonment for a term of not less than one week.
- 6) The felling or causing of felling of each tree without the permission of the Tree Authority shall constitute a separate offence.
- 7) In addition to above you have to submit Bank Guarantee of Rs. 9,00,000/- (Rs. 30,000/- per High Risk Tree proposed for felling/ transplantation) drawn on National Bank/ Scheduled Bank in favour of Executive Engineer, MIDC, Division No. II, Mahape and necessary undertaking in the form D within one week from the date of issue of this permission failing of which permission granted by this letter will be withdrawn without giving any notice.

You are hereby directed to submit the photographs and the CD of the transplantation of the trees, so as to ensure proper transplantation of trees.

As per Maharashtra (Urban Area) Protection & Prevention of Trees ACT, 1975 Section 8(6), 11(1) it is the duty of owner or occupiers of the land to preserve the existing trees. Permission for trimming of 05 nos. of trees is granted on the basis of trees obstructing the construction of building and drive way on the said plot. The allottee shall trim the trees for which Tree Authority MIDC has granted permission scientifically. The terms & conditions for scientifically trimming of trees approved for trimming are as below:-

- 1) Stem of trees & main branches of trees shall not be injured. You are responsible for any injury to trees as per Section (2) of Trees ACT, 1975.
- 2) Allottee shall see that there is no nest of birds or any habitant of wildlife on branches to be trimmed; you are responsible as per Wildlife Protection ACT, 1972.
- 3) Before trimming branches there shall not be any flowering, blossoming, and fruit bearing on the branches of trees. The action will be as per Environment (Protection) ACT, 1986.



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 बिल्डिंग, पांचवा तल, के.डी.ए. कॉम्प्लेक्स परिसर, सी.बी.डी. बेलपुर

नवी मुंबई (महाराष्ट्र) - 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 24/11/2021

संख्या /No. A/P/WC/MH/15/3357 (P515179)

सेवा में /To,

M/s. Amanthin Info Parks Pvt Ltd,
One World center, 16th floor, Tower 2A, Senapati Ba,
Mumbai,
Taluka: Mumbai,
District: MUMBAI
State: Maharashtra
PIN: 400013

विषय /Sub.

M/s. Amanthin Info Parks Pvt Ltd,
Plot No, D-31 & D-32, TTC Industrial area, Turbe MIDC , Navi Mumbai 400703, Turbhe MIDC, Thane, Taluka: Thane, District: THANE, State: Maharashtra, PIN: 400703 में प्रस्तावित
पेट्रोलियम वर्ग B अधिसूचना के अनुमोदन के सम्बन्ध में।
Proposed Petroleum Storage Class B Installation at Plot No, D-31 & D-32, TTC Industrial area, Turbhe MIDC , Navi Mumbai 400703, Turbhe MIDC, Thane, Taluka: Thane, District: THANE,
State: Maharashtra, PIN: 400703 Approval Regarding.

महोदय /Sir(s).

कृपया आपके पत्र क्रमांक OIN929175 दिनांक 22/11/2021 का अवलोकन करें।

Please refer to your letter No. OIN929175 dated 22/11/2021

Drawing(s) nos. SEI012 dated 20/08/2021, SEI-012 dated 17/11/2021, अनुमोदित किया जाता है तथा प्रलेख आरेखण की एक प्रति विधिवत पृष्ठांकित कर लौटाई जा रही है।
The Drawing(s) nos. SEI012 dated 20/08/2021, SEI-012 dated 17/11/2021, showing the site and layout etc. of the specified installation is/are approved and one copy of the same is returned
herewith in token of approval.

Conditions of the Approval:-
With cond 1. to submit the revised LOI of Oil company with proper signed. 2. To mention the north direction in the plan at the time of grant of license.

अग्रिम कार्रवाई हेतु इस कार्यालय को प्रेषित करें।
अग्रिम कार्रवाई हेतु इस कार्यालय को प्रेषित करें।
The following documents which are necessary for the grant of a licence in Form XV under Petroleum Rules, 2002 for the subject installation may please be submitted to this office for further
action in the matter.

1. प्ररूप IX (संलग्न) विधिवत भरा हुआ एवं हस्ताक्षरित आवेदन।
An Application in Form IX (enclosed) duly filled in and signed.
2. पेट्रोलियम नियम 2002 के तहत अंतिम आवेदन फॉर्म पर उपलब्ध ई-भुगतान सुविधा के माध्यम से अनुमति शुल्क ₹ 35750/- (प्रति वर्ष - अधिकतम 10 वर्ष तक) ऑनलाइन जमा किया जाना है।
Petroleum Rules 2002 के तहत अंतिम आवेदन फॉर्म पर उपलब्ध ई-भुगतान सुविधा के माध्यम से अनुमति शुल्क ₹ 35750/- (प्रति वर्ष - अधिकतम 10 वर्ष तक) ऑनलाइन जमा किया जाना है।
A license fee of Rs. 35750/- (per year - maximum upto 10 years) to be submitted online through e-payment facility available on online application portal under petroleum Rules, 2002.
3. अनुमोदित प्लान की ब्लू प्रिंट या सीएडी (CAD) प्रिंट में चार प्रतियाँ।
Four copies of the approved plans in blue print or cad print incorporating the conditions of approval if any, without any ink corrections, duly signed by the authorised signatory
4. इस संयोजन द्वारा गान्धारी प्राप्त सक्षम व्यक्ति द्वारा उनके हस्ताक्षर के साथ सक्षम जारी पेट्रोलियम नियम 2002 के अंतर्गत नियम 130 और 126 में आवश्यक निर्धारित प्ररूप (संलग्न) में सही और टेस्ट प्रमाण-पत्र।
Safety and Test Certificate required under rule 130 and 126 of the Petroleum Rules, 2002 in the prescribed proforma (copies enclosed) issued by Competent person recognised by this
organisation bearing his signature stamp.
5. पेट्रोलियम नियम के नियम 144 के अंतर्गत जिला प्राधिकारी द्वारा जारी 'अनापत्ति प्रमाण-पत्र' की मूल प्रति के साथ उनके द्वारा विधिवत हस्ताक्षरित एवं कार्यालय की मोहर लगा हुआ सार्दट प्लान।
Original copy of 'No Objection Certificate' from the District Authority under rule 144 of petroleum rules together with site plan duly endorsed by him with his office seal thereon.
6. कार्यालय से होनेवाले पत्राचार पर हस्ताक्षर करने के लिए अधिकृत व्यक्ति(यों) के नमूना हस्ताक्षर।
Specimen signature(s) of the person(s) authorised to sign the correspondence intended for this organisation.

जी.एस.आर. 519(ई) दिनांक 05/08/2000 द्वारा भारत सरकार, पेट्रोलियम तथा प्राकृतिक गैस मंत्रालय द्वारा अधिसूचित आदेश 2000 के 'सॉल्वेंट, रेफिनेट तथा स्लॉप (अधिग्रहण, बिक्री, भंडारण और ऑटोमोबाइल में उपयोग की
रोकथाम) आवश्यकता/प्रावधान का क्रम पालन करें।
Please follow the requirement/provision of 'Solvent, Refined and Slop (Acquisition, Sale, Storage & Prevention of use in Automobiles)' Order 2000 notified by Government of India, Ministry of
Petroleum and Natural Gas vide G.S.R. 519(E) dated 05/08/2000.

ध्यान दें: यह अनुमोदन/अनुमति अन्य प्राधिकारियों से आवश्यक अनुमति/व्यतिरिक्त 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,

(डा. विवेक कुमार)
(Dr Vivek Kumar)
डिस्ट्रिक्ट नियंत्रक
Controller of Explosives
कृते संयुक्त मुख्य विस्फोटक नियंत्रक
For Jt. Chief Controller of Explosives
नवी मुंबई (महाराष्ट्र) 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.

Digitally signed by Dr Vivek Kumar
Reason: Approval No. : A/P/WC/MH/15/3357
Location: West Circle [P515179]
Date: 2021.11.24 02:00:54 +05:30



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, पाँचवा तल, केंद्रीय कार्यालय परिसर, सी.बी.डी. बेलपुर

नवी मुंबई (महा.)- 400614

A1 & A2 wing, 5th Floor, C.G.O. complex, CBD Belapur, Navi Mumbai (M.S.),
Mumbai - 400614

E-mail :

jtccemumbai@explosives.gov.in

Phone/Fax No : 022 -

27575946,27573881

संख्या /No : A/P/WC/MH/15/3362 (P524608)

दिनांक /Dated : 27/12/2021

सेवा में /To,

M/s. AMINTHON INFO PARKS Pvt LTD,
One World Trade Centre,16th Floor,Tower 2A, Senapa,,
One World Trade Centre,16th Floor, Tower 2A, Senap
MUMBAI,
Mumbai,
Taluka: Mumbai,
District: MUMBAI
State: Maharashtra
PIN: 400013

विवरण /Sub : M/s. AMINTHON INFO PARKS Pvt LTD,
Plot No, D-31& D-32, TTC industrial area Turbe MIDC Navi Mumbai, Turbe, Thane, Taluka:
Thane, District: THANE, State: Maharashtra, PIN: 400703 में प्रस्तावित पेट्रोलियम वर्ग B अधिष्ठापन के
अनुमोदन के सम्बन्ध में ।
Proposed Petroleum Storage Class B Installation at Plot No, D-31& D-32, TTC industrial area
Turbe MIDC Navi Mumbai, Turbe, Thane, Taluka: Thane, District: THANE, State: Maharashtra,
PIN: 400703 Approval Regarding.

संबोधन /Sir
(s)

कृपया आपके पत्र क्रमांक OIN960532 दिनांक 20/12/2021 का अवलोकन करें ।

Please refer to your letter No. OIN960532 dated 20/12/2021

Drawing(s) nos. 01 dated 06/12/2021, 02 dated 06/12/2021, अनुमोदित किया जाता है तथा प्रत्येक आरेखण
की एक प्रति विधिवत पृष्ठांकित कर लौटाई जा रही है ।

The Drawing(s) nos. 01 dated 06/12/2021, 02 dated 06/12/2021, showing the site and layout etc. of
the specified installation is/are approved and one copy of the same is returned herewith in token of
approval.

Conditions of the Approval:-

Water monitor location should shown in drawing

अग्रिम कार्रवाई हेतु इस कार्यालय को प्रेषित करें ।

The following documents which are necessary for the grant of a licence in Form XV under Petroleum
Rules, 2002 for the subject installation may please be submitted to this office for further action in the

matter.

1. प्ररूप IX (संलग्न)में विधिवत भरा हुआ एवं हस्ताक्षरित आवेदन।
An Application in Form IX (enclosed) duly filled in and signed.
2. पेट्रोलियम नियम 2002 के तहत ऑनलाइन आवेदन पोर्टल पर उपलब्ध ई-भुगतान सुविधा के माध्यम से अनुज्ञप्ति शुल्क रु 35750/- (प्रति वर्ष - अधिकतम 10 वर्ष तक) ऑनलाइन जमा किया जाना है।
A license fee of Rs. 35750/- (per year - maximum upto 10 years) to be submitted online through e-payment facility available on online application portal under petroleum Rules, 2002.
3. अनुमोदित प्लान की ब्लू प्रिंट या सीएडी (CAD) प्रिंट में चार प्रतियाँ।
Four copies of the approved plans in blue print or cad print incorporating the conditions, of approval if any, without any ink corrections, duly signed by the authorised signatory
4. इस संगठन द्वारा मान्यता प्राप्त सक्षम व्यक्ति द्वारा उनके हस्ताक्षर के स्टैप सहित जारी पेट्रोलियम नियम 2002 के अंतर्गत नियम 130 और 126 में आवश्यक निर्धारित प्ररूप (संलग्न-) में सेफ्टी और टेस्ट प्रमाण-पत्र।
Safety and Test Certificate required under rule 130 and 126 of the Petroleum Rules, 2002 in the prescribed proforma (copies enclosed) issued by Competent person, recognised by this organisation bearing his signature stamp.
5. पेट्रोलियम नियम के नियम 144 के अंतर्गत जिला प्राधिकारी द्वारा जारी 'अनापत्ति प्रमाण-पत्र' की मूल प्रति के साथ उनके द्वारा विधिवत हस्ताक्षरित एवं कार्यालय की मोहर लगा हुआ साईट प्लान।
Original copy of 'No Objection Certificate' from the District Authority under rule 144 of petroleum rules together with site plan duly endorsed by him with his office seal thereon.
6. कार्यालय से होनेवाले पत्राचार पर हस्ताक्षर करने के लिए अधिकृत व्यक्ति(यों) के नमूना हस्ताक्षर।
Specimen signature(s) of the person(s) authorised to sign the correspondence intended for this organisation.

