LuLu International Shopping Malls Pvt. Ltd.
(formerly known as LuLu Group India Pvt Ltd)
CIN : U52190KL2004PTC017414
Registered Office :
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The Regional Officer,
Ministry of Environment, Forests & Climate Change,
Regional Office (SZ), Kendriya Sadan,
4th Floor, E & F Wing, 17th Main Road,
Koramangala II Block, Bangalore-560034.

Dt. 25.10.2022

Ref. :-Environmental Clearance vide No EC21A038KL164412, File No 21-96/2021-IA-III dated 24.12.2021

Sub. :-Compliance Report for the period of April 2022 to September 2022 – Construction of Shopping Mall along with MLCP building project at Nattakom Village, Kottyam –Submission– Reg.

Respected Sir,

This is in reference to the Environmental Clearance issued to the above referred project by Government of India Ministry of Environment, Forest and Climate Change (Impact Assessment Division).

In this connection, attached herewith is the Half yearly Compliance Report for the period **April 2022 to September 2022**. The documents are in with compliance report, 24 pages and Annexures 1- 16.

The compliance report is uploaded in the website of the project proponent (https://lulukottayam.in/)

We humbly request you to kindly acknowledge the receipt of the compliance report.

Thanking you,
Yours respectfully,

For Lulu International shopping malls Pvt. Ltd

Babu Vargheese
(Project Director)

ENVIRONMENT MONITORING COMPLIANCE REPORT OF STIPULATED CONDITIONS OF ENVIRONMENTAL CLEARANCE. Identification No- EC21A038KL164412 File No 21-96/2021-IA-III dated 24.12.2021
(For the Period April 2022 to September 2022)

FOR

Proposed Commercial Building project along with MLCP building

KOTTAYAM

By
M/s. Lulu International Shopping Malls Pvt Limited

SUBMITTED TO:
MINISTRY OF ENVIRONMENT, FOREST, AND CLIMATE CHANGE (GOVT OF INDIA)

SUBMITTED BY:
M/s Lulu International Shopping Malls Pvt Limited
34/1000, NH-47, Edapally, Kochi- 682 024
www.lulumall.in

ENVIRONMENTAL CLEARANCE COMPLIANCE REPORT

INDEX

LIST OF ANNEXURES

Annexure No.	Particulars
1.	The report from the independent expert on STP about the study related to the quality and quantity of recycle and reuse of treated water.
2.	Copy of the 'consent to establish' from Kerala PCB
3.	Copy of Air quality monitored through NABL.
4.	The photograph of DG set using for construction work with the acoustic enclosure.
5.	The construction site barricading
6.	The photograph showing the aggregate which covered properly at site
7.	The photograph showing the sprinkling of water to the unpaved surface
8.	Schematic diagram showing dual plumbing system for domestic and other water recycling
9.	The typical drainage diagram showing separate grey and black waterline in the building sewage system
10.	Photograph showing application of the curing agent for the construction works
11.	The specification of curing agent for the construction works
12.	The test results of water quality test through NABL accredited laboratory.
13.	The noise level survey conducted by NABL accredited laboratory
14.	The copy of PUC certificates of vehicles conforming to applicable air & noise emission standards.
15.	Photograph of first aid room provided during constriction.
16.	The copy of the EMC meeting dated 27.06.2022

Chapter- 1 : INTRODUCTION

Environmental Clearance No 21-96/2021-IA-III was obtained via PARIVESH dated 24.12.2021. The project is for Construction of Proposed Commercial building project along with MLCP building at Nattakom Village, Kottayam Municipality, Kottayam Taluk & District, Kerala.

Methodology for Preparation of Report is as follows:

Study of EC Letter & Related Documents,
Site Visits by a Team of Experts,
Monitoring of Environment Parameters, viz. Ambient Air, Water, Noise, Soil & DG Sets,
Analysis of Samples collected during Monitoring,
Interpretation of Monitoring Results,
Preparation of Corrective Action & Preventive Action (CAPA) Plan to be followed in case the emission / effluent levels are beyond prescribed limits.

Chapter 2: BASIC DETAILS FROM EC

Sl. No	CONDITIONS	DETAILS
I	**Basic Information**	
1	Name of the Project.	Proposed Commercial Building project along with MLCP building
2	Proposed Activity	Construction Project (New)
3	Name, Designation & full address	Mr. Nishad M A, Director M/s Lulu International Shopping Malls Pvt Ltd, 34/1000, NH-47, Edapally, Kochi-682024
5	Total Plot Area	35,201 Sqm
6	Total Built Up Area	29,950.21 Sqm (Commercial Building 25,029.67 Sqm & MLCP Building - 4,920.54 Sqm)
7	Geo Co- ordinates	9°33'44.42" N to 9°33'52.86" N Latitude and 76°31'01.69" E to 76° 31'11.48" E Longitude
8	Category of project ie,'A' or 'B'	Category 'B' Schedule 8 (a)
9	Location & Survey No.	Survey Nos. 352/12-1, 352/12, 352/13, 353/16, 353/12, 353/6, 353/5, 353/13, 353/10, 353/3-4, 354/3-3-1, 354/3-3, 353/14, 353/8, 353/7, 353/3, 353/3-2, ,353/15, 354/2-1, 354/2, 354/2-4, 354/3-1, 354/3-7, 354/3-6-1, 354/3-6, 354/3-4, 354/1-3-1, 354/1-3, 354/1-2, 354/ 1-1-1, 354/ 1-1, 354/2-2-1, 354/2-2, 354/3-2, 354/2-3, 354/3-5,353/3-3, 353/3-5,353/9,353/11,353/18, 353/17 and parts of 1888 of Nattakom Village Kottayam Municipality, Kottayam District, Kerala.
10	Details of the Project Cost	Rs 55 Crores
11	Max height of the building	14.20 M (Commercial Building) 10.20 M. (Proposed MLCP)
12	Max no of floors	Commercial Building- GF+1st Floor+ Terrace and MLCP Building- GF+ 2 floors
13	Storage wastewater	802 Kg/day (Check)
14	Total Water Requirement	Construction phase -35 KLD & Operation Phase- 167 KLD (fresh water 62 KLD + 105 KLD recycled from STP)
15	Total Power Requirement	Construction phase 100 KW- KSEB and DG standby and Operation phase- 3000 KVA (KSEB & DG Sets

		(1000 KVA x 2 Nos + 750 KVA x 2 Nos)
16	Solar Power	541 KWP
16	Parking Proposed	470 Cars + 514 Two wheelers
14	Validity	5 Years
15	CER details	Total Green area – 4905 Sqm Better commercial retail shopping area with supporting infrastructure facilities and amenities to the people. Increase in economic activity and employment for the local community, local skills development and revenue to the State. 150 persons to be employed during construction phase.
16	Timeline for Completion	24 months from the date of start of construction

CHAPTER 3-A.SPECIFIC CONDITIONS		COMPLIANCE
i	Abstraction of ground water shall be subject to the permission of Central Ground Water Authority (CGWA). Fresh water requirement shall not exceed 62 KLD during operational phase.	Presently no ground water extraction required for the project. We will be obtaining permission from CGWA if ground water extraction required. The estimated freshwater requirement 62KLD, prepared based on the National Building Code, which will not exceed during operation phase.
ii	As proposed, wastewater shall be treated in an onsite STP of 140 KLD capacity. At least 105 KLD of treated water from the STP shall be recycled and re-used for flushing (93 KLD), gardening (1 KLD) and as make-up water for cooling towers attached with the HVAC system (11 KLD). There shall be no discharge of treated water outside the premises as committed.	Wastewater will be treated with onsite STP only. An expert vendor M/s 'Green Method Engineering' appointed for the design, execution, and operation of the sewage treatment plant. The work order issued to M/s Green Method Engineering is submitted to MOEF through the compliance report dated 14.06.2022. The sewage treatment plant of 160 KLD capacity designed by the vendor with MBBR technology. The schematic diagram of the STP and the location of the STP is marked in the site plan were submitted to MOEF through the compliance report dated 14.06.2022 .The STP treated water will be used for flushing, gardening and for makeup water for HVAC Cooling tower. There will be no discharge of treated water outside the premises. The water balance chart showing the usage of STP treated water also submitted to MOEF through provisions compliance report dated 14.06.2022.
iii	The project proponents would commission a third-party study on the implementation of conditions related to quality and quantity of recycle and reuse of treated water, efficiency of treatment systems, quality of treated water being supplied for flushing (specially the bacterial counts), comparative bacteriological studies from toilet scats using recycled treated waters and fresh waters for flushing, and quality of water being supplied through spray faucets attached to toilet seats.	An independent expert appointed for study on implementation of conditions related to quality and quantity of recycle and reuse of treated water, efficiency of treatment system, quality of treated water being supplied for flushing (specially the bacterial counts), comparative bacteriological studies from toilet scats using recycled treated water and fresh water for flushing and quality of water being supplied through spray faucets attached to toilets. The report from the expert is attached as **Annexure 1**.
iv	Area for greenery shall be provided as per the details provided in the project document i.e., area under plantation /	The greenery area will be as per the details provided in the project document submitted and will be ensuring the minimum area requirement 4905m^2

	greenery will be at least 4905 sqm. As proposed, at least 600 trees shall be maintained during the operation phase of the project. The landscape planning should include plantation of native species. A minimum of 01 tree for every 80 sqm. of land should be planted and maintained. The existing trees will be counted for this purpose. Plantations to be ensured species (cut) to species (planted). The species with heavy foliage, broad leaves and wide canopy cover are desirable. Water intensive and / or invasive species should not be used for landscaping.	stated in the condition. The proposed landscaping drawing and the tentative list of species were submitted to MOEF through the compliance report dated 14.06.2022. The selection of the species will be as per the recommendation of landscaping architect. The requirement of minimum one tree for every 80m^2 is noted. We will ensure plantation of ensured species (cut) to species (planted). Water intensive and invasive species will be avoided in landscaping.
v	No tree can be felled / transplanted unless exigencies demand. Where absolutely necessary, tree felling shall be with prior permission from the concerned regulatory authority. Old trees should be retained based on girth and age regulations as may be prescribed by the Forest Department. Plantations to be ensured species (cut) to species (planted).	Noted. Project proponent will be obtaining permission from the concerned regulatory authority for felling trees if required. Old trees will be retained as far as possible. We will ensure plantations to the ensured species (cut) to species (planted).
vi.	Where the trees need to be cut with prior permission from the concerned local Authority, compensatory plantation in the ratio of 1:10 that is planting of 10 trees for every 1 tree that is cut) shall be done and maintained. Plantations to be ensured species (cut) to species (planted). Area for green belt development shall be provided as per the details provided in the project document.	In case trees are to be cut we will obtain prior permission from the concerned local authority and compensatory plantation will be done in the ratio 1:10. Plantations will be ensured species (cut) to species (planted). Area for green belt development will be provided as per the details provided in the project document.
vii	The local bye-law provisions on rainwater harvesting should be followed. If local bye law provision is not available, adequate provision for storage and recharge should be followed as per the Ministry of Urban Development Model Building Bylaws, 2016. As proposed, RWH tank of total 200 KL capacity shall be provided by PP for rainwater harvesting after filtration.	The Kerala Municipal Building rule 2019 is applicable for the project. As per the rule, the rainwater harvesting capacity requirement is 250KL. It is proposed to provide 250KL capacity rainwater harvesting tanks for the project. The schematic diagram and drawing having location of rain water harvesting tank submitted to MOEF through previous compliance report dated 14.06.2022
viii	The solid waste shall be duly segregated into biodegradable and	The solid waste will be segregated into bio-degradable and non-bio-degradable components and