जी.एस.आर. 519(ई) दिनांक 05/06/2000 द्वारा भारत सरकार, पेट्रोलियम तथा प्राकृतिक गैस मंत्रालय द्वारा अधिसूचित आदेश 2000 के 'सॉल्वेंट, रैफिनेट तथा स्लॉप (अधिग्रहण, बिक्री, भंडारण और ऑटोमोबाइल में उपयोग की रोकथाम) आवश्यकता/प्रावधान का कृपया पालन करें।

Please follow the requirement/provision of "Solvent, Raffinate and Slop (Acquisition, Sale, Storage & Prevention of use in Automobiles)" Order 2000 notified by Government of India, Ministry of Petroleum and Natural Gas vide G.S.R. 519(E) dated 05/06/2000.

फिर भी, 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,

((डा.अनुज कुमार)
(Dr. Anuj Kumar)
विस्फोटक नियंत्रक

Controller of Explosives
कृते संयुक्त मुख्य विस्फोटक नियंत्रक
For Jt. Chief Controller of Explosives
नवी मुंबई (महा.)/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.

UNDERTAKING

M/s. Amanthin Info Parks Pvt. Ltd. has proposed to develop a Data Center project at Plot No. D- 31 and D-32, TTC Industrial Area, Turbhe, Navi Mumbai, Dist. Thane – 400703. During operation phase of the project, there will generation of E - Waste & Used Battery and Used/Spent oil to the tune of 188kg/Year, 5,966kg/Year and 26,680Liter/Year.

M/s. Amanthin Info Parks Pvt. Ltd. Declares that waste generated shall be handled as per the respective rules and norms shall be disposed of to the Authorized Recycler and Re-processor.

Thanking You,

For Amanthin Info Parks Pvt. Ltd.



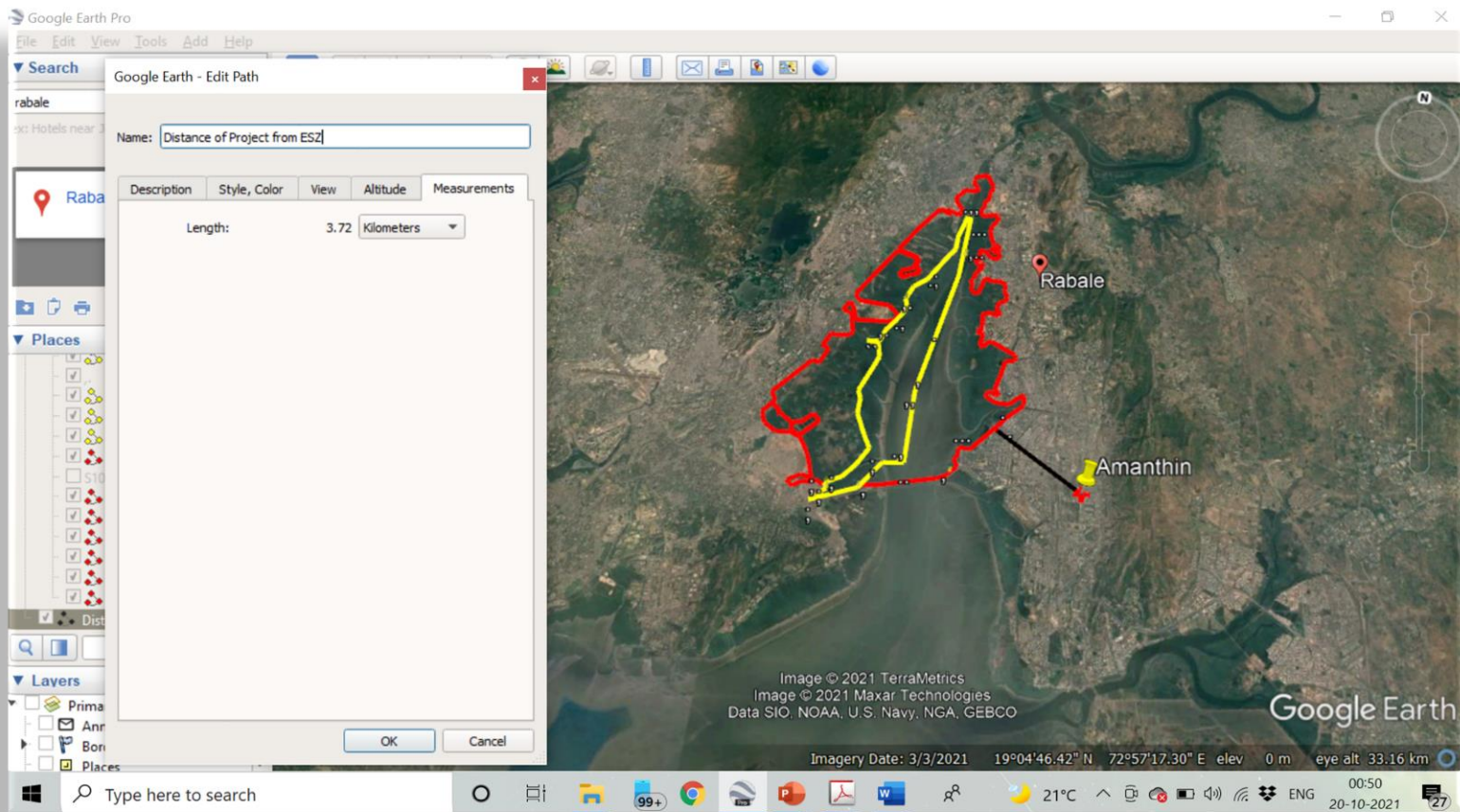
Authorised Signatory



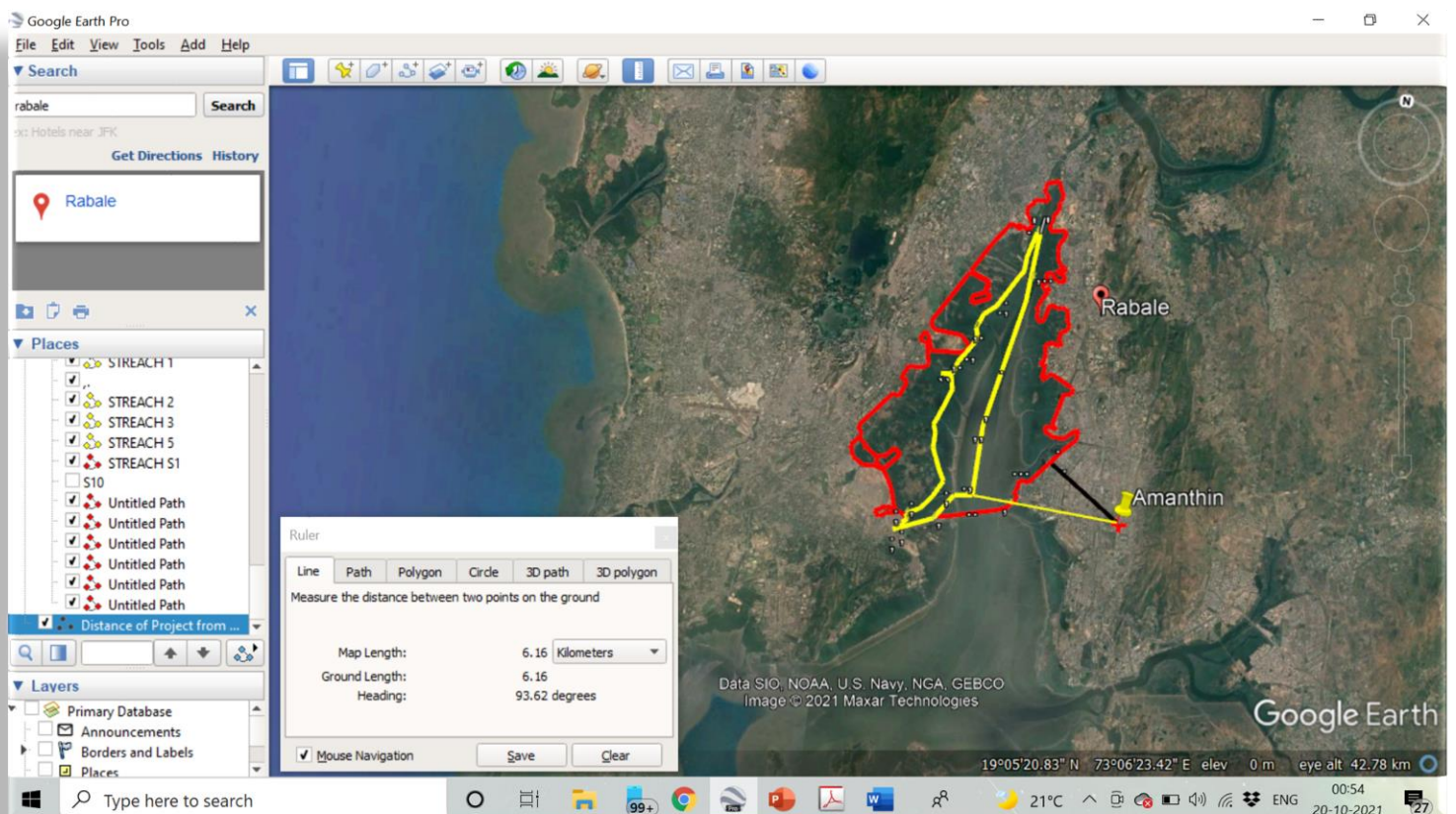
Date: 8th September 2021

Place: Mumbai

Google Image Showing Distance of Project from Eco Sensitive Zone– 3.72 km



Google Image Showing Distance of Project from Flamingo Bird Sanctuary – 6.16km



ECBC COMPLIANCE REPORT

Amanthin Info Parks

DATA CENTER , MUMBAI

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PROJECT DETAILS:

The DATA Center projects have 6 data halls , (G+2)one Facilities Support Building (G+2), and a Gantry Structure (G+4) with a Total Built Up area of 53404.60 sq m.

Project Name	Amanthin Data centre
Site Area	39980 sq. m.
Total Built Up Area	53404.60 sq.m
No. Of Parking Levels	None
Occupancy	188 (63 people per shift, 3 nos. shift)

The Project falls under Warm and Humid Climate zone. The project has attempted for Performance approach to demonstrate the compliance to ECBC Rating. The building complies all the requirements of ECBC as per climate zone.

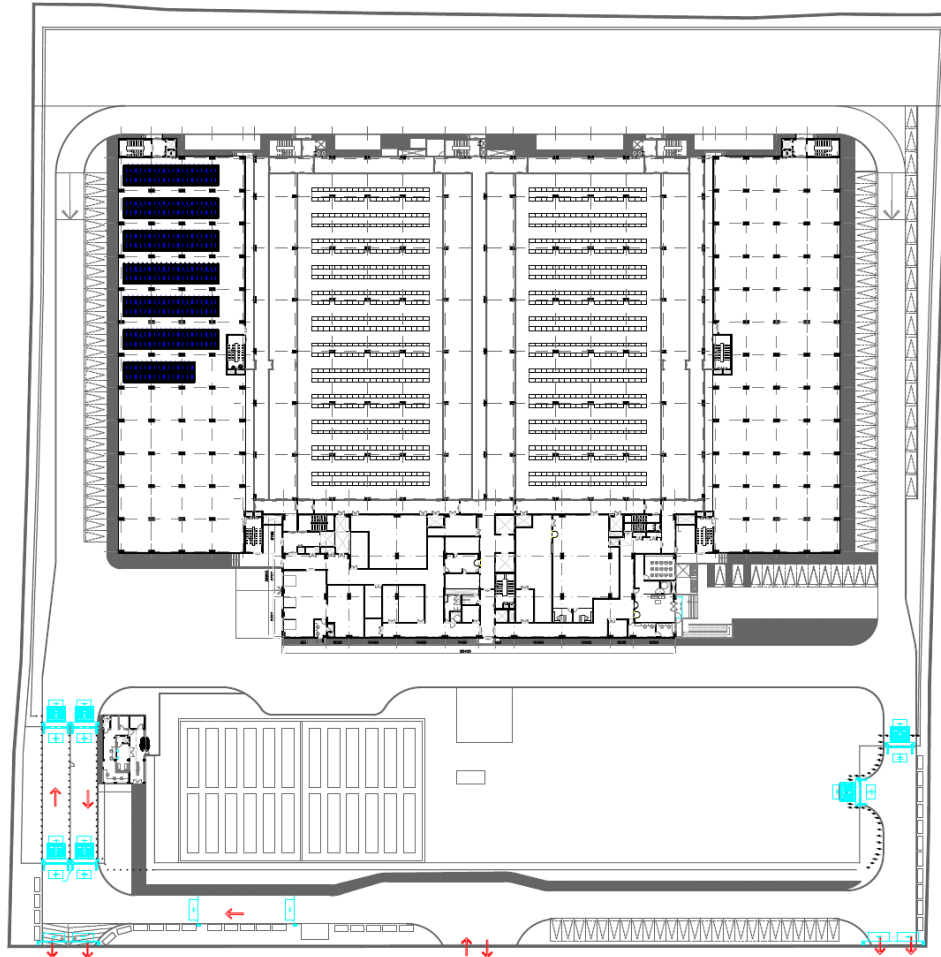
SOLAR & ECBC PARAMETERS:


Sr. No.	Point Description	Minimum Required (As per ECBC 2017)	Actually Provided
1	Total terrace area available in the project	-	3500m ²
2	Total usable terrace area for solar panels & Solar hot water	-	1800m ² (51% of Terrace area)
3	Actual area proposed to be utilized for generating solar energy/Hot Water	-	1800m ²
4	Connected Load	-	1800kW
5	Demand Load	-	1350kW
6	1% demand load / energy proposed to be generated through renewable sources as a percentage of demand load.	14 kW (1% Demand load)	135kW _p PV System
7	20% water heating / water heating capacity provided as percentage of total water heating requirement.	-	Not Applicable
8	Actual solar energy generated through renewable sources including solar water heaters.	-	197 MWh/annum
9	Cost for renewable energy including water heating	-	Rs. 15,00,000/-
10	Essential power load for firefighting Lifts Etc required during emergency	-	120kW
11	Actual DG backup provided which should equal to or more than 10% of maximum demand or equal to all emergency requirements like Fire Fighting Pumps, Fire Lifts, Emergency Lighting, Water Pumps, STP, Solid Waste Treatment Plant, Water Treatment Plant Etc. whichever is higher.	-	2.2MWe @ N+N Backup arrangement
12	Special Mitigating factors provided in the project for the efficient use of project		
	a) Latest transformer	Maximum allowable power transformer losses for Dry type transformers should be as per Table 8.2.1.1	Efficient Dry-Type Transformers
	b) Fuel efficient Automated DG set	BEE star rated DG sets shall be used in all compliant buildings. DG sets in buildings greater than 20,000 m ² BUA shall have:	Tier 2 / TA Luft fuel Efficient and low emissions DGs specified

		-minimum 3 stars rating in ECBC Buildings	
	c) If power quality is poor then the special provision like capacitor bank etc. provided	-	Active Harmonic Filtering to be provided
	d) LED	-	All Lighting to be LED based
	e) Solar PV	-	135kWp PV System
	f) Solar Hot Water	-	Not Applicable
	g) Lighting Dimmer	✓	✓
	h) Lighting Timers	✓	✓
	i) Energy Efficient Lift	-	✓
	j) Star Rated Pumps	✓	✓
	Star Rated Motors	✓	✓
	k) Occupancy/ Lighting Sensors	✓	✓
	l) 5 Star Rated Heat Pumps	✓	✓
13	Total Power saving including saving due to Water Heaters.	-	Not Applicable
14	Exterior Wall Construction	As per ECBC U-Value (W/m ² -k) - 0.40 max.	U factor:0.704 W/sm.K
15	Roof Construction	As per ECBC U-Value (W/m ² -k) - 0.33 max.	U factor:0.9 W/sm.K
16	Glazing	Glass U-Value - 3.0 W/m ² -K SHGC – 0.27 VLT- 0.27 (min)	U factor:5.70W/sm.K SHGC:0.64 VLT: 67%
17	WWR	40%	7 %
18	Shading Devices	-	No shading
19	Lighting Power Density	-	LPD: 7.5W/m ²
20	EPI Ratio (EPI Ratio can be calculated through energy modelling considering Wall, Roof, Glass U value, Lighting Design & HVAC design in any.)	PUE: 1.6 or less	PUE: 1.5 ECBC compliant

SOLAR PANEL LAYOUT:

The shadows for critical months from 8 am to 4 pm were analysed for Terrace plan of project. The terrace area continuously in shadow for more than 4 hrs per day is not suitable for placement of renewable energy systems. The placement of systems revised accordingly. Following is the layout with revised system placement. For the Proposed Project, Solar PV panels are proposed to encourage the Renewable Energy use and also to encourage sustainable development.

**PV System Sizing Calculation****Legend**

 500W PV PANEL

TERRACE AREA CALCULATIONS:

Solar PV Capacity provided	135	KW
Space Required for Solar PV	1800	Sq.m
Type of Panels considered	500	W
Total No. Panels Considered	270	No.

ENERGY CONSERVATION MEASURES AGAINST CONVENTIONAL BASE CASE

Sr. No.	Energy Conservation Measures	Savings %
1	Better Envelope Design	20% energy saved as per Conventional Base Case. 0.5 % energy saved as per ECBC Base Case.
2	Mutual shading of buildings by design and due to PV system on Terrace	
3	Lower Lighting Loads due to efficient lighting	
4	Efficient Air Conditioning System	
5	Efficient Pumps & Motors	
	Solar PV System	10.0 % of demand Load (135 kWp)

EXECUTIVE SUMMARY

To comply with the Code, buildings shall

- (a) have an Energy Performance Index Ratio (EPI Ratio) as defined in §3.1.1 that is less than or equal to 1 and,
- (b) meet all mandatory requirements mentioned under §4.2, §5.2, §6.2, and §7.2.

The project achieves ECBC compliance by fulfilling required compliance criteria.

Climate Zone: Warm & Humid

Case: ECBC 2017 Compliant

Building Type: Data centre

Compliance Approach: whole building simulation for Energy

The building was analyzed using e-quest hourly energy simulation software to evaluate the performance in terms of energy consumption and thermal comfort of the occupants. The purpose of this report is to present the performance of the design building in comparison to a baseline budget building based on ECBC 2017.

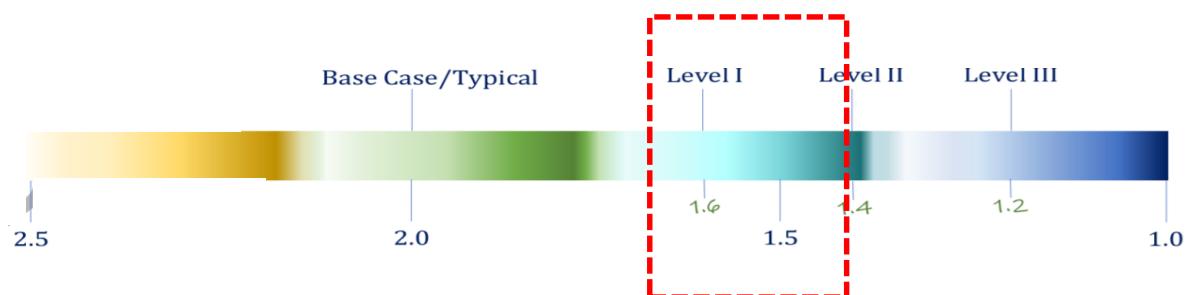
The energy conservation was mainly achieved due to efficient envelope material, Mutual shading of buildings, shaded terrace areas due to PV, efficient lighting system, efficient AC systems and use of renewable energy. Following are the final outcome of energy simulation of the proposed buildings.

PUE = Total Facility Energy

IT Equipment Energy

$$\text{PUE} = \frac{39353205}{24711084} = 1.5$$

Thus, the Project meets the PUE Level 1 for ECBC



*Details attached in Appendix B

		ECBC 2017	Proposed Case
PUE		1.6	1.5
Total Facility Energy Consumption	(kWh)	39537734.4	39353205
Energy Saving	(%)		0.5 %

CLIMATE DESCRIPTION:

Mumbai falls under Warm and Humid climate zone with average temperatures ranging between 23°C and 30°C. Mumbai experiences three seasons: summer, monsoon, and winter.

Pune experiences 3 distinct seasons:

1. The Summer lasts from March to mid-June. The average monthly temperature ranges from 22-32°C. The warmest month in Pune is May with humidity remaining low.
2. The monsoon lasts from June to October, with moderate rainfall and average monthly temperatures ranging from 23°C to 26 °C. Most of the annual rainfall in the city falls between June and September, and July is the wettest month of the year. Hailstorms are not unheard of.
3. The winter lasts from December to February and for most of the winter daytime temperature hovers around 26 °C while night temperatures are below 15°C, often dropping to 12°C to 10 °C. The average monthly temperatures ranging from 19°C to 25 °C.