	non-biodegradable components and handled in separate area earmarked for segregation of solid waste, as per SWM Rules, 2016. As committed, biodegradable waste shall be utilized through bio-gas generation unit. /bio-bin system to be installed within the site. Inert waste shall be disposed of as per norms at authorized site. The recyclable waste shall be sold to authorized vendors/recyclers Construction & Demolition (C&D) waste shall be segregated and managed as per C&D Waste Management Rules, 2016.	handled in separate areas ear marked for segregation of solid as per SWM Rules. Biodegradable waste will be treated in bio-bin system to be installed within the compound. Inert waste will be disposed of as per authorized norms. The recyclable construction & demolition waste will be segregated and managed as per C&D Waste Management Rules.
ix	The PP shall provide electric charging points in parking areas for e-vehicles as committed.	Electric Charging Points will be provided in parking areas for Electric Vehicles.
x	As committed, roof top solar energy installation of at least 541kWp shall be implemented.	It is initiated to install solar panel for capacity of 541kWp at terrace level. An amount of Rs 3.32Crore allocated for the Solar installation. All Solar panels have been purchased
xi	The Environmental Clearance to the project is primarily under provisions of EIA Notification, 2006. The Project Proponent is under obligation to obtain approvals / clearances under any other Acts / Regulations or Statutes as applicable to the project.	Noted. It is initiated to obtain approvals/permissions from Kottayam Municipality for the building permit and Kerala fire and rescue department for the fire NOC. The project obtained the consent to establish from Kerala. PCB the paid consent is attached as **Annexure 2.**
	CHAPTER-4-B- STANDARD CONDITIONS	
I	**STATUTORY COMPLIANCE**	
i	The project proponent shall obtain all necessary clearance / permission from all relevant agencies including town planning authority before commencement of work. All the construction shall be done in accordance with the local building bylaws.	This point is noted, and we will obtain all required approvals & clearances required for execution of the project. The construction will be done as per KMBR

ii	The approval of the Competent Authority shall be obtained for structural safety of buildings due to earthquakes, adequacy of firefighting equipment etc. as per National Building Code including protection measures from lightening etc.	The Structural Designs of the building done by reputed Structural Engineer as per BIS. The structural stability certificate issued by the engineer was submitted to MOEF through compliance report dated 14.06.2022. NOC will be taken from local fire and rescue authorities.
iii	The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1980, in case of the diversion of forest land for non-forest purpose involved in the project.	Not applicable for the project
iv	The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.	Not applicable for the project.
v	The project proponent shall obtain Consent to Establish/Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board/Committee.	A revised consent obtained from Kerala PCB for the area of 29950.21 m^2 (which environmental clearance obtained for the project) attached as **Annexure 2.**
vi	The project proponent shall obtain the necessary permission for drawl of ground water /surface water required for the project from the competent authority.	Presently project does not require extraction of ground water. We will be obtaining permission from competent authority for extraction of ground water if required in future.
vii	A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project should be obtained.	Kerala State Electricity Board is the agency for allocation and supply of power to the project. KSEB allocated 2500KVA power to the project through the letter number DB1/KSEB-NATKM/2021-22/68 dated 23/12/2021. The copy of the power allocation letter has been submitted to MOEF through previous compliance report dated 14.06.2022
viii	All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department shall be obtained, as applicable, by project proponents from the respective competent authorities	We will obtain clearances from Chief Controller of Explosives, if diesel storage tank is required, Civil Aviation Department, if required and also from Fire & Rescue Department.
ix	The provisions of the Solid Waste Management Rules, 2016, e-Waste (Management) Rules, 2016, and the	All provisions of the Solid Waste Management; E-Waste Management and Plastic Waste Management Rules of the year 2016 will be followed for the

	Plastics Waste Management Rules, 2016, shall be followed.	project.
x	The project proponent shall follow the ECBC/ECBC- R prescribed by Bureau of Energy Efficiency, Ministry of Power strictly.	The ECBC / ECBC – R prescribed by the Bureau of Energy Efficiency; Ministry of Power will be followed
II	**AIR QUALITY MONITORING AND PRESERVATION**	
i.	Notification GSR 94(E) dated 25.01.2018 of MOEF & CC regarding Mandatory Implementation of Dust Mitigation Measures for Construction and Demolition Activities for projects requiring Environmental Clearance shall be complied with.	The Mandatory Implementation of Dust Mitigation Measures for Construction & Demolition Activities will be complied as per the Notification GSR 94(E) dated 25.01.2018 of MOEF&CC
ii	A management plan shall be drawn up and implemented to contain the current exceedance in ambient air quality at the site.	The Ambient Air Quality will be closely monitored periodically. Necessary preventive measures to be taken if any exceedance there
iii	The project proponent shall install system to carryout Ambient Air Quality monitoring for common / criterion parameters relevant to the main pollutants released (e.g. PM10 and PM2.5) covering upwind and downwind directions during the construction period.	The Ambient Air Quality will be monitored through NABL accredited laboratory. The copy of the air quality monitored is attached as **Annexure 3**
iv	Diesel power generating sets proposed as source of backup power should be of enclosed type and conform to rules made under the Environment (Protection) Act, 1986. The height of stack of DG sets should be equal to the height needed for the combined capacity of all proposed DG sets. Use of low Sulphur diesel. The location of the DG sets may be decided with in consultation with State Pollution Control Board.	DG Sets will be Enclosed Type for better acoustics conforming to the Rules made under Environment Protection Act. The Chimney Stack height will be decided based on the combined capacity of all DG Sets. We will use low Sulphur diesel as available in the market. The locations of the DG Sets will be as approved by KPCB. The photograph of DG set using for construction work with the acoustic enclosure is attached as **Annexure 4.**

v	Construction site shall be adequately barricaded before the construction begins. Dust, smoke & other air pollution prevention measures shall be provided for the building as well as the site. These measures shall include screens for the building under construction, continuous dust / wind breaking walls all around the site (at least 3-meter height). Plastic / tarpaulin sheet covers shall be provided for vehicles bringing in sand, cement, murram and other construction materials prone to causing dust pollution at the site as well as taking out debris from the site.	The construction site is barricaded as per the condition stated. The photograph of the barricading is attached as **Annexure 5.** We will ensure that vehicles bringing construction materials or taking out building debris prone to causing dust pollution are covered with plastic / tarpaulin sheets
vi.	Sand, murram, loose soil, cement, stored on site shall be covered adequately so as to prevent dust pollution.	Stacks of sand, murram, loose soil, cement, etc. stored at site is being covered adequately to prevent dust pollution. A photograph showing the aggregates which properly covered is attached as **Annexure 6**.
vii	Wet jet shall be provided for grinding and stone cutting.	Wet jet will be provided for grinding and stone cutting.
viii.	Unpaved surfaces and loose soil shall be adequately sprinkled with water to suppress dust.	Unpaved surfaces and loose soil are being sprinkled adequately with water to suppress dust. A photograph showing the sprinkling of water to the unpaved surface is attached as **Annexure 7.**
ix.	All construction and demolition debris shall be stored at the site (and not dumped on the roads or open spaces outside) before they are properly disposed. All demolition and construction waste shall be managed as per the provisions of the Construction and Demolition Waste Management Rules 2016.	No construction & demolition debris will be dumped on the roads or open spaces outside the site. These will be managed as per the provisions of the Construction & Demolition Waste Management Rules.
x	The diesel generator sets to be used during construction phase shall be low Sulphur diesel type and shall conform to Environmental (Protection) prescribed for air and noise emission standards.	We will ensure that the DG Sets shall be low Sulphur diesel type conforming to Environmental Protection prescribed for air & noise emission standards.
xi	The gaseous emissions from DG set shall be dispersed through adequate stack height as per CPCB standards. Acoustic enclosure shall be provided to the DG sets to mitigate the noise	The project proponent will ensure that: (a)The gaseous emissions from DG Sets shall be dispersed through adequate stack heights as per CPCB standards.

	pollution. Low Sulphur diesel shall be used. The location of the DG Set, and exhaust pipe height shall be as per the provisions of the Central Pollution Control Board (CPCB) norms.	(b)Acoustical enclosures shall be provided to the DG Sets to mitigate the noise pollution. (c) Low Sulphur diesel will be used. (d) the locations of DG Sets & exhaust pipe heights shall be as per the provisions of CPCB.
xii.	For indoor air quality the ventilation provisions as per National Building Code of India.	The equality of ventilation provisions will be provided as per National Building Code of India.
III	**WATER QUALITY MONITORNG AND PRESERVATION**	
i.	The natural drain system should be maintained for ensuring unrestricted flow of water. No construction shall be allowed to obstruct the natural drainage through the site, on wetland and water bodies. Check dams, bio-swales, landscape, and other sustainable urban drainage systems (SUDS) are allowed for maintaining the drainage pattern and to harvest rainwater.	We will not obstruct the natural flow of drain system and no construction will be done to obstruct natural drainage through the site, on wetland and water bodies. Check dams, bio-swales, landscape, and other sustainable urban drainage systems will be allowed for maintaining the drainage pattern and to harvest rainwater.
ii.	Buildings shall be designed to follow the natural topography as much as possible. Minimum cutting and filling should be done.	Buildings will be designed with minimum cutting & filling so as to follow the natural topography as far as possible.
iii	The quantity of freshwater usage, water recycling and rainwater harvesting shall be measured and recorded to monitor the water balance as projected by the project proponent. The record shall be submitted to the Regional Office, MOEF & CC along with six monthly Monitoring reports.	Separate water meter will be provided for monitoring the water usage from various sources. Th report showing the usage incorporating the water balance chart will be submitted to MOEF & CC through six monthly compliance report during operational phase.
iv.	A certificate shall be obtained from the local body supplying water, specifying the total annual water availability with the local authority, the quantity of water already committed, the quantity of water allotted to the project under consideration and the balance water available. This should be specified separately for ground water and surface water sources, ensuring that there is no impact on other users.	PP will obtain a certificate from the local body supplying water, specifying the total annual water availability with the local authority, the quantity of water already committed, the quantity of water allotted to the project under consideration and the balance water available. This will be specified separately for ground water and surface water sources, ensuring that there is no impact on other users.

V.	At least 20% of the open spaces as required by the local building bylaws shall be pervious. Use of Grass pavers, paver blocks with at least 50% opening, landscape etc. would be considered as pervious surface.	PP will ensure that at least 20% of the open spaces as required by the building bylaws will be pervious. Requirement is noted.
vi.	Installation of dual pipe plumbing for supplying fresh water for drinking, cooking, and bathing etc. and other for supply of recycled water for flushing, landscape irrigation, car washing, thermal cooling, conditioning etc. shall be done.	Dual plumbing system will be provided for domestic and other recycled water. A schematic diagram showing dual plumbing system is attached as **Annexure 8**
vii.	Use of water saving devices / fixtures (viz low flow flushing systems; use of low flow faucets tap aerators etc.) for water conservation shall be incorporated in the building plan.	The water saving devices & fixtures such as low flow systems, low flow faucets, tap aerators, etc. will be provided in the project to reduce the water consumption.
viii.	Separation of grey and black water should be done by the use of dual plumbing system. In case of single stack system separate recirculation lines for flushing by giving dual plumbing system be done.	Separate grey and black water lines will be provided in the building sewage system. The typical drainage drawings showing separate grey and black water lines is attached as **Annexure 9**. The water supply system will be dual plumbing system for recirculation lines and domestic water supply lines.
ix.	Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices referred.	In order to adopt best practices, RMC (Ready Mixed Concrete) and curing agents will be used for the construction works. A photograph showing application of the curing agent is attached as **Annexure 10.** The specification of curing agent is attached as **Annexure 11.**
x.	Rainwater harvesting recharge pits / storage tanks shall be provided for ground water recharging as per the CGWB norms.	The CGWB norms will be adopted for rainwater harvesting and ground water recharging system.
xi.	A rainwater harvesting plan needs to be designed where the recharge bores of minimum one recharge bore per 5,000 square meters of built-up area and storage capacity of minimum one day of total freshwater requirement shall be provided. In areas where ground water recharge is not feasible, the rainwater should be harvested and stored for reuse. The ground water shall not be withdrawn without approval from the Competent Authority.	Adequate capacity of rainwater harvesting will be provided. No ground water will be withdrawn without the approval from the Competent Authority. The capacity of rainwater harvesting system is 250 m3.

xii.	All recharges should be limited to shallow aquifer.	Noted. Whenever recharge is done it will be limited to shallow aquifer.
xiii.	No ground water shall be used during construction phase of the project.	Noted. No ground water will be used during construction phase of the project.
xiv.	Any ground water dewatering should be properly managed and shall conform to the approvals and the guidelines of the CGWA in the matter. Formal approval shall be taken from the CGWA for any ground water abstraction or dewatering.	In case any ground water dewatering is done it will be properly managed and shall conform to the approvals and guidelines of the CGWA in the matter and formal approval will be taken from CGWA for any groundwater extraction or dewatering.
xv.	The quantity of freshwater usage, water recycling and rainwater harvesting shall be measured and recorded to monitor the water balance as projected by the project proponent. The record shall be submitted to the Regional Office, MOEF&CC along with six monthly Monitoring reports.	We will measure the quantity of freshwater usage, water recycling & rainwater harvesting and recorded to monitor water balance. This will be incorporated in the half yearly compliance report to MOEF & CC.
xvi.	Sewage shall be treated in the STP with tertiary treatment.	The Sewage Treatment Plant (STP) will be planned with tertiary treatment.
xvii.	No sewage or untreated effluent water would be discharged through storm water drains.	We confirm that no sewage or untreated effluent water will be discharged through storm water drains. In order to monitor the water quality of natural storm water drain adjacent to the plot, conducted water quality test through NABL accredited laboratory. The test results are attached as **Annexure 12,** for both upstream and downstream of the drain abutting the plot.
xviii.	Onsite sewage treatment of capacity of treating 100% wastewater to be installed. The installation of the Sewage Treatment Plant (STP) shall be certified by an independent expert and a report in this regard shall be submitted to the Ministry before the project is commissioned for operation. Treated wastewater shall be reused on site for landscape. flushing, cooling tower, and other end-uses Excess treated water shall be discharged as per statutory norms notified by Ministry of Environment, Forest and Climate Change. Natural treatment systems shall be promoted.	We confirm that in-site sewage treatment having a capacity for treating 100% wastewater will be installed. The installation of the Sewage Treatment Plant (STP) will be certified by an independent expert and a report in this regard will be submitted to the Ministry before the project is commissioned for operation. Treated wastewater will be reused on site for landscape, flushing, HVAC cooling tower, and other end-uses. Excess treated water will be discharged as per statutory norms notified by MOEF & CC. We will promote natural treatment systems.

xix.	Periodical monitoring of water quality of treated sewage shall be conducted. Necessary measures should be made to mitigate the odour problem from STP.	The quality of treated STP water will be monitored by conducting periodical tests during Operational phase and adequate measures will be taken to mitigate the odour.
xx.	Sludge from the onsite sewage treatment, including septic tanks, shall be collected, conveyed and disposed as per the Ministry of Urban Development, Central Public Health and Environmental Engineering Organization (CPHEEO) Manual on Sewerage and Sewage Treatment Systems, 2013.	Sludge from STP will be collected and disposed of as per Ministry of Urban Development, Central Public Health & Environmental Engineering Organization Manual on Sewerage and Sewerage Treatment Systems.
IV	**NOISE MONITORING AND PREVENTION**	
i.	Ambient noise levels shall conform to residential area / commercial area / industrial area / silence zone both during day and night as per Noise Pollution (Control and Regulation) Rules, 2000. Incremental pollution loads on the ambient air and noise quality shall be closely monitored during construction phase. Adequate measures shall be made to reduce ambient air and noise level during construction phase, so as to conform to the stipulated standards by CPCB / SPCB.	Ambient noise level will be periodically monitored and adequate measures will be adopted to reduce ambient air and noise level during construction phase day and night, so as to conform to the stipulated standards by CPCB / SPCB and also to conform to Noise Pollution (Control & Regulation) Rules.
ii.	Noise level survey shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.	The noise level survey conducted by NABL accredited laboratory on 30.09.2022 attached as **Annexure13**
iii.	Acoustic enclosures for DG sets, noise barriers for ground-run bays, ear plugs for operating personnel shall be implemented as mitigation measures for noise impact due to ground sources.	All DG Sets will have acoustical enclosures. Noise barriers will be provided for ground-run bays and ear plugs for operating personnel as mitigation measures for noise impact.

V	**Energy Conservation measures:**	
i.	Compliance with the Energy Conservation Building Code (ECBC) of Bureau of Energy Efficiency shall be ensured. Buildings in the States which have notified their own ECBC, shall comply with the State ECBC.	We will ensure compliance with the Energy Conservation Building Code (ECBC) of Bureau of Energy Efficiency. In Kerala State there is no notification of their own.
ii.	Outdoor and common area lighting shall be LED.	Noted and will be complied with. We will use LED Lights for outdoor & common area lighting.
iii.	Concept of passive solar design that minimize energy consumption in buildings by using design elements, such as building orientation, landscaping, efficient building envelope, appropriate fenestration, increased day lighting design and thermal mass etc. shall be incorporated in the building design. Wall, window, and roof u-values shall be as per ECBC specifications.	Concept of passive solar design that minimizes energy consumption in buildings by using design elements, such as building orientation, landscaping, efficient building envelope, appropriate fenestration, increased day lighting design and thermal mass etc. shall be incorporated in the building design to the extent possible. Wall, window, and roof u-values will be as per ECBC specifications.
iv.	Energy conservation measures like installation of CFLs / LED for the lighting the area outside the building should be integral part of the project design and should be in place before project commissioning.	Energy conservation measures like installation of CFLs / LED for lighting the area outside the building will form integral part of the project design and it will be in place before project commissioning.
v.	Solar, wind or other Renewable Energy shall be installed to meet electricity generation equivalent to 1% of the demand load or as per the state level / local building byelaws requirement, whichever is higher.	As per specific condition 10, solar energy will be 541kWp; which is more than 1% of demand load.
vi.	Solar power shall be used for lighting in the apartment to reduce the power load or grid. Separate electric meter shall be installed for solar power Solar water heating shall be provided to meet 20% of the hot water demand of the commercial and institutional building or as per the requirement of the local building byelaws, whichever is higher. Residential buildings are also recommended to meet its hot water. demand from solar water heaters, as far as possible.	Project will utilize maximum energy from solar plant of capacity 541kWp. There will be separate metering for solar energy for monitoring the usage.

VI	WASTE MANAGEMENT	
i.	A certificate from the competent authority handling municipal solid wastes, indicating the existing civic capacities of handling and their adequacy to cater to the M.S.W generated from project shall be obtained.	We will request the local Municipality to issue a certificate indicating the existing civic capacity of handling and their adequacy to cater the waste generated by from our project.
ii.	Disposal of muck during construction phase shall not create any adverse effect on the neighboring communities and be disposed taking the necessary precautions for general safety and health aspects of people, only in approved sites with the approval of competent authority.	Best practices/ technology shall be adopted for construction work so that the muck creation will be limited. We will ensure that disposal of muck during construction phase will not create any adverse effect on the neighboring communities and will be disposed after taking the necessary precautions for general safety and health aspects of people and only in approved sites.
iii.	Separate wet and dry bins must be provided in each unit and at the ground level for facilitating segregation of waste. Solid waste shall be segregated into wet garbage and inert materials.	Separate wet and dry bins will be provided in each unit and at the ground level for facilitating segregation of waste. Solid waste will be segregated into wet garbage and inert materials.
iv.	Organic waste compost / Vermiculture pit / Organic Waste Converter within the premises with a minimum capacity of 0.3 kg / person / day must be installed.	Organic Waste Converter of adequate capacity will be installed within the premises.
v.	All non-biodegradable waste shall be handed over to authorized recyclers for which a written tie up must be done with the authorized recyclers.	All non-biodegradable waste will be handed over to authorized recyclers; we will have a written tie up with the authorized recyclers.
vi.	Any hazardous waste generated during construction phase, shall be disposed of as per applicable rules and norms with necessary approvals of the State Pollution Control Board.	All hazardous waste generated during construction phase will be disposed of as per applicable rules and norms with necessary approvals of the State Pollution Control Board.
vii.	Use of environment friendly materials in bricks, blocks and other construction materials, shall be required for at least 20% of the construction material quantity. These include Fly Ash bricks, hollow bricks, AACs, Fly Ash Lime Gypsum blocks, Compressed earth blocks, and other environment friendly materials.	We will encourage use of environment friendly materials such as Fly Ash Bricks, hollow bricks, AACs, Fly Ash Lime Gypsum blocks, Compressed earth blocks, etc.
viii.	Fly ash should be used as building material in the construction as per the provision of Fly Ash Notification of	Fly ash will be used as building material in the construction as per the provision of Fly Ash Notification. Mostly we are using Ready mixed

	September 1999 and amended as on 27 August 2003 and 25th January 2016. Ready mixed concrete must be used in building construction.	concrete only.
ix.	Any wastes from construction and demolition activities related thereto. shall be managed so as to strictly conform to the Construction and Demolition Waste Management Rules, 2016.	All wastes from construction & demolition activities will be managed so as to strictly conform to the Construction & Demolition Waste Management Rules.
x.	Used CFLs and TFLs should be properly collected and disposed of / sent for recycling as per the prevailing guidelines / rules of the regulatory authority to avoid mercury contamination.	Used CFLs and TFLs will be properly collected and disposed of as per the prevailing guidelines / rules of the regulatory authority to avoid mercury contamination.
VII	**GREEN COVER**	
i.	Topsoil should be stripped to a depth of 20 cm from the areas proposed for buildings, roads, paved areas, and external services. It should be stockpiled appropriately in designated areas and reapplied during plantation of the proposed vegetation on site.	Topsoil will be stacked separately and will be used for gardening.
VIII	**TRANSPORT**	
i.	A comprehensive mobility plan, as per MOUD best practices guidelines (URDPFI), shall be prepared to include motorized, non-motorized, public, and private networks. Road should be designed with due consideration for environment, and safety of users. The road system can be designed with these basic criteria.	Noted and will be implemented.
a.	Hierarchy of roads with proper segregation of vehicular and pedestrian traffic.	Vehicular Traffic and Pedestrian Traffic will be segregated.
b.	Traffic calming measures.	Traffic calming measures will be taken.
c.	Proper design of entry and exit points.	Entry & Exit points will be designed properly, and permission will be taken from NHAI.
d.	Parking norms as per local regulation.	We will provide adequate parking as per local norms.
ii.	Vehicles hired for bringing construction material to the site should be in good condition and should have a pollution check certificate and should conform to applicable air and noise emission standards be operated only during non-peak hours.	We will ensure that: 1.Vehicles hired are in good condition. 2.Vehicles have Pollution Check Certificate conforming to applicable air & noise emission standards. The copy of PUC certificates attached as **Annexure 14.**