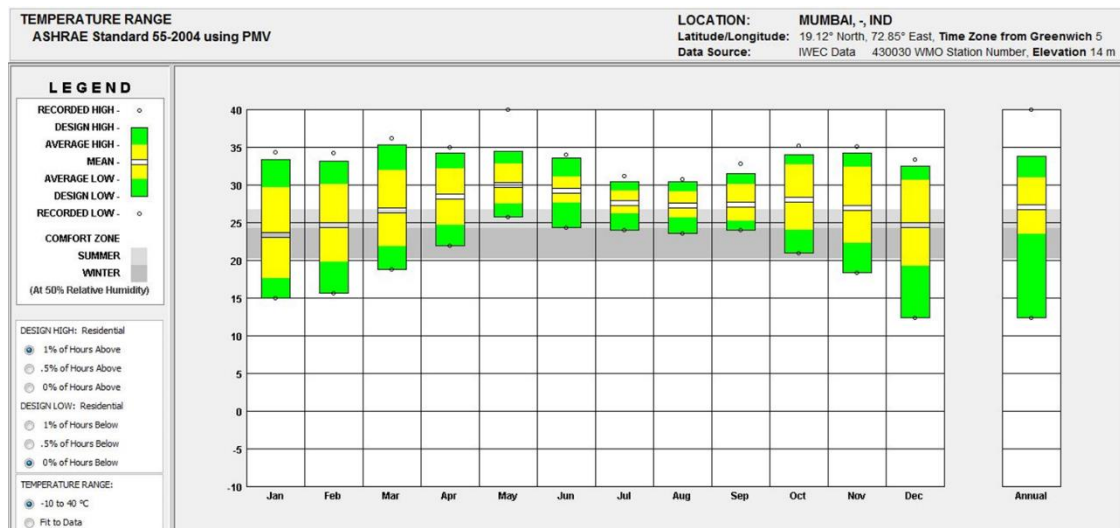


Figure 1 Temperature ranges

Source: Mumbai Climate file, ISHRAE. Climate Consultant

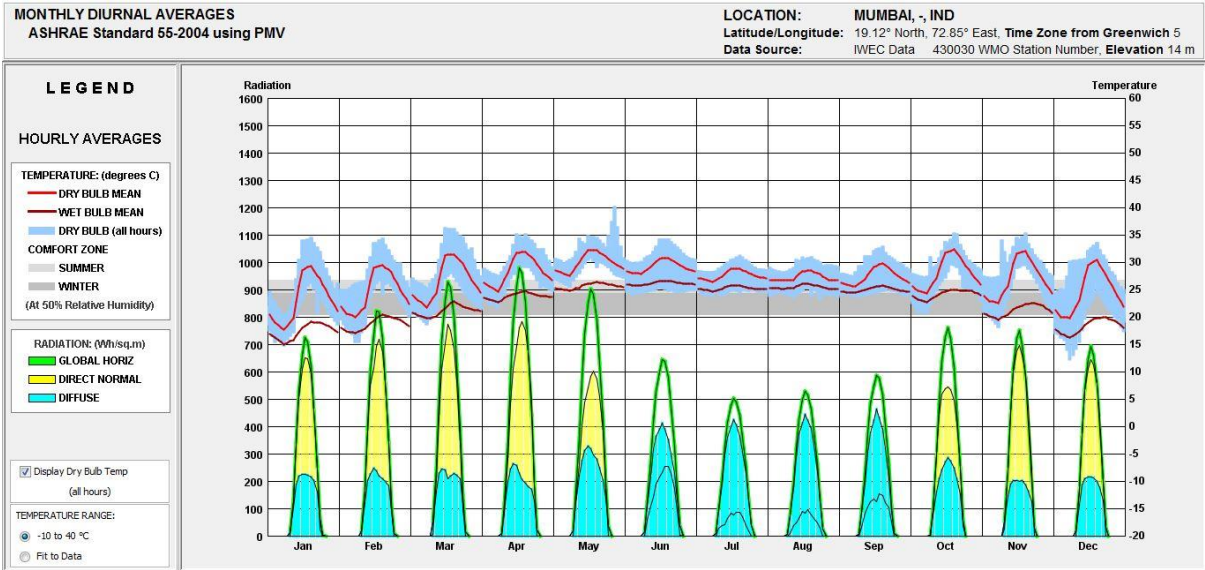


Figure 2 Diurnal Averages

Source: Mumbai Climate file, ISHRAE. Climate Consultant

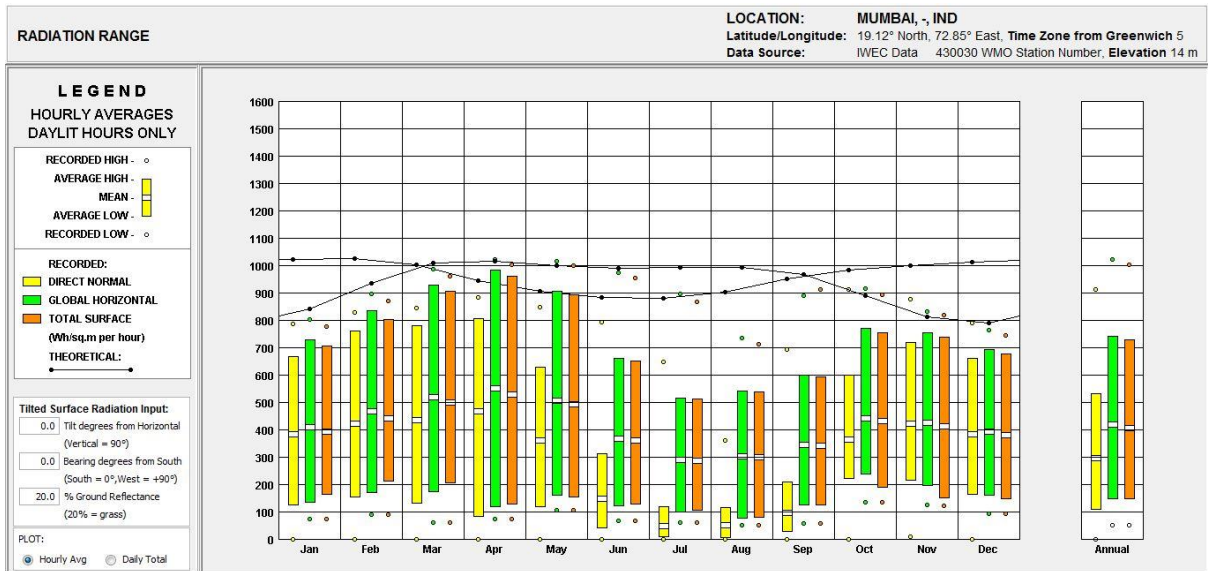


Figure 3 Radiation range plot

Source: Mumbai Climate file, ISHRAE. Climate Consultant

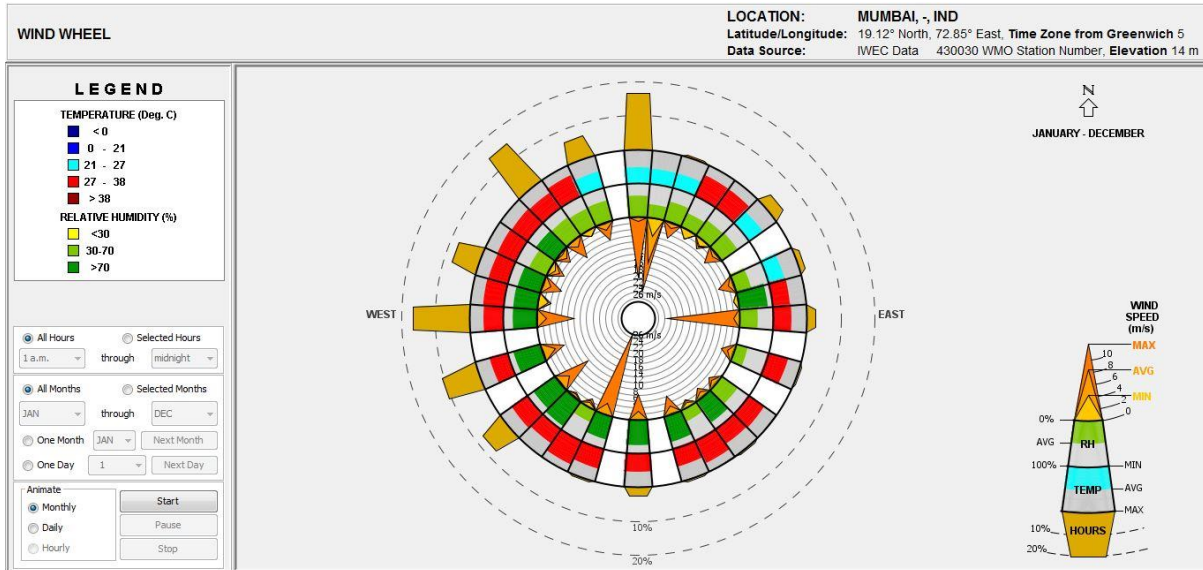


Figure 4 Wind Rose (Yearly)

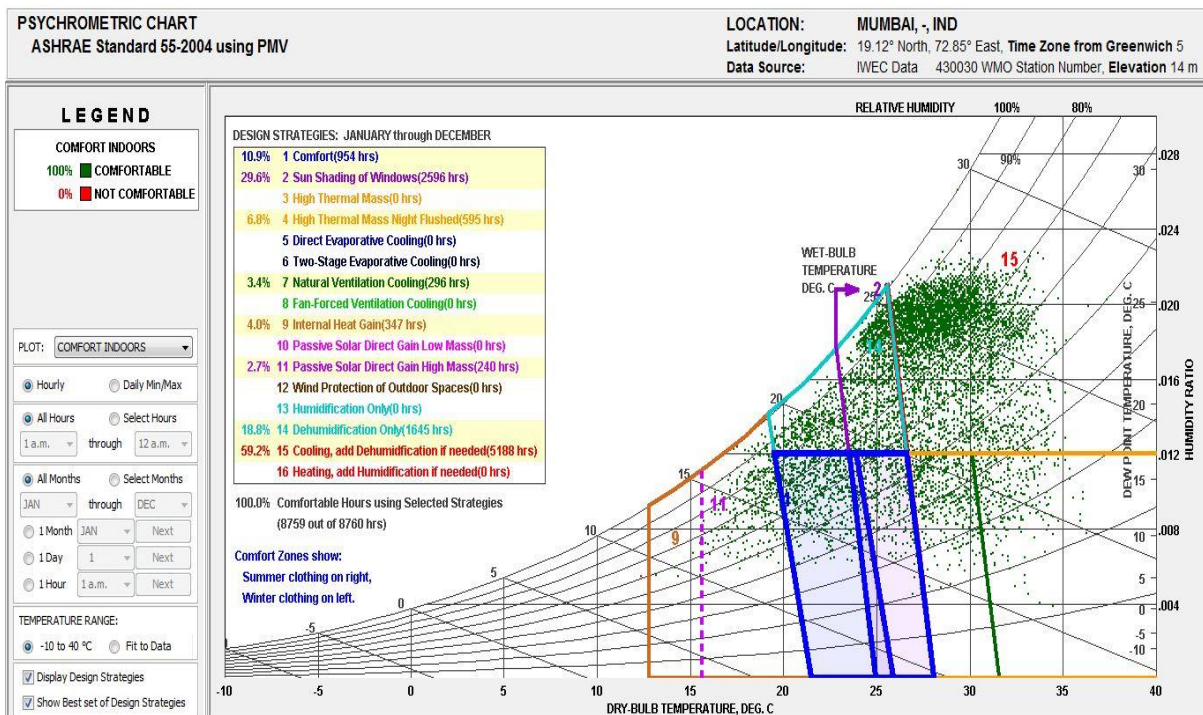
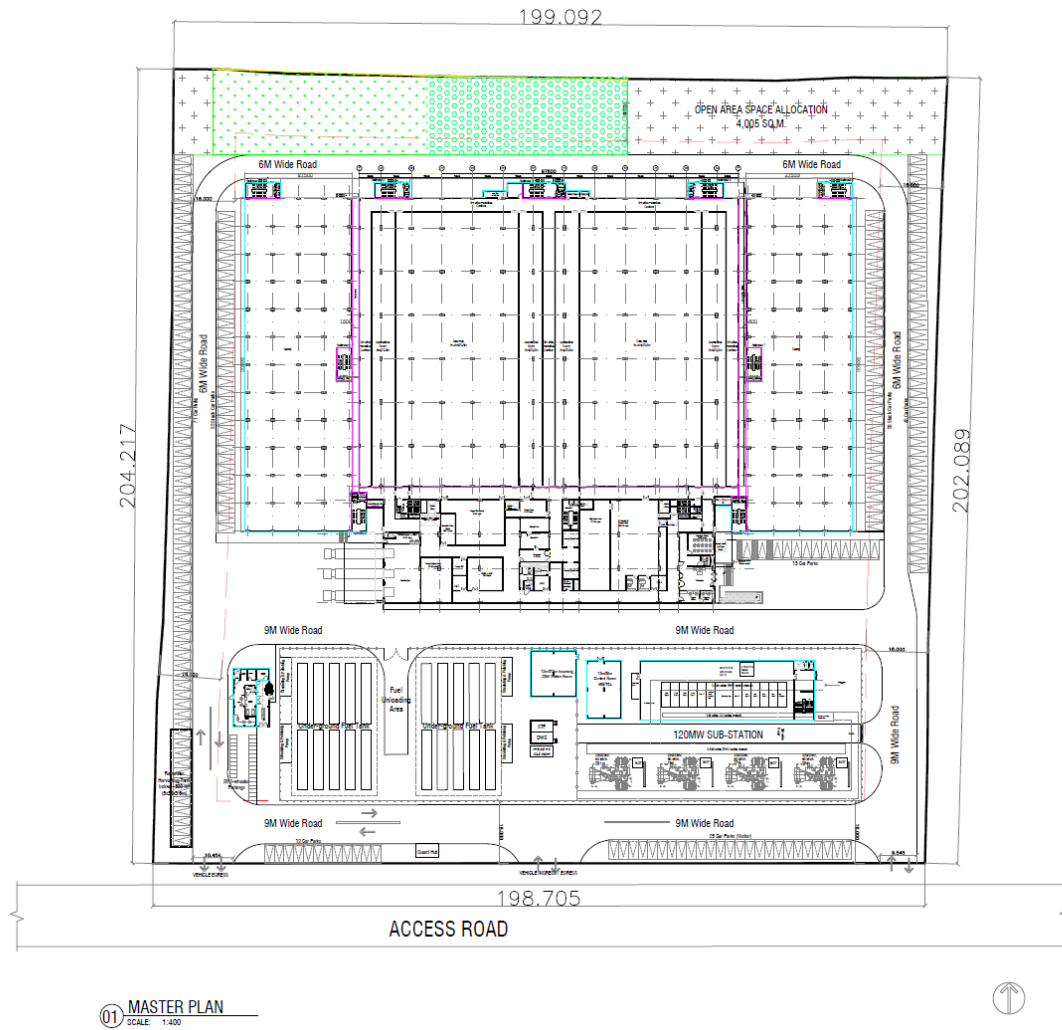