iii	A detailed traffic management and traffic decongestion plan shall be drawn up to ensure that the current level of service of the roads within a 05 kms radius of the project is maintained and improved upon after the implementation of the project. This plan should be based on cumulative impact of all development and increased habitation being carried out or proposed to be carried out by the project or other agencies in this 05 Kms radius of the site in different scenarios of space and time and the traffic management plan shall be duly validated and certified by the State Urban Development department and the P.W.D./ competent authority for road augmentation and shall also have their consent to the implementation of components of the plan which involve the participation of these departments.	We will arrange a detailed traffic management & traffic decongestion study and arrange to improve the traffic pattern. We will associate with the concerned departments for this.
IX	**HUMAN HEALTH ISSUES**	
i.	All workers working at the construction site and involved in loading, unloading, carriage of construction material and construction debris or working in any area with dust pollution shall be provided with dust mask.	All workers working at the construction site involved in loading, unloading, carriage of construction material and construction debris or working in any area with dust pollution will be provided with dust mask.
ii.	For indoor air quality the ventilation provisions as per National Building Code of India.	Ventilation Provisions as per National Building Code of India for indoor air quality will be provided.
iii	Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.	Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan will be implemented. We will also plan occasional drill for evacuation.
iv.	Provision shall be made for the housing of construction labor within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	As the site is not suitable for labor colony, we are not allowing any labor to stay at site. We will ensure that the contractors make own arrangement nearby for labor colony near to the site; however, we will ensure that within the labor colony, necessary infrastructure & facilities such as fuel for cooking, toilets facilities, drinking water, health care, creche (If lady workers are employed), etc. are provided.
v.	Occupational health surveillance of the workers shall be done on a regular	We will ensure that occupational health surveillance

	basis.	of the workers will be done on regular intervals.
vi.	A First Aid Room shall be provided in the project both during construction and operations of the project.	Noted and will be complied with. A well-equipped First Aid Room will be provided during construction & operation period. A photograph of first aid room provided during constriction is attached as **annexure 15.**
X	**MISCELLANEOUS**	
i.	The project proponent shall prominently advertise it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days indicating that the project has been accorded environment clearance and the details of MoEFCC / SEIAA website where it is displayed.	This is already done. Copies of paper cuttings submitted to MOEF through the compliance report dated 14.06.2022
ii	The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.	Copies of Environmental Clearance are submitted to the Municipality with a request to display the same. Copy of the receipt from Kottayam Municipality submitted to MOEF through the compliance report dated 14.06.2022
iii.	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.	Noted. We will upload the status of compliance of the stipulated environment clearance conditions including results of monitored data on the website and update it on half yearly basis.
iv.	The project proponent shall subunit six monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest, and Climate Change at environment clearance portal.	Noted. We will submit half yearly reports on the status of compliances of environmental conditions on the website of MoEF&CC.
v.	The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements / deviation / violation. of the environmental forest wildlife norms conditions. The company shall have defined system of reporting	We will set up an Environment Monitoring Cell and they will look after all the requirements and any issue will be reported to higher management for corrective action / rectification. The company policy is to follow the best practice for Environmental Safety & Security. As the project is situated within the town and on the national highway possibility of violation of norms of wildlife, forest, etc. is less.

	infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.	The copy of the EMC meeting dated 14.06.2022 attached as **Annexure 16**
vi.	A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly report to the head of the organization.	This project is controlled / monitored directly by the Regional Head Office. The Environmental Cell Consists of 1. Mr. Sadik Kasim, Commercial Manager as Chairman; 2. Mr. Babu Varghese, Project Director as Member; 3. Mr. Paul K Olekkengil, General Manager as Member, 4. Mr. Midhun Chullickal, Legal Officer as Member and 5. Mr. Beshy Kuriakose Project Manager as Member Secretary.
vii.	Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds ear marked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry / Regional Office along with the Six-Monthly Compliance Report.	The above Committee is responsible for implementation of EMP and Environmental Conditions. The responsibility matrix and other details are being worked out in consultation with top management.
viii.	The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.	We confirm that we will submit the environmental statement for each financial year in Form-V to KPCB as prescribed under the Environment Protection Rules, 1986, as amended subsequently and will be posted on the website of Lulu. http://lulukottayam.in/
ix.	The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.	We confirm that we will inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.
x.	The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the	We confirm that we will strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.

	State Government.	
xi.	The project proponent shall abide by all the commitments recommendations made in the EIA / EMP report and also that during their presentation to the Expert Appraisal Committee.	We will abide by all the commitments & recommendations made in the EIA / EMP reports and also during its presentation to the Expert Appraisal Committee.
xii.	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forest, and Climate Change (MoEF&CC).	Noted. In case of any further expansion or modifications in the plant prior approval from MoEF & CC will be obtained.
xiii.	Concealing factual data or submission of false / fabricated data may result in revocation of this environmental clearance and attract action under the provisions. Environment (Protection) Act, 1986.	Noted.
xiv.	The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.	Noted.
xv.	The Ministry reserves the right to stipulate additional conditions if found necessary The Company in a time bound manner shall XV implement these conditions.	Noted.
xvi.	The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information / monitoring reports.	Noted. We will extend full support & cooperation to the Officers of the Regional Office by furnishing the requisite data, information and monitoring reports
xvii.	The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Art, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.	

xviii	Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.	

Babu Varghese
Project Director
25.10.2022

ANNEXURE 1

School of Environmental Studies

COCHIN UNIVERSITY OF SCIENCE AND TECHNOLOGY

Cochin University P.O., Cochin - 682 022, Kerala, India

M. Anand., M.Sc., M. Phil.,Ph.D.

Asst. Professor in Environmental Biotechnology

26/10/2022

To

LULU GROUP INTERNATIONAL

EDAPALLY, KOCHI.

The proposed **Sewage Treatment Plant of capacity 160 CMD for Lulu Mall, Kottayam** is found satisfactory and can be recommended.

26/10/2022

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Email: anandmrajmandir@gmail.com, anandm@cusat.ac.in
Mob: 9447254921 Room: 0484-2862552, Inter: 2552
Off: 0484 - 2577311, Fax: 0484 - 2577311, Res: 0484 - 2577565

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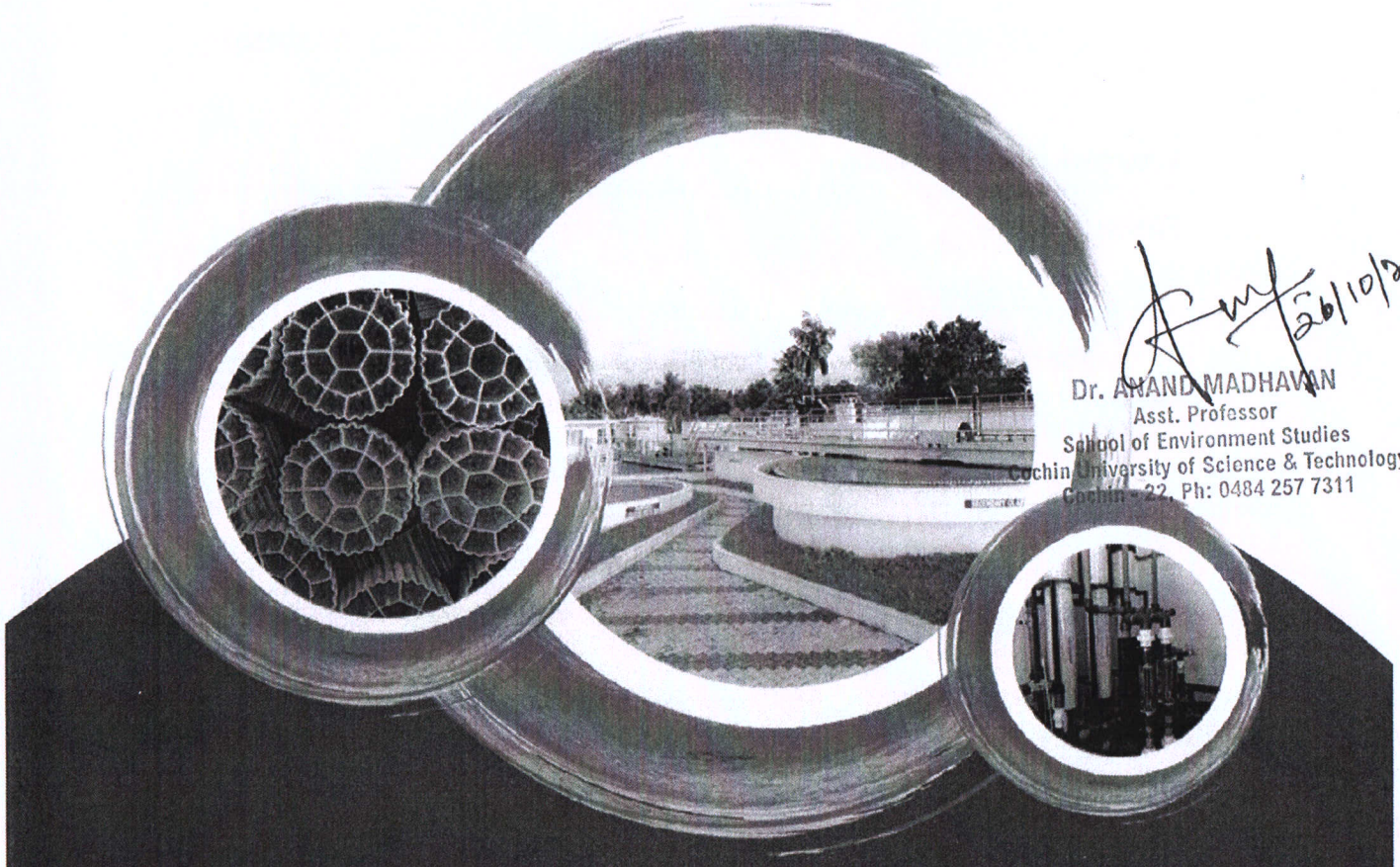
GREEN METHOD ENGINEERING (P) LTD

PROJECT REPORT FOR SEWAGE TREATMENT PLANT AT LULU KOTTAYAM



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19/ 195A1, ATC Building, Moolepadam Nagar Road,
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A Government Of Kerala State Suchitwa Mission Approved Consultant

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DESIGN PARAMETERS

Flow Characteristics

S.No.	Parameter	Unit	Value
1.	Volume	m^3/day	160
2	Hours of pumping operation	hours	20

Influent Parameters

S.No.	Parameter	Unit	Value
1.	pH	-	5.5-9
2.	BOD	mg/l	<600
3.	COD	mg/l	<1000
4.	Suspended Solids (SS)	mg/l	<250
5.	Oil & Grease*	mg/l	30
6.	TKN	mg/l	40
7.	AN	mg/l	30

Effluent Parameters

S.No.	Parameter	Unit	Value
1.	pH	-	5.5-9
2.	BOD	mg/l	<3
3.	COD	mg/l	<50
4.	Suspended Solids (SS)	mg/l	<10
5.	Oil & Grease	mg/l	<1
6.	TKN	mg/l	<10
7.	AN	mg/l	<5

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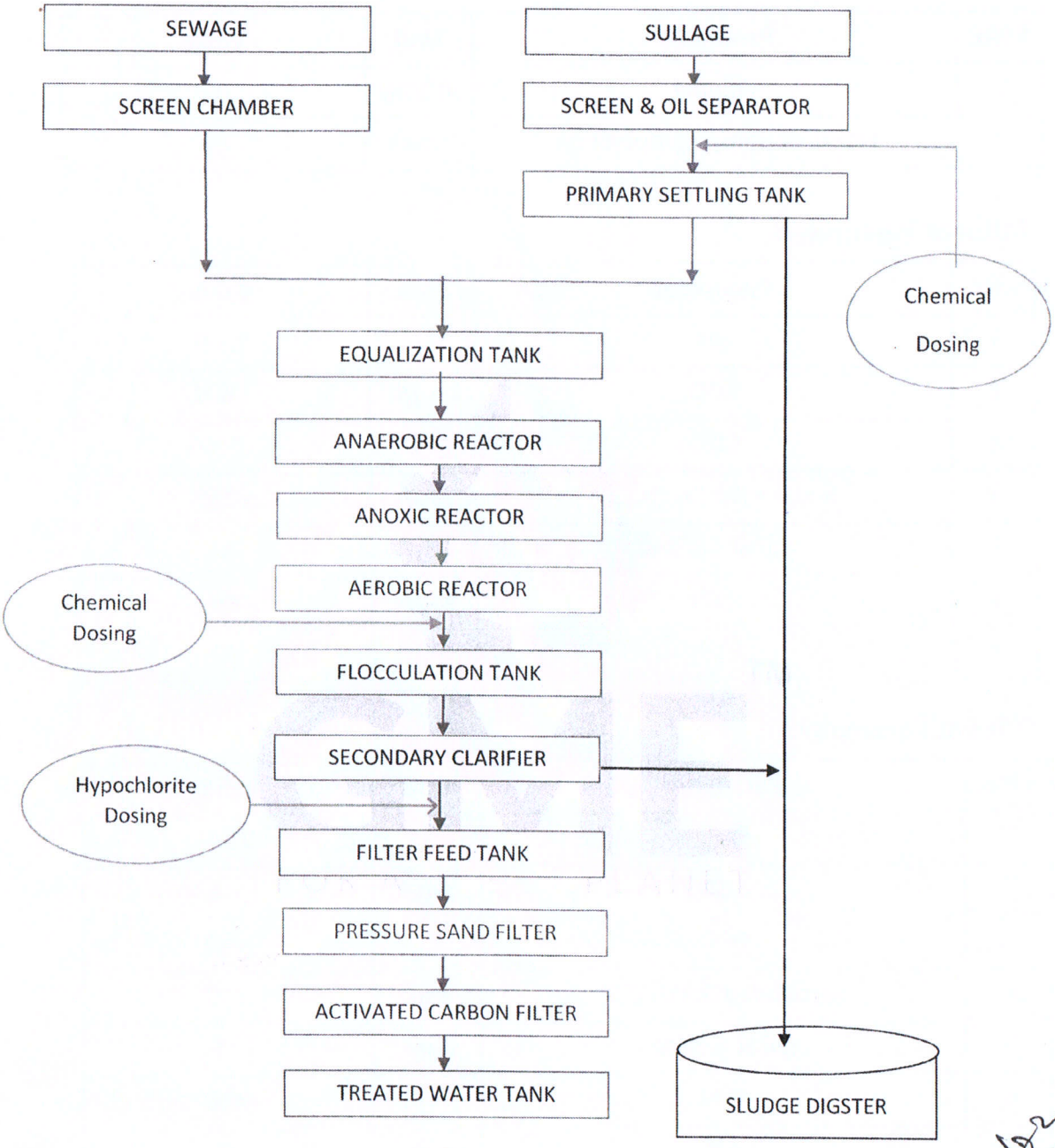
PROCESS FLOW DIAGRAM



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TANK SIZES.

S.No.	Item	QTY.	Size	MOC
1.	Screen Chamber for sewage 1.50m x 0.80m x 0.70m	1	Average Flow rate : 6.67 m3/hr Sewage : 2.22m3/hr (1/3rd average flow) Peak factor : 3 Peak flow : 6.66 m3/hr Approach velocity : <0.6m/s Angle of inclination : 45^0	RCC
2.	Screen Chamber for sullage 1.50m x 0.80m x 0.70m	1	Sullage : 4.45 m3/hr (2/3rd average flow) Peak factor: 3 Peak flow : 13.34 m3/hr Approach velocity : <0.6m/s Angle of inclination : 45^0	RCC
3.	Grit cum Oil Separator 4.50m x 1.20m x 1.30m + FB	1	Average Flow : 4.45m3/hr Peak factor : 3 Peak Flow : 13.34m3/hr Retention time required : 15-20 min Volume of grit cum oil separator provided : 7.02m3 Retention time provided : 31.57min Hence the size provided is adequate	RCC

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4.	Primary Settling Tank 3.00m x 3.00m x 1.70m SWD , 1.50m CD +F.B	1	Average Flow : 4.45m3/hr Peak factor : 3 Peak Flow : 13.34m3/hr Loading rate required (at peak): 1.5m3/hr/m2 Loading rate provided (at peak) : 1.5m3/hr/m2 Retention time provided (at peak) : 1.5 hr Hence the size provided is adequate	RCC
5.	Equalization Tank 8.00m x 6.25m x 3.50m	1	Waste water generated per day : 160m3/day Minimum Retention time : 8hr average flow Volume provide : 150m3 +F.B Retention time provided : 23 hr Hence the size provided is adequate	RCC
6.	Anaerobic Tank 3.00m x 3.00m x 3.50m	2	Inlet BOD load : 96kg/day BOD reduction considered in anaerobic system : 40% BOD loading rate per m3 of media : 1.5kg/m3 Anaerobic media required : 25.6m3 Media provided : 43 m3	MSEP

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			Tank volume 1.45times the media volume Tank volume provided =43.2 times Hence the tank volume is adequate	
7.	Anoxic Tank 3.00m x 3.00m x 3.00m + 0.50m F.B	1	Flow rate considering 20hr pumping : 8m3/hr Retention time required : 2.5-3 hr Tank volume provided : 27m3 Retention provided : 3.37hr Hence the tank volume is adequate	MSEP
8.	Aeration Tank 3.00m x 2.20 x 3.00m + 0.50m FB	2	BOD inlet after anaerobic & de-nitrification process : 57.6kg/day BOD loading rate per m3 of media : 4.5kg/m3 MBBR media required : 13m3 MBBR media provided : 15m3 Tank volume required : with 40% media filling Tank volume required : 37m3 Tank volume provided : 39.60 m3 Hence the volume provided is adequate	MSEP
9.	Flocculation Tank 1.00m x 1.00m x	1	Retention time required: 10min Volume provided : 1.5m3	MSEP

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	1.50m+		Retention time provided : 11.25min Hence the provided size is adequate	
10.	Secondary Clarifier 3.60m dia x 3.00m ht	1	Loading rate required : 1m3/hr/m2 Loading rate provided : 0.8m3/hr/m2 Retention time required : 2-3hrs Retention time provided : 3.8hrs' Hence the tank volume is adequate	MSEP
11.	Filter Feed Tank 2.00m x 1.80m x 2.50m	1	Retention time required : 1hr Volume provided : 9m3 Retention time provided:1.125hr Hence the tank volume is adequate	MSEP
12.	UF Feed Tank 2.00m x 1.80m x 2.50m	1	Retention time required : 1hr Volume Provided : 9m3 Retention time provided : 1.125 hr Hence the tank volume is adequate	MSEP
13.	Treated water tank 4.00m x 3.00m x 3.00m	1	Retention time required : 4hr Volume Provided : 36 m3 Retention time provided : 4.5 hr	MSEP

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			Hence the tank volume is adequate	
14.	Sludge digester 6.00m dia x 5m ht	1	Sludge generated per day : 92kg/day 1% Slurry generated : 9200l/day HRT : 10 days SRT : 25 days Volume required : 95m3 Volume provided : 127m3 Hence the tank volume is adequate	RCC

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DETAILS OF MECHANICAL EQUIPMENT

S.No.	Item	Specification	Quantity
1.	Coarse Screen	MOC : SS 304	2 No's
2.	Waste Water Transfer Pumps	Capacity : 8 m^3/hr Head : 5-7 MLC Type : Submersible Make : DAB/ Equivalent	2 No's (1D + 1S)
3.	Anoxic Recirculation pumps	Capacity : 20 m^3/hr Head : 10 MLC Type : Self priming Make : Kirloskar/ Equivalent	2 No's (1D + 1S)
4.	Sludge Pumps	Capacity : 8 m^3/hr Head : 10 MLC Type : Self priming Make : Kirloskar/ Equivalent	2 No's (1D + 1S)
5.	Fixed Bed Packing Media	Type : PVC Make : MM Aqua	2sets
6.	Aeration Manifold and Sieves for Aeration Tank	Make : GME	2 Set
7.	Aeration Grid for Collection tank	Make : GME	1 set
8.	MBBR Media	MOC : PE	2 Sets
9.	Blower	Capacity : 300 m3/hr Head : 0.35 bar Make : Everest / Equivalent	2 No's (1D + 1S)

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10.	Stirrer for flocculation tank	MOC : SS 304	1 nos
11.	Filter Feed pumps	Capacity : 8 m3/hr Head : 30 MLC Type : Clear water pump Make : Kirloskar/ Equivalent	2 No's (1D + 1S)
12.	Pressure Filter Sand	Size : 1.00m Ø x 1.80 m Ht Construction : MS Type : Vertical Valves : Butterfly valves Make : GME Filtering Media : Sand, Graded pebble	1set
13.	Activated Carbon Filter	Size : 1.00m Ø x 1.80 m Ht Construction : MS Type : Vertical Valves : Butterfly valves Make : GME Filtering Media : Activated Carbon, Graded pebble	1 Set
14.	Clarifier Rake Mechanism	All wetted parts like feed well, scrapper system, rake arm etc in SS construction Accessories include Gear Box & motors Walkway & bridge in MS construction	1 set
15.	Dosing System	Accessories : Dosing pump with tank Make : Milton Roy/ Eqvt.	3 No's
16.	Hypochlorite Dosing System	Accessories : Dosing pump with tank Make : Milton Roy / Eqvt.	1 No

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17.	Skid mounted UF system	Capacity : 8 m3/hr Accessories : Feed – backwash pump, dosing system, MS skid, PLC panel, piping, instrumentation etc	1 Set
18.	Piping work with valves in the STP area	Make : Supreme / Zoloto /Eqvt.	1 Lot
19.	Electrification works	Make : L&T, Finolex	1lot

*Electrification work includes Laying and fixing of one lot of cables, isolators, starters, energy meter control panel, etc. required for the above work

26/10/2022

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Anx. 2

FILE NO. ::PCB/HO/O21KOT271215/2021
Date of issue :02/10/2022

KERALA STATE POLLUTION CONTROL BOARD

CONSENT TO ESTABLISH

ISSUED UNDER

Section 25 of Water (Prevention & Control of Pollution) Act, 1974
Section 21 of the Air (Prevention & Control of Pollution) Act, 1981

and

Environment (Protection) Act, 1986

As per Application No. :17683518
Dated:20-09-2022

TO

M/s COMMERCIAL COMPLEX AT KOTTAYAM
Office at Express Motors
M.C Road
Opposite Nippon Toyota
Nattakam
Kottayam-686013

Consent No. :PCB/HO/KTM/ICE-VAR/02/2022

Valid Upto :31/07/2026

1. GENERAL

1.1. This integrated consent is granted subject to the power of the Board to withdraw consent, review and make variation in or revoke all or any of the conditions as the Board deems fit.