Figure 2 Psychrometric Chart with Strategies

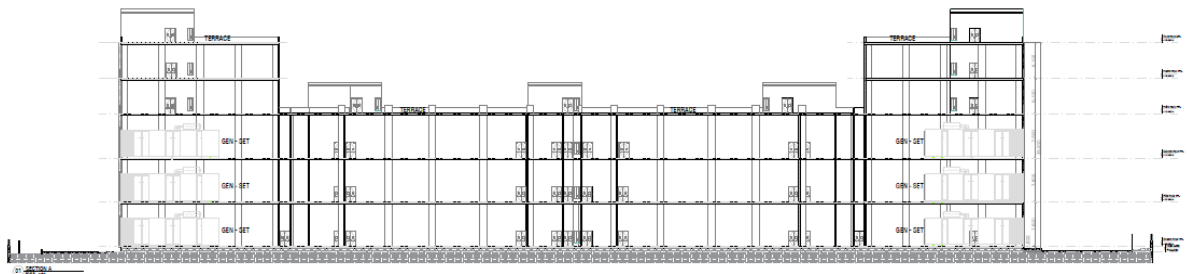
Psychrometric Chart above explains that, no other strategy is effective for passive comfort except Solar Shading & Natural Ventilation. The Pshychrometric Chart above confirms, that the main effective strategies are Shading and Ventilation and dehumidification. Strategies like direct evaporative cooling, internal heat gain and High thermal mass are also effective, but for a lesser period. Around 29% of total comfort hours can be achieved by Sun Shading. Dehumidification can be achieved using good ventilation strategy. From all the above strategies around 60 % of total comfort hours can be achieved by Sun Shading, cooling and dehumidification.

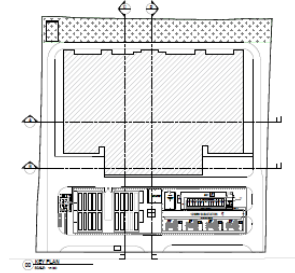
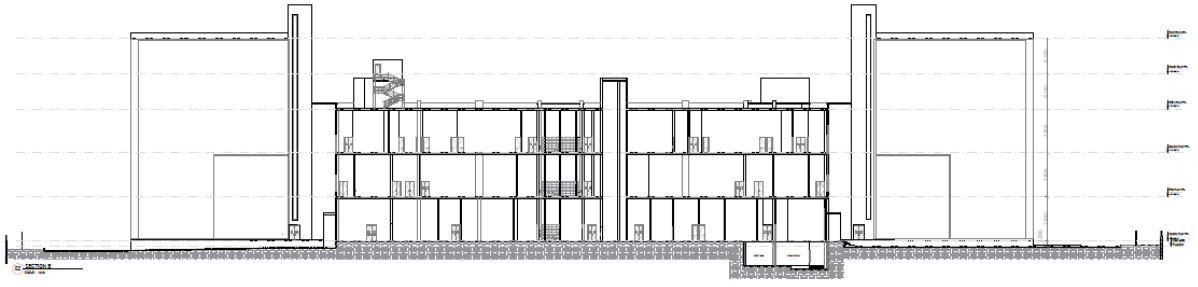
BUILDING LAYOUTS:

Site Plan



Sections:





ECBC COMPLIANCE DETAILS:

Section 4 - Building Envelope

Input parameter	ECBC Case	Proposed Case
Wall material	As per ECBC	External Plaster 25 mm + 200mm thick AAC blocks + internal gypsum plaster of 15mm
	U-Value (W/m ² -k) - 0.40 max.	U-Value 0.70(W/m ² -k) R- Value- 1.42 W/m ² K
Roof material	As per ECBC	150mm thick RCC slab+ XPS insulation Part of the roof is completely shaded by PV panels
	U-Value (W/m ² -k) - 0.33 max.	Shaded roof: U-Value 0.9 (W/m ² -k) R- Value- 1.11W/m ² K
Glazing (Vertical Fenestration)	WWR- 40% max	WWR- 7%
	Glass U-Value - 3.0 W/m ² -K SHGC - 0.27 VLT- 0.27 (min)	Glass U-Value – 5.6 W/m ² -K SHGC - 0.64 VLT- 0.67
Shading	No	As per Architectural Drawing

*DETAILS ATTACHED IN APPENDIX 'A'

Section 5 - Comfort Systems and Controls

Input parameter	ECBC Requirement	Proposed Case
CRAC Efficiency	ECBC 2017 Section 5.2.2.4: Air Conditioning and Condensing Units Serving Computer Rooms <ul style="list-style-type: none"> • Minimum Net Sensible Coefficient of Performance (NSenCOP) rating of 2.5, regardless of capacity, for both downflow & upflow. • CRAC units shall be equipped with variable-speed fans 	Shall Comply with ECBC standards
Air Management	Not addressed	good air management provided (reduce bypass and recirculation) such that there is no more than 50% extra supply air relative to IT airflow
Fan systems	ECBC 2017 Section 5.3: Prescriptive Requirements	Shall Comply with ECBC standards

	<p>✓ Supply, exhaust, and return or relief fans with motor power exceeding 0.37 kW shall meet or exceed:</p> <ul style="list-style-type: none"> • Fan mechanical efficiency of 60%. • Motor efficiency IE2, as per IS 12615. 	
Chillers	<p>ECBC 2017 Section 5.2.2.1: Chillers</p> <ul style="list-style-type: none"> • Chillers shall meet or exceed the minimum efficiency requirements under the BEE Standards and Labelling Program for chillers as and when updated by BEE. • Minimum 1 star-rated chillers shall be installed. • Requirements of both COP and ISEER shall be met. • For buildings with cooling load ≥ 530 kW, the capacity of air-cooled chiller(s) is restricted to 33% of the total installed chilled water capacity. • BEE Schedule 21 efficiency requirements for 1 star: 	Shall Comply with ECBC standards
Controls	<p>ECBC 2017 Section 5.2.3.2: Temperature Controls</p> <ul style="list-style-type: none"> • Each floor or building block shall be installed with at least one control to manage the temperature. • Separate thermostat control shall be in each computer room. 	Shall Comply with ECBC standards
Fan Controls	N. A.	N. A.
Piping and Ductwork	N. A.	N. A.
System Balancing	N. A.	N. A.
Condensers	N. A.	N. A.
Pump systems	<ul style="list-style-type: none"> • Chilled-Water Pump (Primary and Secondary) (maximum): 18.2 W/kW 	Shall Comply with ECBC standards

	<p>with VFD on secondary pump.</p> <ul style="list-style-type: none"> • condenser Water Pump (maximum): 17.7 W/kWr. • Pump Efficiency (minimum): 70%. 	
Cooling Towers	N. A.	N. A.
Economisers	Projects in warm-humid climate zones are exempt.	N. A. Projects in warm-humid climate zones are exempt.
Variable Flow Hydronic System	N. A.	N. A.

□ **Section 6- – Lighting and Controls**

Input parameter	ECBC Requirement	Proposed Case
Automatic Lighting Shutoff	90% of interior lighting fittings in building or space of building larger than 300 m ² shall be equipped with automatic control device.	Shall Comply with ECBC standards
Space Control	<p>Each space enclosed by ceiling-height partitions shall have at least one control device to independently control the general lighting within the space. Each control device shall be activated either manually by an occupant or automatically by sensing an occupant. Each control device shall</p> <p>(a) control a maximum of 250 m² for a space less than or equal to 1,000 m², and a maximum of 1,000 m² for a space greater than 1,000 m².</p> <p>(b) have the capability to override the shutoff control required in § 6.2.1.1 for no more than 2 hours, and</p>	Shall Comply with ECBC standards

	(c) be readily accessible and located so the occupants can see the control.	
Control in daylighted areas	Luminaires, installed within day lighting extent from the window as calculated in § 4.2.3, shall be equipped with either a manual control device to shut off luminaires, installed within day lit area, during potential daylight time of a day or automatic control device that: i. Has a delay of minimum 5 minutes, or, ii. Can dim or step down to 50% of total power. (b) Overrides to the daylight controls shall not be allowed.	Shall Comply with ECBC standards
Exterior Lighting Control	Lighting for all exterior applications not exempted in §6.3.5 shall be controlled by a photo sensor or astronomical time switch that is capable of automatically turning off the exterior lighting when daylight is available or the lighting is not required.	All exterior lighting shall meet the required ECBC compliance and efficacy standards.
Interior Lighting Power	Building Area Method LPD compliance: 7.5 W/m ²	LED Lights is proposed to be used at all places. Building Area Method for LPD compliance shall be followed for individual building requirement. LPD will be reduced to 5 W/m ²
Exterior Lighting Power	Building entrance (w/o canopy) - 90 W/ linear m of door width Building façade - 5.0 W/m ² of vertical façade area Driveways and parking (open/ external) - 1.6 W/m ² Pedestrian walkways – 2.0 W/m ² Landscaping - 0.5 W/m ²	LED Lights is proposed to be used at all places to meet the ECBC requirements

□ **Section 7- Electrical & renewable energy systems**

Input parameter	ECBC Requirement	Proposed Case
Uninterruptible Power Supply	<p>ECBC 2017 Section 7.2.7: Uninterruptible Power Supply (UPS)</p> <ul style="list-style-type: none"> • UPSs with kVA <20 shall have minimum efficiency of 90.2% at 100% load. • UPSs with 20 <= kVA <100 shall have minimum efficiency of 91.9% at 100% load. • UPSs with kVA > 100 shall have minimum efficiency of 93.8% at 100% load. 	Shall comply as per ECBC standards
Transformers	<p>Maximum allowable power transformer losses for Dry type transformers should be as per Table 8.2.1.1</p>	Efficient Dry-Type Transformers
Energy Efficient Motors	<p>Three phase induction motors shall conform to Indian Standard (IS) 12615 and shall fulfil the following efficiency requirements:</p> <ul style="list-style-type: none"> - ECBC Buildings shall have motors of IE 2 (high efficiency) class or a higher class All permanently wired polyphase motors : - 0.375 kW or more serving the building - operate more than 1,500 hours per year - 50kW or more serving the building – operate more than 500 hours per year <p>Motor horsepower ratings shall not exceed 200% of the calculated maximum load</p>	Shall comply as per ECBC standards
Diesel Generator (DG) Sets	<p>ECBC 2017 Section 7.2.3: Diesel Generator (DG) sets</p> <ul style="list-style-type: none"> • Minimum 3 stars rating under BEE's Standards and Labeling Program. 	The project shall comply with minimum 3 star BEE star rated D.G.set. 2.2MWe @ N+N Backup arrangement