1	**VALIDITY**	31/07/2026
2	Name and Address of the establishment	COMMERCIAL COMPLEX AT KOTTAYAM OFFICE AT EXPRESS MOTORS M.C ROAD OPPOSITE NIPPON TOYOTA NATTAKAM KOTTAYAM 686013
3	Communication	Telephone :0484-2727700 Fax :- E-mail:lulukochi@luluindia.com
4	Occupier Details	Nishad M.A Director & CEO LuLu International Shopping Malls Pvt. Ltd. 34/1000, N.H47, Edapally-682024
5	Local Body	Kottayam Municipality
6	Survey Number	352/12-1,12,13; 353/16,12,6,5,13,10,3-4,14,8,7,3,3-2,15,3-3,3-5,9,11,18,17; 354/3-3-1,3-3,2-1,2,2-4,3-1,3-7,3-6-1,3-6,3-4,1-3-1,1-3,1-2,1-1-1,1-1,2-2-1,2-2,3-2,2-3,3-5
7	Village	Nattakam
8	Taluk	KOTTAYAM
9	District	Kottayam
10	Capital Investment(Rs in Lakhs)	Rs.1705 lakh
11	Scale	Large
12	Category	RED
13	Annual fee(Rs) Total Fee remitted(Rs)	- Rs.2,43,250/-
14	Activity	construction of commercial building in G+1+ terrace floors with built up area 25,029.6 sq.m area and multi level car parking building with 4,920.54m2(Total built up area-29,950.21 sq.m)

2. CONDITIONS AS PER
The Water(Prevention and Control of Pollution)Act, 1974

2.1 Sewage Treatment Plant (STP) consisting of treatment units having adequate capacity shall be made functional/ arrangement for sewage treatment shall be provided, as per the proposal submitted along with the application, before commissioning of the establishment. Additional facilities required, if any, to achieve the standards laid down by the Board u/s 17(1)(g) of the Water Act shall also be made along with.

2.2 Water Consumption : 27350 L/DAY

2.3 Effluent Generation : 21.88 KLD

2.4 The characteristics of effluent after treatment shall confirm to the following tolerance limits:

SI.NO.	Characteristics	Unit	Tolerance Limit	
			Sewage	Trade Effluent
1	pH	-	6.5-8.5	-
2	BOD	mg/l	3	-
3	TSS	mg/l	10	-
4	Oil & Grease	mg/l	1	-

2.5 Mode of disposal of treated effluent : Reuse to the maximum extent and balance to soak pit

3. CONDITIONS AS PER
The Air(Prevention and Control of Pollution)Act, 1981

3.1 Adequate air pollution control measures shall be provided before commissioning of the industry. Additional facilities required, if any, to achieve the standards laid down by the Board shall also be made along with.

Stack No.	Sources of Emission	Emission Rate(Nm3/Hr)	Stack Height above		Control Equipment
			Ground Level	Roof Level	
1	1010 KVA D.G set(3 nos)	-	-	6.4 m	Acoustic enclosure

3.2 Emission characteristics shall not exceed the following:

SI.No.	Parameter	Limiting Standards (mg/Nm3)

4. CONDITIONS AS PER
The Environment (Protection) Act, 1986.

4.1 The construction activities shall be carried out strictly in compliance with the provisions of the Noise Pollution (Regulation and Control) Rules 2000.

4.2 Used lead acid batteries shall be disposed of as per the Batteries (Management and Handling) Rules, 2001

4.3 e-waste shall be disposed off safely as per E-Waste (Management) Rules, 2016.

5. ADDITIONAL CONDITIONS

5.1. This consent is granted subject to the power of the Board to review and make variations in all or any of the conditions as per section 21 of the Air (Prevention and Control of Pollution) Act 1981 and section 25 of the Water (Prevention and Control of pollution) Act 1974.

5.2. At the end of the validity period if the construction is in progress, the same shall be got renewed. If the

construction is not started in the consent period, the applicant shall apply afresh for consent to establish.
5.3. The applicant shall comply with the instructions that the Board may issue from time to time regarding prevention and control of air, water, land and sound pollution.
5.4. Consent to Operate under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981 shall be obtained by the builder before commissioning the project. The date of commissioning of the project shall be intimated at least one month in advance to the District Office of the Board.
5.5. Water & energy conservation measures shall be adopted. Renewable source of energy namely solar energy shall be utilized.
5.6. Adequate safety measures shall be provided in accordance with fire safety regulation.
5.7. No excavation of soil shall be carried out without adequate dust mitigation measures in place.
5.8. No loose soil or sand or Construction & Demolition Waste or any other construction material that causes dust shall be left uncovered.
5.9. Dust mitigation measures shall be displayed prominently at the construction site for easy public viewing.
5.10. Grinding and cutting of building materials in open area shall be prohibited.
5.11. Construction material and waste should be stored only within earmarked area and road side storage of construction material and waste shall be prohibited.
5.12. No uncovered vehicles carrying construction material and waste shall be permitted.
5.13. Construction and Demolition Waste processing and disposal site shall be identified and required dust mitigation measures be notified at the site.
5.14. The construction camp shall have a well maintained waste management system and sewage and effluent shall be treated to meet the standards. The solid waste and debris from the construction shall be disposed without causing environmental problems. The dredging shall be carried out without causing significant disturbance to the back water system, if any.
5.15. The area near the boundary and the buildings and the set back shall be utilized for the development of green belt.
5.16.Arrangements shall be provided for rainwater harvesting before commissioning.
5.17. Natural drainage of the area shall be protected.
5.18. The treated effluent shall conform to the following standards for soak pit discharge;
pH- 6.5-9.0, BOD-10 mg/l, COD-50mg/l, TSS-10mg/l,NH4-N-5mg/l, N-total-10mg/l, Fecal Coliform<230 MPN/100ml.
5.19. Conditions in the Environmental Clearance shall be complied with.

Digitally signed by Sheela A M
Date: 2022.10.04 09:32:46
+05'30'

DATE :02/10/2022

SIGNATURE & SEAL OF ISSUING AUTHORITY
MEMBER SECRETARY

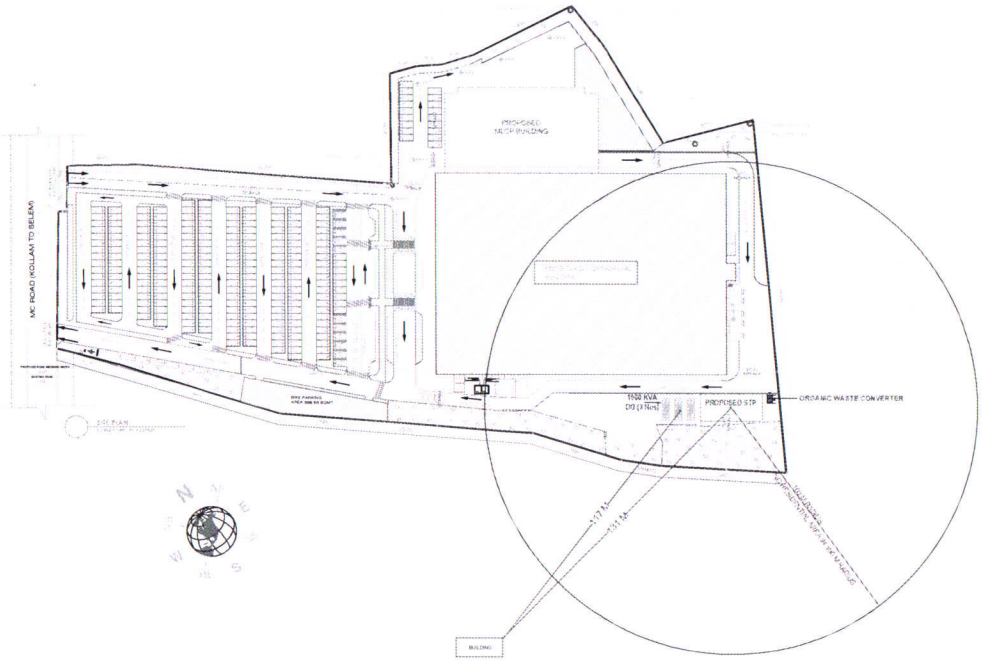
To

SHRI. Nishad M A
Director and CEO
(Commercial Complex at Kottayam
Office at Express Motors
M.C Road, Opposite Nippon Toyota
Nattakam, Kottayam-686013)
34/1000, N.H47, Edapally-682024.

1. This digitally signed document is legally valid as per the Information Technology Act 2000

2. For verifying this document please go to krocmms.nic.in and search using date of issue/name of the unit/Application Number in "Consent Granted Applications" link in the home page of the Board's Online Consent Management and Monitoring System.

Survey No : 352/12-1 , 352/12,352/13, 353/16,353/12, 353/6, 353/5, 353/13, 353/10, 353/3-4, 354/3-3-1, 354/3-3, 353/14, 353/8, 353/7, 353/3, 353/3-2, 353/15, 354/2-1, 354/2, 354/2-4, 354/3-1, 354/3-7, 354/3-6-1, 354/3-6, 354/3-4, 354/1-3-1, 354/1-3, 354/ 1-2, 354/ 1-1-1, 354/1-1, 354/2-2-1, 354/2-2, 354/3-2, 354/2-3, 354/3-5, 353/3-3,353/3-5,353/9,353/11, 353/18 ,353/17

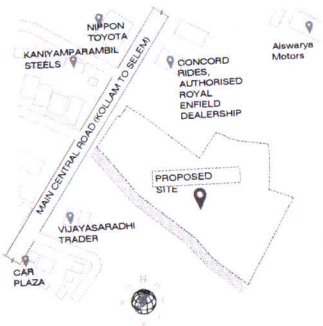


Client:
COMMERCIAL BUILDING , KOTTAYAM

Title:
SITE PLAN

Site details

Village	Nattakam
Taluk	Kottayam
District	Kottayam



LOCATION PLAN
(NOT TO SCALE)

Scale : NTS

Rev No.	Date		Name	
Rev 00	06.07.21	Drawn	A.N	
Rev 01	01.06.22	Appd :	R.M.T	

Digitally signed by Biju. B
Date: 2022.06.02 08:05:01 +05'30'

Digitally signed by Sheela A M
Date: 2022.10.04 09:33:22 +05'30'

Green Method Engineering(P)Ltd.
GME FOR A GREEN PLANET
19/195 A1,ATC Building
Moolepadam Nagar Road
HMT Jn, Kalamassery P.O
Kochi, Kerala 683104
Tel: +91 484 2555336
Fax: + 91 484 2543985
Mob: +91 9745034922
An ISO 9001:2015, 14001:2015 certified company
Email:mail@greenmethodengineering.com Web:www.greenmethodengineering.com
An approved A Class consultant of KSPCB

Anx 3.

Standard^S
Environmental Monitoring

TC-5402

TEST REPORT

ULR No:TC540222000008590F		
LRI No.:SEAAL22091380A	Date: 30-09-2022	Page 1 of 1

CUSTOMER DETAILS	
Customer Name & Address	**M/s Lulu International Shopping Mall Pvt Ltd** Nattakam, Kottayam District.
Customer Reference	Test Request dt 24-09-2022

SAMPLE DETAILS			
Product Category	Atmospheric Pollution	Sample Code	EN22090516
Sample Name	Ambient Air	Sample Received on	26-09-2022
Sample Conditions at Receipt	Fit for Analysis	Test Commenced on	26-09-2022
Sampled by	Lab Authorized Sampler	Test Completed on	30-09-2022
DETAILS OF SAMPLING			
Sampling Location	Near Office -South Side	Date of Sampling	24-09-2022
Sampling Procedure	SEAAL/ENL/GEN/SOP/02	Humidity	68%

TEST RESULTS - CHEMICAL

Sl. No.	PARAMETERS	TEST METHOD	UNIT	RESULT	NAAQ STANDARD
1	Particulate Matter (PM_{10})	IS 5182 (Part 23): 2006	$\mu g/m^3$	68.6	Max 100
2	Particulate Matter ($PM_{2.5}$)	IS 5182 (Part 24): 2019	$\mu g/m^3$	35.2	Max 60.0
3	Sulphur dioxide (SO_2)	IS 5182 (Part 2): 2001	$\mu g/m^3$	3.86	Max 80.0
4	Oxides of Nitrogen (NO_2)	IS 5182 (Part 6): 2006	$\mu g/m^3$	5.92	Max 80.0
5	Carbon monoxide (CO)	IS 5182 (Part 10): 1999	mg/m^3	0.58	Max 4.00

Remarks:

End of Report

Shency Joy
Dy. TM Chemical
Checked by:

Laiju P. N.
Laboratory Head
Authorized Signatory

Standard^S Environmental & Analytical Laboratories
Accreditation & Approval: NABL accredited Testing Laboratory as per ISO/IEC 17025:2017
vide Certificate No. TC - 5402 & "A" Grade Laboratory approved by KSPCB.
K.J. Tower, Pathalam, Udyogamandal P.O., Ernakulam-683 501, Tel. 0484-2546660, 93 87 27 24 02, 90 74 34 14 43
Web: www.sealabs.in, E-mail: seaalab@gmail.com

Standard^S
Environmental Monitoring

TC-5402

TEST REPORT

ULR No:TC540222000008591F		
LRI No.:SEAAL22091381A	Date: 30-09-2022	Page 1 of 1

CUSTOMER DETAILS	
Customer Name & Address	**M/s Lulu International Shopping Mall Pvt Ltd** Nattakam, Kottayam District.
Customer Reference	Test Request dt 24-09-2022

SAMPLE DETAILS			
Product Category	Atmospheric Pollution	Sample Code	EN22090517
Sample Name	Ambient Air	Sample Received on	26-09-2022
Sample Conditions at Receipt	Fit for Analysis	Test Commenced on	26-09-2022
Sampled by	Lab Authorized Sampler	Test Completed on	30-09-2022
DETAILS OF SAMPLING			
Sampling Location	Near Security Cabin -West Side	Date of Sampling	24-09-2022
Sampling Procedure	SEAAL/ENL/GEN/SOP/02	Humidity	68%

TEST RESULTS - CHEMICAL

Sl. No.	PARAMETERS	TEST METHOD	UNIT	RESULT	NAAQ STANDARD
1	Particulate Matter (PM_{10})	IS 5182 (Part 23): 2006	$\mu g/m^3$	55.2	Max 100
2	Particulate Matter ($PM_{2.5}$)	IS 5182 (Part 24): 2019	$\mu g/m^3$	28.6	Max 60.0
3	Sulphur dioxide (SO_2)	IS 5182 (Part 2): 2001	$\mu g/m^3$	3.18	Max 80.0
4	Oxides of Nitrogen (NO_2)	IS 5182 (Part 6): 2006	$\mu g/m^3$	5.46	Max 80.0
5	Carbon monoxide (CO)	IS 5182 (Part 10): 1999	mg/m^3	0.85	Max 4.00

Remarks:

End of Report

Shency Joy
Dy. TM Chemical
Checked by:

Laiju P. N.
Laboratory Head
Authorized Signatory

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vide Certificate No. TC - 5402 & "A" Grade Laboratory approved by KSPCB.
K.J. Tower, Pathalam, Udyogamandal P.O., Ernakulam-683 501, Tel. 0484-2546660, 93 87 27 24 02, 90 74 34 14 43
Web: www.sealabs.in, E-mail: seaalab@gmail.com

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Environmental Monitoring

TC-5402

TEST REPORT

ULR No:TC540222000008593F		
LRI No.:SEAAL22091383A	Date: 30-09-2022	Page 1 of 1

CUSTOMER DETAILS	
Customer Name & Address	**M/s Lulu International Shopping Mall Pvt Ltd** Nattakam, Kottayam District.
Customer Reference	Test Request dt 24-09-2022

SAMPLE DETAILS			
Product Category	Atmospheric Pollution	Sample Code	EN22090519
Sample Name	Ambient Air	Sample Received on	26-09-2022
Sample Conditions at Receipt	Fit for Analysis	Test Commenced on	26-09-2022
Sampled by	Lab Authorized Sampler	Test Completed on	30-09-2022
DETAILS OF SAMPLING			
Sampling Location	East Side	Date of Sampling	24-09-2022
Sampling Procedure	SEAAL/ENL/GEN/SOP/02	Humidity	68%

TEST RESULTS - CHEMICAL

Sl. No.	PARAMETERS	TEST METHOD	UNIT	RESULT	NAAQ STANDARD
1	Particulate Matter (PM_{10})	IS 5182 (Part 23): 2006	$\mu g/m^3$	94.6	Max 100
2	Particulate Matter ($PM_{2.5}$)	IS 5182 (Part 24): 2019	$\mu g/m^3$	49.1	Max 60.0
3	Sulphur dioxide (SO_2)	IS 5182 (Part 2): 2001	$\mu g/m^3$	4.85	Max 80.0
4	Oxides of Nitrogen (NO_2)	IS 5182 (Part 6): 2006	$\mu g/m^3$	7.11	Max 80.0
5	Carbon monoxide (CO)	IS 5182 (Part 10): 1999	mg/m^3	1.30	Max 4.00

Remarks:

End of Report

Shency Joy
Dy. TM Chemical
Checked by:

Laiju P. N.
Laboratory Head
Authorized Signatory

Standard^{S} Environmental & Analytical Laboratories
Accreditation & Approval: NABL accredited Testing Laboratory as per ISO/IEC 17025:2017
vide Certificate No. TC - 5402 & "A" Grade Laboratory approved by KSPCB.
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Web: www.sealabs.in, E-mail: seaalab@gmail.com

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Environmental Monitoring

TC-5402

TEST REPORT

ULR No:TC540222000008592F		
LRI No.:SEAAL22091382A	Date: 30-09-2022	Page 1 of 1

CUSTOMER DETAILS	
Customer Name & Address	**M/s Lulu International Shopping Mall Pvt Ltd** Nattakam, Kottayam District.
Customer Reference	Test Request dt 24-09-2022

SAMPLE DETAILS			
Product Category	Atmospheric Pollution	Sample Code	EN22090518
Sample Name	Ambient Air	Sample Received on	26-09-2022
Sample Conditions at Receipt	Fit for Analysis	Test Commenced on	26-09-2022
Sampled by	Lab Authorized Sampler	Test Completed on	30-09-2022
DETAILS OF SAMPLING			
Sampling Location	North Side	Date of Sampling	24-09-2022
Sampling Procedure	SEAAL/ENL/GEN/SOP/02	Humidity	68%

TEST RESULTS - CHEMICAL

Sl. No.	PARAMETERS	TEST METHOD	UNIT	RESULT	NAAQ STANDARD
1	Particulate Matter (PM_{10})	IS 5182 (Part 23): 2006	$\mu g/m^3$	82.5	Max 100
2	Particulate Matter ($PM_{2.5}$)	IS 5182 (Part 24): 2019	$\mu g/m^3$	42.8	Max 60.0
3	Sulphur dioxide (SO_2)	IS 5182 (Part 2): 2001	$\mu g/m^3$	4.11	Max 80.0
4	Oxides of Nitrogen (NO_2)	IS 5182 (Part 6): 2006	$\mu g/m^3$	6.88	Max 80.0
5	Carbon monoxide (CO)	IS 5182 (Part 10): 1999	mg/m^3	1.10	Max 4.00

Remarks:

End of Report

Shency Joy
Dy. TM Chemical
Checked by:

Laiju P. N.
Laboratory Head
Authorized Signatory

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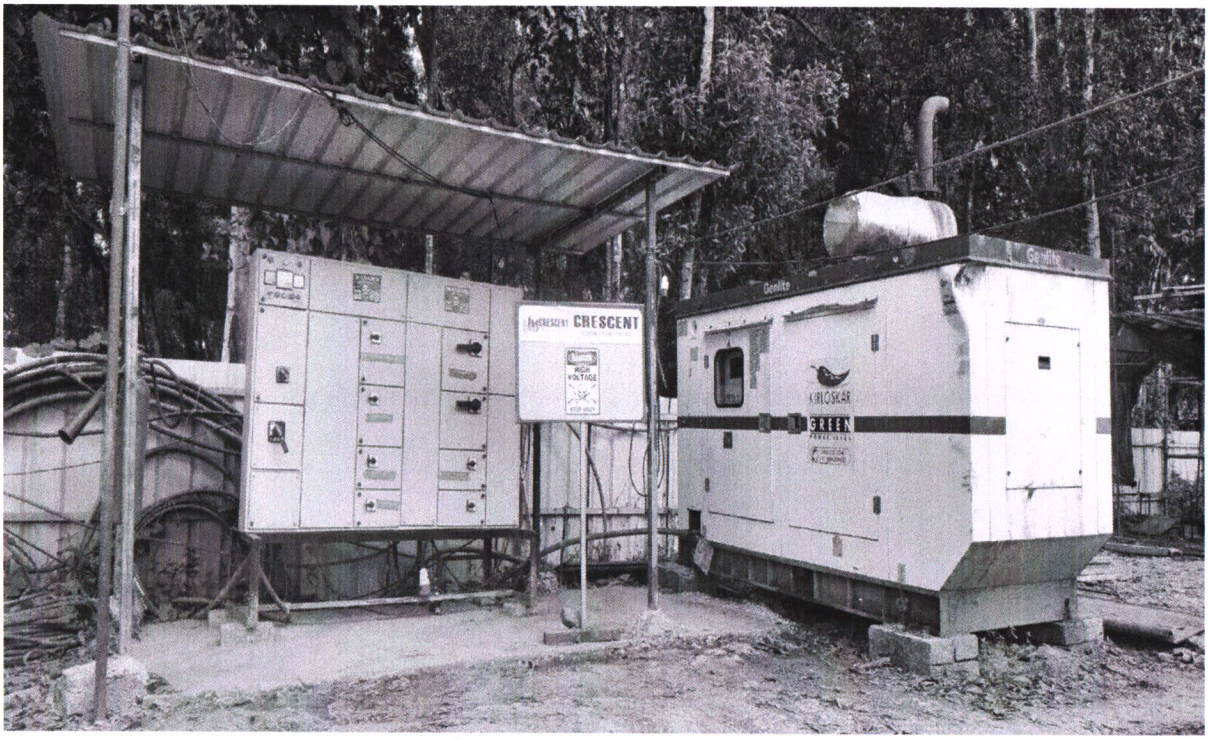
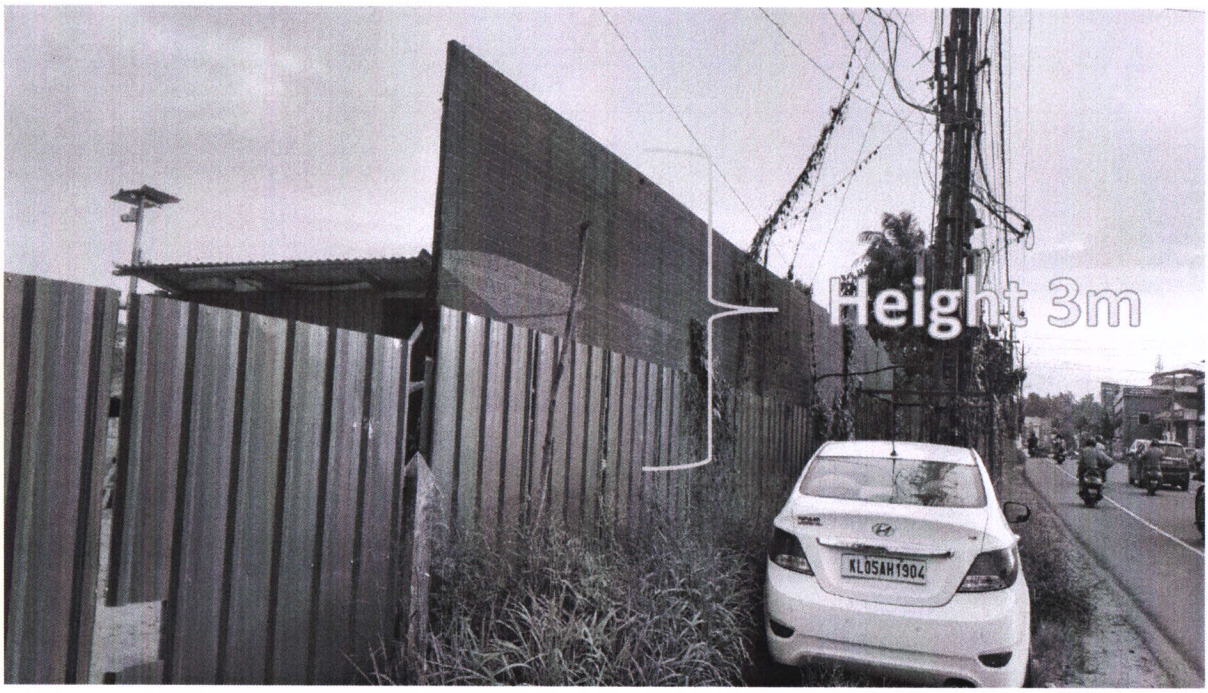
Web: www.sealabs.in, E-mail: seaalab@gmail.com