	<ul style="list-style-type: none"> • BEE Schedule 18 (see resources) efficiency requirements for 3 star: SFC > 245 & ≤ 272 gm/kWH 	
Metering and Monitoring	<p>ECBC 2017 Section 7.2.4: Metering and Monitoring Data Centers shall be sub-metered</p> <p>Whole Building >1000 Kva ✓ Add power quality+ Measurements Data Center IT load > 250 kVA: Add</p> <ul style="list-style-type: none"> • EMS Load Managers (Load Manager at Grid Incomer + Energy Meters at all panels + PDU BCMS) • Metering for chiller, thermal storage tank, make-up water tank level, cooling tower fan power, pump, VFD • Alarm for temperature set-point breach 	Shall comply as per ECBC standards
Power factor correction	Electricity supplies exceeding 100 a, 3 phase shall maintain their power factor between 0.97 lag and unity at the point of connection	Shall comply as per ECBC standards
Power distribution systems	The power cabling shall be adequately sized as to maintain the distribution losses not to exceed 3% of the total power usage	Shall comply as per ECBC standards
IT Equipment Environmental Performance	ASHRAE A-2	Shall comply as per ECBC standards
Power Supply Hardware	80 Plus Bronze or better for more than 75% of all server hardware.	Shall comply as per ECBC standards
Renewable Energy Systems	A dedicated Renewable Energy Generating Zone equivalent to at least 25 % of roof area or area required for generation of energy equivalent to 1% of total peak demand or connected load of the building, whichever is less, shall be provided in all buildings.	Solar PV : 135 KW (1%)

APPENDIX**APPENDIX A: U-value Calculations**

AAC Wall				
Layer No.	Surface Description	Thickness (m)	thermal conductivity (w/mK)	Value (m2degC/W)
1	25 mm external plaster	0.025	1.2	0.021
2	200 mm thick AAC blocks	0.2	0.165	1.2
3	15mm thick Internal gypsum plaster	0.015	0.5	0.030
4	External air film			0.1
5	Internall air film			0.160
Total R value of Wall Section				1.42
Total U value of Wall Section (W/m2degC)				0.704

Roof concrete				
Layer No.	Surface Description	Thickness (m)	thermal conductivity (w/mK)	Value (m2degC/W)
1	12mm thick Internal gypsum plaster	0.015	0.5	0.03
2	150 mm thick Concrete Slab	0.15	1.45	0.10
3	Xps insulation	0.02	0.032	0.65
4	Mortar, chemical water proofing	0.025	0.42	0.060
5	External air film			0.1
6	Internal air film			0.1
Total R value of Roof Section				1.11
Total U value of Roof Section (W/m2degC)				0.9

APPENDIX B: Simulation report

BEE approved Energy Plus based e-quest software used to show whole building energy performance.

The BEE datacentre guidebook and CII advisory group has considered an alternative, strictly performance-based path to compliance at each level (ECBC, ECBC+ and SuperECBC). A number of metrics are available for measuring energy performance of data centers. None are ideal in every respect. The Power Usage Effectiveness (PUE) metric remains the most popular, and is defined as follows:

$$\text{PUE} = \frac{\text{Total Facility Energy}}{\text{IT Equipment Energy}}$$

IT Equipment Energy

The diversity of data center configurations, insufficient data and other difficulties in assigning technically defensible and equitable PUEs for each level, makes this an unsurmountable task at this time. As data is collected, setting realistic performance targets may be revisited in future versions of this guide. For now, the team has drawn on its expert judgment and anecdotal evidence from deployed data centers to estimate the expected PUEs that best approximate energy performance at each of the three levels, as illustrated below.

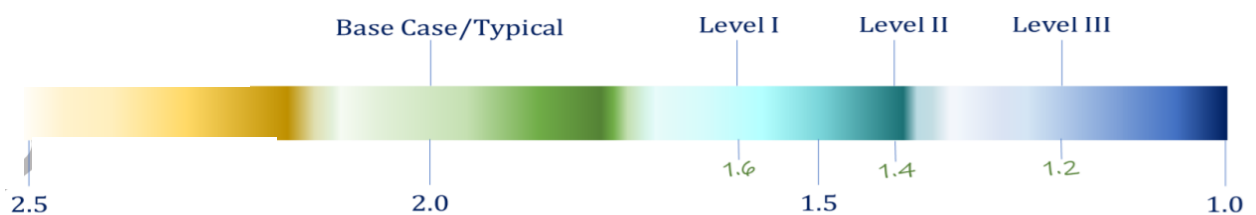


Figure 3: Power Usage Effectiveness (PUE)

Thus, to meet ECBC Compliance level 1, the **PUE should be 1.6** or less.

INPUT VALUES FOR MODEL:

Category	DESIGN CASE					
	Items	UoM	Value	UoM	Value	
		IP Units		SI Units		
Envelope (Refer Appendix 1 for Section details)	Wall U (external)	Btu/h-ft ² ·°F	0.124	W/sq m.K	0.704	AAC Blocks
	Wall U (internal)	Btu/h-ft ² ·°F	0.124	W/sq m.K	0.704	AAC Blocks
	Roof U	Btu/h-ft ² ·°F	0.158	W/sq m.K	0.9	Roof with XPS Insulation
	Glass U	Btu/h-ft ² ·°F	1.00	W/sq m.K	5.7	SGU
	Glass SHGC	Nil	0.64	Nil	0.64	
	WWR	%	5-7		5-7	
	Shading	ft	No shading	m	No shading	

Category	BUILDING LOADS				
	Items	UoM	Value	UoM	Value
		IP Units		SI Units	

Lighting Power Density (Interior)	Data Centre Halls	W/sq. ft	0.69	W/sq m.	7.5
	FSB Building	W/sq. ft	0.69	W/sq m.	7.5
Exterior Lighting Load	Ext. Lighting	kW	75	kW	75
Interior Equipment Load	Ancillary services Power	W/sq. ft	0.32	W/sq m.	3.5
Lifts	Lift, staircase pressurisation VRF	kW	335	kW	335

HVAC SYSTEM					
Gantry Building	DX Cooling system	kW	760	kW	760
DATA Halls	Air Cooled Chillers	kW	32,880		32,880
	8 chillers per Data Halls are proposed Chiller Load for each data hall 5486 kW				
IT LOADS					
DATA Halls	IT Load per data hall	kW	10488	kW	10488
FBS Building	Network rooms and power allowances	kW	400	KW	400
BUILDING OPERATIONS AND OCCUPANCY					
FBS Building	Total Occupancy: 188 people (3 shifts) i.e. 63 people in one shift			24 hours operational	
Data Centre Halls	Floating Occupancy for 2-3 hours/ day			24 hours operational	

ENERGY MODELING IN EQUEST

Building performance for all measures was evaluated using eQUEST, an energy modeling software program. This program uses the DOE-2.1E simulation engine for evaluating energy-use and peak demand on an hourly basis. A budget case model minimally complying with ASHRAE/IESNA 90.1-2013 was developed and simulated in eQuest.

Appropriate occupancy, lighting, equipment, thermostat and cooling schedules were assigned to all areas.

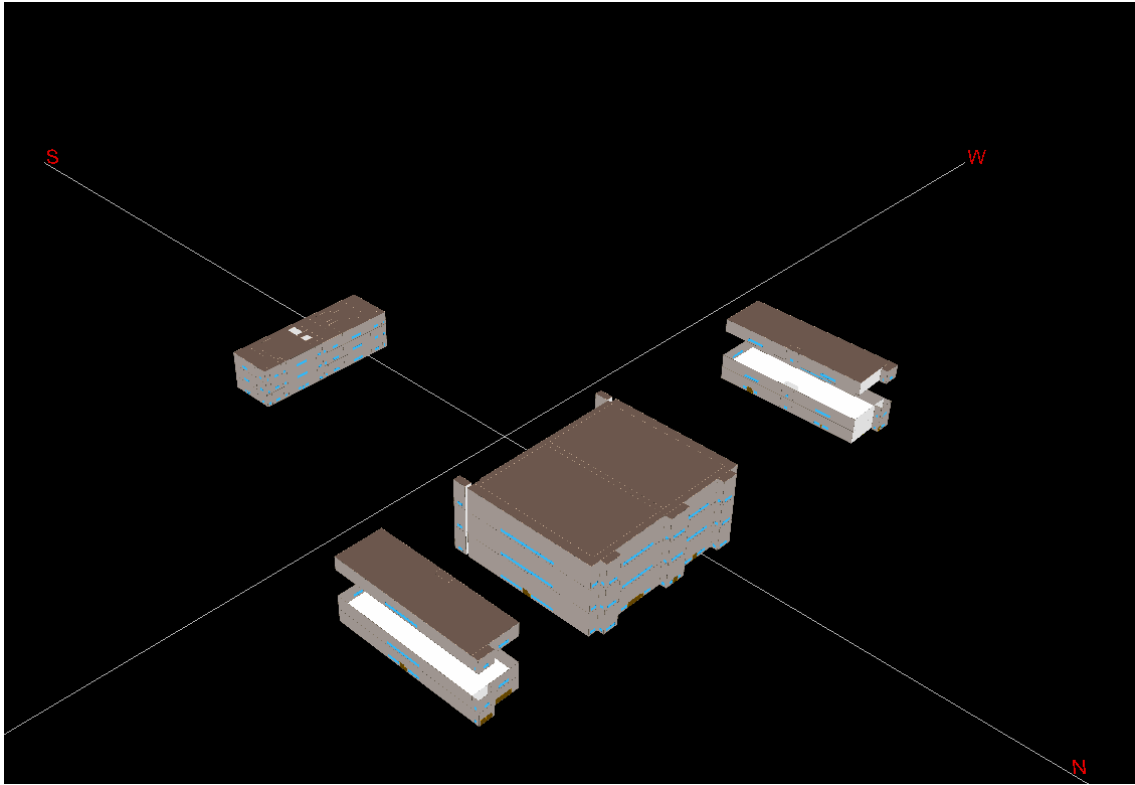


Figure 4: An exploded view of Energy Model in e-Quest

The Following ECMs and assumptions were taken into consideration while modeling the building:

1. AAC Blocks for the envelope
2. Minimum HVAC Efficiency of COP value of 4 or more for the DX Cooling system in Gantry building
3. All the lighting loads and equipment were modeled at actual occupancy considerations

ENERGY SIMULATION RESULTS

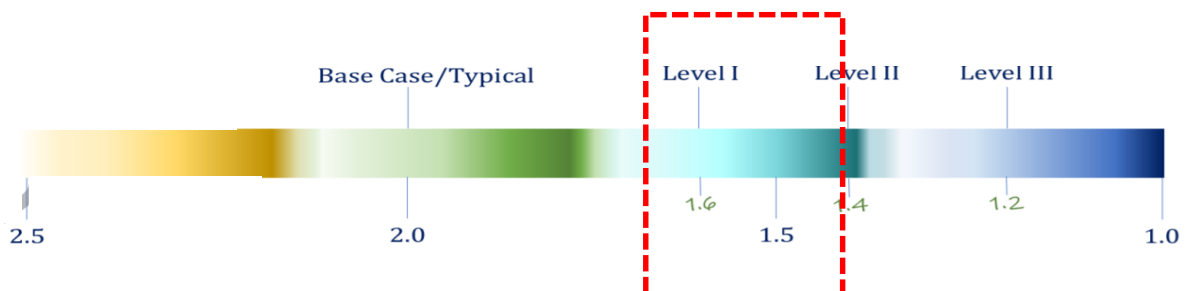
The following table demonstrates the Annual Energy consumption of each End uses:

Consumption End Use	Proposed Case
	kWh
Cooling	5721237
Heat Rejection	453962
Pumps and Aux	3648768
Vent Fans	787655
Interior Lighting	2216862
Lift & Staircase Pressurization	317915
Exterior Lighting	246375
Interior Equipment	345972
Guard House and external	903375
FSB IT	2890800
Data Center IT	21820284
Total Facility Consumption	39353205
Total IT Equipment Energy	24711084
Unmet Hours	45
PUE	1.5

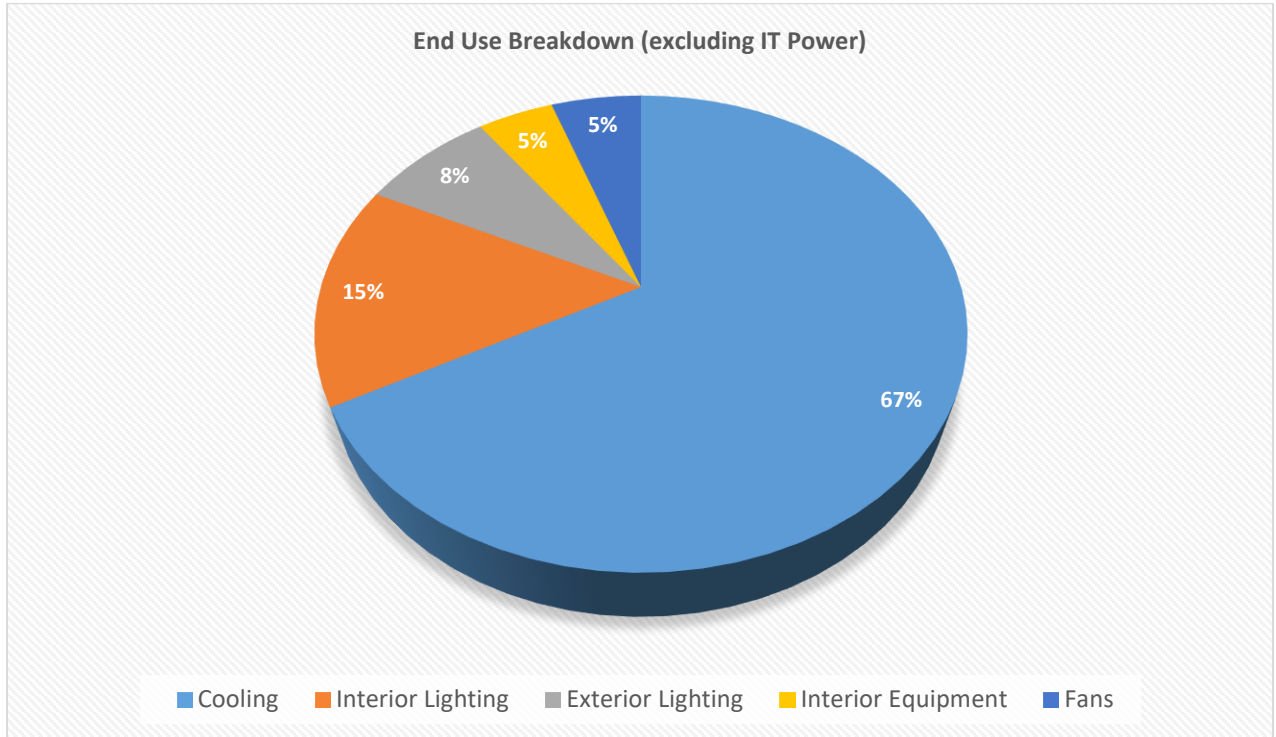
PUE = Total Facility Energy

IT Equipment Energy

Thus, the Project meets the **PUE Level 1** for ECBC



END USE BREAKDOWN



eQUEST RESULT FILE

Project DOE-2.2-50a 9/15/2021 0:55:01 BDL RUN 1

REPORT- BEPU Building Utility Performance

WEATHER FILE- Mumbai

	LIGHTS	TASK LIGHTS	MISC EQUIP	SPACE HEATING	SPACE COOLING	HEAT REJECT	PUMPS & AUX	VENT FANS	REFRIG DISPLAY	HT PUMP SUPPLEM	DOMEST HOT WTR	EXT USAGE	TOTAL
EM2_ ELECTRICITY KWH	0.	0.	317915.	0.	0.	0.	0.	0.	0.	0.	0.	0.	317915.
EM3_ ELECTRICITY KWH	0.	0.	2890800.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2890800.
EM 4 ELECTRICITY KWH	0.	0.	903375.	0.	0.	0.	0.	0.	0.	0.	0.	0.	903375.
Exte ELECTRICITY KWH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	246375.	246375.
EM1 ELECTRICITY KWH	2216862.	0.	345972.	0.	5721237.	453962.	3648768.	787655.	0.	0.	0.	0.	13174445.
FM1 NATURAL-GAS THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

TOTAL ELECTRICITY 17532910. KWH 30.406 KWH /SQFT-YR GROSS-AREA 30.406 KWH /SQFT-YR NET-AREA


PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 0.51
 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.00
 HOURS ANY ZONE ABOVE COOLING THROTTLING RANGE = 45
 HOURS ANY ZONE BELOW HEATING THROTTLING RANGE = 0

NOTE: ENERGY IS APPORTIONED HOURLY TO ALL END-USE CATEGORIES.

TEST REPORT

Reporting Date:05/12/2022

Sample / Report No.	URL/NS/22-23/11/W/558			
Name of Customer	L&W Construction Private Limited (Project name : AMANATH INFO PARK PVT LTD)			
Address of Customer	Plot No. D31 & D32, Turbhe, MIDC, TTC Industrial A, Navi Mumbai, Maharashtra, India.-400070			
Order / Reference	As Per Work Order Number: LWC/P2203/WO/34,Dated 17-Nov-2022			
Nature of sample	Water			
Sample declaration as provided by customer:				
Name of Sample	Drinking Water – Near Worker’s Rest Center			
Batch No.	NA	Sample Condition	Fit For Analysis	
Sample Collected by / Date	Laboratory/ 26/11/2022	Sample Received On	26/11/2022	
Sample Quantity	2 lit + 250 ml	Start of Analysis	26/11/2022	
Sample Container	Plastic Can + Plastic Sterilized bottle	End of Analysis	03/12/2022	
Sampling Procedure	As Per IS 3025 (Part 1):1987 RA:2019 + IS 1622:1981 RA:2019			
Limits of Reference	IS 10500:2012 RA:2018			
Parameters	Results	Limits	Units	Method
Physical Parameters				
pH at 25 °C	7.30	6.5 to 8.5	-	APHA 4500 H ⁺ B 23 rd Ed.2017
Turbidity	0.17	Max 1	NTU	IS 3025 (Part 10): 1984
Total Dissolved Solids	48.0	Max 500	mg/L	IS 3025 (Part 16): 1984
Chemical parameters				
Total Alkalinity as CaCO ₃	19.61	Max 200	mg/L	IS 3025 (Part 23): 1986
Total Hardness as CaCO ₃	17.65	Max 200	mg/L	IS 3025 (Part 21): 2009
Calcium as Ca	4.31	Max 75	mg/L	IS 3025 (Part40):1991
Magnesium as Mg	1.67	Max 30	mg/L	IS 3025 (Part 46):1994
Sulphate as SO ₄	1.63	Max 200	mg/L	APHA 4500 SO ₄ ²⁻ E 23 rd Ed. 2017
Chloride as Cl	15.19	Max 250	mg/L	IS 3025 (Part 32): 1988
Nitrate as NO ₃	BDL(DL=0.1)	<45	mg/L	APHA 4500 NO ₃ B 23 rd Ed.2017
Iron as Fe	BDL(DL=0.0115)	Max 0.30	mg/L	IS 3025 (Part 2):2019
Microbiological Testing				
Total Coliform	Absent	Absent	Per100ml	IS 15185:2016
E.coli	Absent	Absent	Per100ml	IS 15185:2016
Note:NA- Not Applicable, NS- Not Specified, BDL- Below Detection Limit.				


 Mr. Nandkishor Gaidhani
 (Director)
 Authorized Signatory

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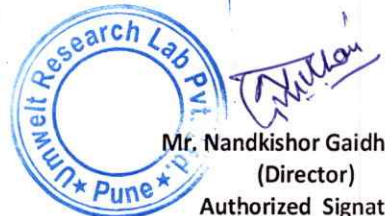
Page 1 to 1

-End of Report-



TEST REPORT

Reporting Date:05/12/2022

Sample / Report No.	URL/NS/22-23/11/W/558			
Name of Customer	L&W Construction Private Limited (Project name : AMANATH INFO PARK PVT LTD)			
Address of Customer	Plot No. D31 & D32, Turbhe, MIDC, TTC Industrial A, Navi Mumbai, Maharashtra, India.-400070			
Order / Reference	As Per Work Order Number: LWC/P2203/WO/34,Dated 17-Nov-2022			
Nature of Sample	Water			
Sample declaration as provided by customer:				
Name of Sample	Drinking Water – Near Worker’s Rest Center			
Batch No.	NA	Sample Condition	Fit For Analysis	
Sample Collected by / Date	Laboratory/ 26/11/2022	Sample Received On	26/11/2022	
Sample Quantity	2 lit + 250 ml	Start of Analysis	26/11/2022	
Sample Container	Plastic Can + Plastic Sterilized bottle	End of Analysis	03/12/2022	
Sampling Procedure	As Per IS 3025 (Part 1):1987 RA:2019 + IS 1622:1981 RA:2019			
Limits of Reference	IS 10500:2012 RA:2018			
Parameters	Results	Limits	Units	Method
Physical Parameters				
Colour	1.0	Max 5	Hazen	IS 3025 (Part4):2021
Free Residual Chlorine	BDL(DL=0.01)	Min 0.2***	mg/L	IS 3025 (Part 26):2021
Note:NA- Not Applicable, NS- Not Specified, BDL- Below Detection Limit.				
*** to be applicable only when water is chlorinated.				
Remark : Above sample parameters are within prescribed IS 10500 : 2012 RA:2018 limits				
			 <p>Mr. Nandkishor Gaidhani (Director) Authorized Signatory</p>	

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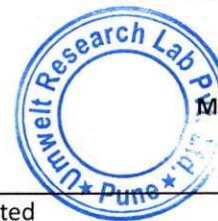
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-End of Report-

TEST REPORT

Reporting Date: 05/12/2022

Sample / Report No.		URL/NS/22-23/11/A/559		
Name of Customer		L&W Construction Private Limited (Project name : AMANATH INFO PARK PVT LTD)		
Address of Customer		Plot No. D31 & D32, Turbhe, MIDC, TTC Industrial A, Navi Mumbai, Maharashtra, India.-400070		
Order / Reference		As Per Work Order Number: LWC/P2203/WO/34,Dated 17-Nov-2022		
Sample declaration as provided by customer :				
Monitoring For		Ambient Air Monitoring		
Sampling Location		Gantry Hall East Side		
Ambient Air Monitoring equipment		URL/LAB/INS/70 Calibration Valid Till 27/02/2023		
Sample Drawn by / Date		Laboratory-25/11/2022 To 26/11/2022	Sample Received On	26/11/2022
Sampling Duration		24hr	Start of Analysis	26/11/2022
Sample Container		Filter paper, Absorbing Sol. Bottle, Charcoal Tube	End of Analysis	02/12/2022
Sampling Procedure		As Per Respective IS/APHA/EPA guidelines		
Limits Reference		As Per National Ambient Air Quality Standards (NAAQS) for GSR 826 (E)Dated 16/11/2009		
Start Time		01:55 PM	End Time	01:55 PM
Lateral Distance		5.0 m Away From the source	Receptor Height	1.5m Above from ground level
Ambient Temperature		31.4°C	Humidity	44%
Wind Speed (Km/Hr*)		10 km/h	Wind Direction	East To North
Parameters	Results	Limits	Units	Method
Particulate Matter PM _{2.5}	42.28	<60	µg/m ³	IS 5182 (Part 24) :RA 2019
Particulate Matter PM ₁₀	65.72	<100	µg/m ³	IS 5182 (Part 23):RA 2017
Sulphur Dioxide SO ₂	12.42	<80	µg/m ³	IS 5182 (Part 2):RA2017
Nitrogen Dioxide NO ₂	11.47	<80	µg/m ³	IS 5182 (Part 6):RA2017
Ammonia as NH ₃	4.90	<400	µg/m ³	CPCB Guideline
Carbon Monoxide CO	0.59	<2	mg/m ³	IS 5182 (Part 10):RA2019
Lead as Pb	BDL(DL=0.01)	<01	µg/m ³	IS 5182 (Part 22):2004 RA:2019
Ozone as O ₃	16.28	<100	µg/m ³	IS 5182 (Part 09): 1974 RA:2019
Nickel as Ni	BDL(DL=0.05)	<20	ng/m ³	CPCB Guideline
Arsenic as As	BDL(DL=0.05)	<6	ng/m ³	CPCB Guideline
Benzene as C ₆ H ₆	BDL(DL=1)	<05	µg/m ³	IS 5182 (Part 11):2006 RA:2017
Benzo(a)pyrene as BaP	BDL(DL=0.5)	<01	ng/m ³	IS 5182 (Part 12):2004 RA:2019
BDL- Below Detection Limit Remark : Results are within NAAQ Standard limit				




Mr. Nandkishor Gaidhani
 (Director)
 Authorized Signatory

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Format No :URL /LAB/F/124

TEST REPORT

Reporting Date: 05/12/2022

Sample / Report No.		URL/NS/22-23/11/A/560		
Name of Customer		L&W Construction Private Limited (Project name : AMANATH INFO PARK PVT LTD)		
Address of Customer		Plot No. D31 & D32, Turbhe, MIDC, TTC Industrial A, Navi Mumbai, Maharashtra, India.-400070		
Order / Reference		As Per Work Order Number: LWC/P2203/WO/34,Dated 17-Nov-2022		
Sample declaration as provided by customer :				
Monitoring For		Ambient Air Monitoring		
Sampling Location		Gantry Hall West Side		
Ambient Air Monitoring equipment		URL/LAB/INS/71 Calibration Valid Till 27/02/2023		
Sample Drawn by / Date		Laboratory-25/11/2022 To 26/11/2022	Sample Received On	26/11/2022
Sampling Duration		24hr	Start of Analysis	26/11/2022
Sample Container		Filter paper, Absorbing Sol. Bottle, Charcoal Tube	End of Analysis	02/12/2022
Sampling Procedure		As Per Respective IS/APHA/EPA guidelines		
Limits Reference		As Per National Ambient Air Quality Standards (NAAQS) for GSR 826 (E)Dated 16/11/2009		
Start Time		02:28 PM	End Time	02:28 PM
Lateral Distance		5.0 m Away From the source	Receptor Height	1.5m Above from ground level
Ambient Temperature		31.4°C	Humidity	44%
Wind Speed (Km/Hr*)		10 km/h	Wind Direction	East To North
Parameters	Results	Limits	Units	Method
Particulate Matter PM _{2.5}	46.76	<60	µg/m ³	IS 5182 (Part 24) :RA 2019
Particulate Matter PM ₁₀	61.68	<100	µg/m ³	IS 5182 (Part 23):RA 2017
Sulphur Dioxide SO ₂	13.89	<80	µg/m ³	IS 5182 (Part 2):RA2017
Nitrogen Dioxide NO ₂	10.99	<80	µg/m ³	IS 5182 (Part 6):RA2017
Ammonia as NH ₃	5.42	<400	µg/m ³	CPCB Guideline
Carbon Monoxide CO	0.78	<2	mg/m ³	IS 5182 (Part 10):RA2019
Lead as Pb	BDL(DL=0.01)	<01	µg/m ³	IS 5182 (Part 22):2004 RA:2019
Ozone as O ₃	16.34	<100	µg/m ³	IS 5182 (Part 09): 1974 RA:2019
Nickel as Ni	BDL(DL=0.05)	<20	ng/m ³	CPCB Guideline
Arsenic as As	BDL(DL=0.05)	<6	ng/m ³	CPCB Guideline
Benzene as C ₆ H ₆	BDL(DL=1)	<05	µg/m ³	IS 5182 (Part 11):2006 RA:2017
Benzo(a)pyrene as BaP	BDL(DL=0.5)	<01	ng/m ³	IS 5182 (Part 12):2004 RA:2019
BDL- Below Detection Limit				
Remark : Results are within NAAQ Standard limit				



(Signature)

Mr. Nandkishor Gaidhani
(Director)
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page 1 of 1

Format No : URL/LAB/F/124		TEST REPORT		Reporting Date: 05/12/2022
Sample / Report No.	URL/NS/22-23/11/A/561			
Name of Customer	L&W Construction Private Limited (Project name : AMANATH INFO PARK PVT LTD)			
Address of Customer	Plot No. D31 & D32, Turbhe, MIDC, TTC Industrial A, Navi Mumbai, Maharashtra, India.-400070			
Order / Reference	As Per Work Order Number: LWC/P2203/WO/34, Dated 17-Nov-2022			
Sample declaration as provided by customer :				
Monitoring For	Ambient Air Monitoring			
Sampling Location	Near Security Main Gate			
Ambient Air Monitoring equipment	URL/LAB/INS/72 Calibration Valid Till 27/02/2023			
Sample Drawn by / Date	Laboratory-25/11/2022 To 26/11/2022		Sample Received On	26/11/2022
Sampling Duration	24hr		Start of Analysis	26/11/2022
Sample Container	Filter paper, Absorbing Sol. Bottle, Charcoal Tube		End of Analysis	02/12/2022
Sampling Procedure	As Per Respective IS/APHA/EPA guidelines			
Limits Reference	As Per National Ambient Air Quality Standards (NAAQS) for GSR 826 (E) Dated 16/11/2009			
Start Time	02:57 PM		End Time	02:57 PM
Lateral Distance	5.0 m Away From the source		Receptor Height	1.5m Above from ground level
Ambient Temperature	31.4°C		Humidity	44%
Wind Speed (Km/Hr*)	10 km/h		Wind Direction	East To North
Parameters	Results	Limits	Units	Method
Particulate Matter PM _{2.5}	49.44	<60	µg/m ³	IS 5182 (Part 24) :RA 2019
Particulate Matter PM ₁₀	57.96	<100	µg/m ³	IS 5182 (Part 23):RA 2017
Sulphur Dioxide SO ₂	15.54	<80	µg/m ³	IS 5182 (Part 2):RA2017
Nitrogen Dioxide NO ₂	13.70	<80	µg/m ³	IS 5182 (Part 6):RA2017
Ammonia as NH ₃	5.19	<400	µg/m ³	CPCB Guideline
Carbon Monoxide CO	0.46	<2	mg/m ³	IS 5182 (Part 10):RA2019
Lead as Pb	BDL(DL=0.01)	<01	µg/m ³	IS 5182 (Part 22):2004 RA:2019
Ozone as O ₃	15.79	<100	µg/m ³	IS 5182 (Part 09): 1974 RA:2019
Nickel as Ni	BDL(DL=0.05)	<20	ng/m ³	CPCB Guideline
Arsenic as As	BDL(DL=0.05)	<6	ng/m ³	CPCB Guideline
Benzene as C ₆ H ₆	BDL(DL=1)	<05	µg/m ³	IS 5182 (Part 11):2006 RA:2017
Benzo(a)pyrene as BaP	BDL(DL=0.5)	<01	ng/m ³	IS 5182 (Part 12):2004 RA:2019
BDL- Below Detection Limit				
Remark : Results are within NAAQ Standard limit				



(Signature)

Mr. Nandkishor Gaidhani
(Director)
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page 1 of 1




Umwelt Research Lab Private Limited | CIN: U74999PN2017PTC172570

Address: Plot No. 20 (Part), D-III Block, Balaji Chowk, MIDC, Chinchwad, Pune 411019, Maharashtra, India

Contact: +91 8600 100 350, +91 8600 100 360 | Email: info@umweltlab.com, Website: www.umweltlab.com

TEST REPORT

Reporting Date: 05/12/2022

Sample / Report No.	URL/NS/22-23/11/A/562			
Name of Customer	L&W Construction Private Limited (Project name : AMANATH INFO PARK PVT LTD)			
Address of Customer	Plot No. D31 & D32, Turbhe, MIDC, TTC Industrial A, Navi Mumbai, Maharashtra, India.- 400070			
Order / Reference	As Per Work Order Number: LWC/P2203/WO/34, Dated 17-Nov-2022			
Sample declaration as provided by customer :				
Monitoring For	Work Zone Air Monitoring			
Sampling Location	South of Data Hall			
Indoor air monitoring equipment	URL/LAB/INS/77 Valid Till 24/12/2022			
Sample Drawn by / Date	Laboratory-25/11/2022	Sample Received On	26/11/2022	
Sampling Duration	8 hrs	Start of Analysis	26/11/2022	
Sample Container	Filter paper, Absorbing Sol. Bottle	End of Analysis	02/12/2022	
Sampling Procedure	Each analytical method covers the sampling procedure as well			
Limits Reference	As Per OSHAS Standard, As per Factory act Schedule II			
Start Time	09:10 PM	End Time	17:10 PM	
Lateral Distance	0.5 m away from the source	Receptor Height	3.0 m from ground level	
Wind Speed (Km/Hr*)	0.6 km/h	Wind Direction	East To North	
Parameters	Results	Limits	Units	Method
Suspended Particulate Matter	3.0	<15	mg/m ³	NIOSH500
Sulphur Dioxide SO _x	0.68	<5	ppm	IS 5182 (Part 2):RA2017
Oxides of Nitrogen NO _x	0.74	<5	ppm	IS 5182(Part 6)RA2017
Note: NA- Not Applicable				
Remark : Results are within mentioned Standard limits.				
			 Mr. Nandkishor Gaidhani (Director) Authorized Signatory	


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Page 1 of 1

-End of Report-

Speed Post Receipt of EC Letter submitted to various authorities

The Regional Officer, Nagpur


भारतीय डाक

 EMS26703279IN IVR:6977326703279
 SP SHIVAJINAGAR S.O (PUNE) <411005>
 Counter No:1,05/07/2022,15:02
 To:THE REGIONAL OFFICER,NAGPUR
 PIN:441001, Kamthi H.O
 From:AMANTHIN INFO PARKS ,MUMBAI
 Wt:60gms
 Amt:47.20(Cash)Tax:7.20
 <Track on www.indiapost.gov.in>
 <Dial-18002666868> <Wear Masks, Stay Safe>

The Municipal Commissioner, Navi Mumbai


भारतीय डाक

 EMS26703296IN IVR:6977326703296
 SP SHIVAJINAGAR S.O (PUNE) <411005>
 Counter No:1,05/07/2022,15:02
 To:THE MUNICIPAL COMMISSION,MUMBAI
 PIN:400001, Mumbai GPO
 From:AMANTHIN INFO PARKS ,MUMBAI
 Wt:60gms
 Amt:41.30(Cash)Tax:6.30
 <Track on www.indiapost.gov.in>
 <Dial 18002666868> <Wear Masks, Stay Safe>

The District Collector, Thane

भारतीय डाक

 EMS26703265IN IVR:6977326703265
 SP SHIVAJINAGAR S.O (PUNE) <411005>
 Counter No:1,05/07/2022,15:02
 To:THE DISTRICT COLLECTO,THANE
 PIN:400601, Thane H.O
 From:AMANTHIN INFO PARKS ,MUMBAI
 Wt:60gms
 Amt:41.30(Cash)Tax:6.30
 <Dial 18002666868> <Wear Masks, Stay Safe>

NGO


भारतीय डाक

 EMS384628440IN IVR:6977384628440
 SP SHIVAJINAGAR S.O (PUNE) <411005>
 Counter No:2,06/08/2022,14:18
 To:THE FOUNDER,..
 PIN:400050, Bandra West S.O
 From:TECHNOGREEN ENVIRONMENTAL,..
 Wt:65gms **Amantthin Info Parks Pvt**
 Amt:41.30(Cash)Tax:6.30 **2 + a.**
 <Track on www.indiapost.gov.in>

The CEO, Mumbai

भारतीय डाक

 EMS26703305IN IVR:6977326703305
 SP SHIVAJINAGAR S.O (PUNE) <411005>
 Counter No:1,05/07/2022,15:02
 To:THE CEO MAHARASHTRA,MUMBAI
 PIN:400093, Chakala Midc S.O
 From:AMANTHIN INFO PARKS ,MUMBAI
 Wt:60gms
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The Regional Officer, Navi Mumbai

भारतीय डाक

 EMS26703282IN IVR:6977326703282
 SP SHIVAJINAGAR S.O (PUNE) <411005>
 Counter No:1,05/07/2022,15:02
 To:THE REGIONAL OFFICER,MUMBAI
 PIN:400614, Konkan Bhavan S.O
 From:AMANTHIN INFO PARKS ,MUMBAI
 Wt:60gms
 Amt:41.30(Cash)Tax:6.30
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