ANNEXURE 4



DG sets with acoustic insulation using for construction purposes



Barricading of construction site

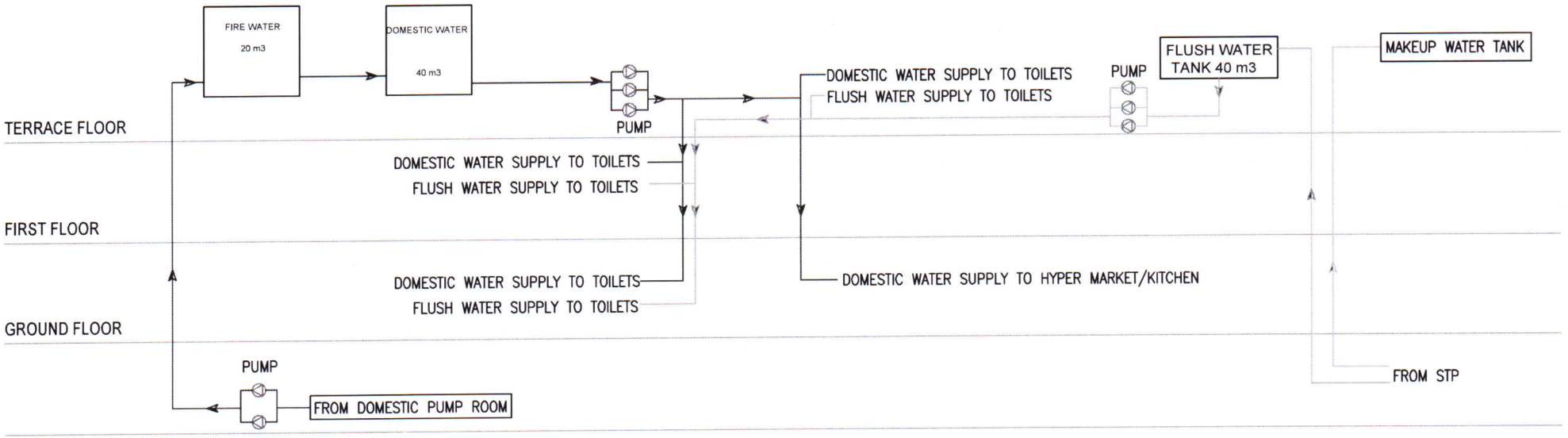
ANNEXURE-6

Aggregate stock at site

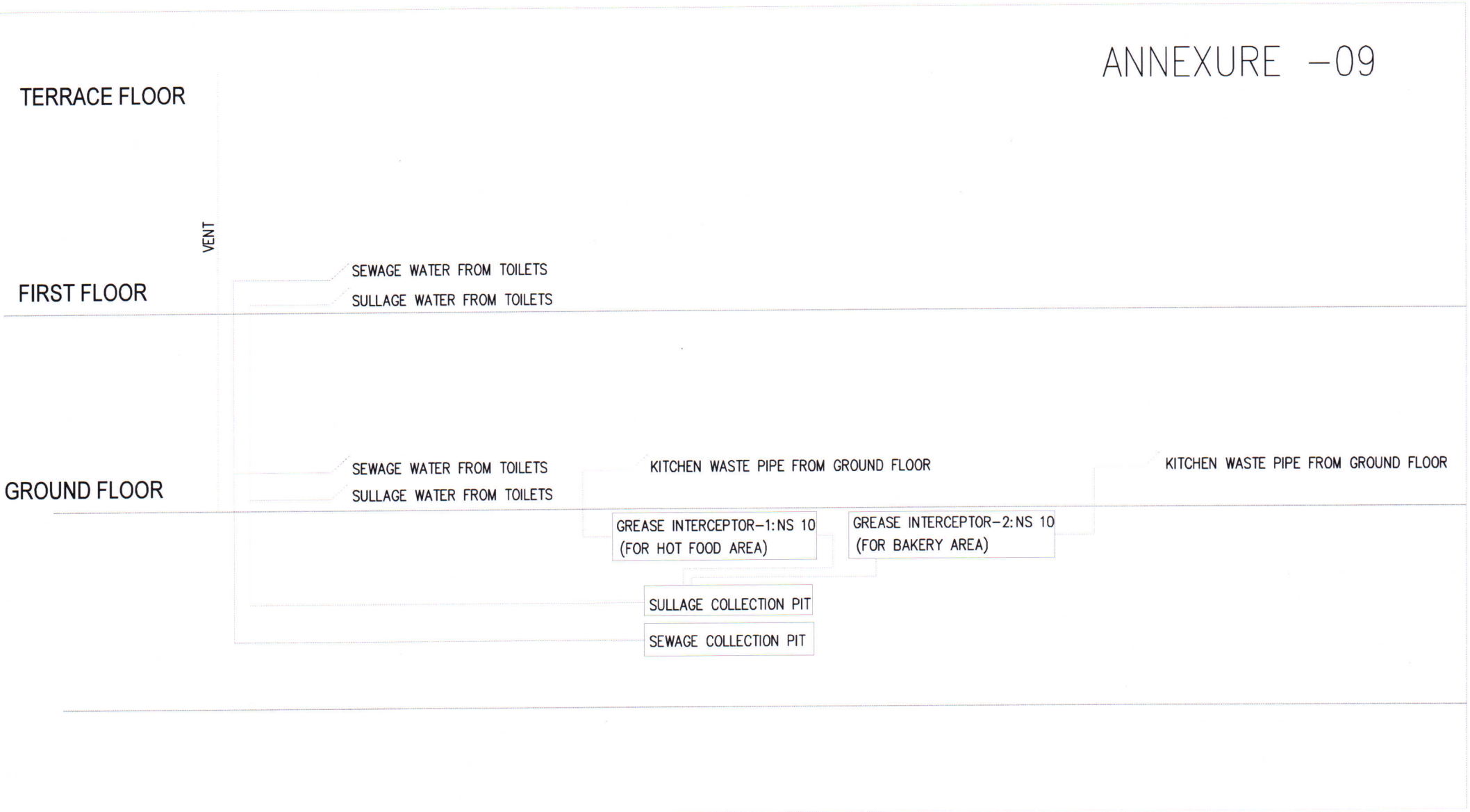
ANNEXURE 7

Water sprinkling over un-paved road

ANNEXURE –08


FIRE WATER
20 m3
DOMESTIC WATER
40 m3
PUMP
DOMESTIC WATER SUPPLY TO TOILETS
FLUSH WATER SUPPLY TO TOILETS
PUMP
FLUSH WATER TANK 40 m3
MAKEUP WATER TANK
TERRACE FLOOR
DOMESTIC WATER SUPPLY TO TOILETS
FLUSH WATER SUPPLY TO TOILETS
FIRST FLOOR
DOMESTIC WATER SUPPLY TO TOILETS
FLUSH WATER SUPPLY TO TOILETS
DOMESTIC WATER SUPPLY TO HYPER MARKET/KITCHEN
GROUND FLOOR
PUMP
FROM DOMESTIC PUMP ROOM
FROM STP

ANNEXURE –09


TERRACE FLOOR
VENT
FIRST FLOOR
SEWAGE WATER FROM TOILETS
SULLAGE WATER FROM TOILETS
GROUND FLOOR
SEWAGE WATER FROM TOILETS
SULLAGE WATER FROM TOILETS
KITCHEN WASTE PIPE FROM GROUND FLOOR
KITCHEN WASTE PIPE FROM GROUND FLOOR
GREASE INTERCEPTOR–1: NS 10
(FOR HOT FOOD AREA)
GREASE INTERCEPTOR–2: NS 10
(FOR BAKERY AREA)
SULLAGE COLLECTION PIT
SEWAGE COLLECTION PIT

Application of the curing agent

BERGER HOME SHIELD

BERGER Protecton PROTECTIVE COATINGS

Construction Chemcials

HS Procure AP

Scope

HS Procure AP Acrylic copolymer based white pigmented curing compound for concrete. It is a liquid curing compound to prevent premature water loss from concrete or mortar. It is ready to use and simple to apply through spraying.

Complies with ASTM C 309 Type-2 , Class-A – White Version.

Uses

For spraying on freshly cast concrete, or newly exposed concrete surfaces after removal of form work, to form a temporary membrane which will retain sufficient moisture for effective curing to take place. Used for curing concrete generally, but specially recommended for large areas of concrete such as pavements, runways and bridge decks; also for vertical or sloping surfaces as on towers, chimneys, canal linings, columns and beams, where water curing is difficult or unreliable.

Product

Base	Acrylic co polymer	
Aspect	Milky white liquid	
Specific Gravity	1.08	
Pull off adhesion-ASTM D 7234	Test on concrete slab	>0.5 N/MM²
Coverage	Approx. 0.15-0.20 Kg/m2	
Colour	White Liquid	
Packing	20 Kg, 200 Kg	
Storage Life	12 months from the date of manufacturing in unopened condition.Store in cool and dry place , free from direct sunlight and frost. Approx. temp range (+) 5 °C to 40°C. In tropical climate the product must be stored in an air conditioned environment.	

Application guideline

HS Procure AP will be spray applied on to the newly placed concrete slab as soon aspossible after it is free from visible surface water evaporates e.g. typically1 to 2 hours after placing.
HS Procure AP product should be spray applied to all surfaces as soon as formwork has been removed or the element demoulded.
In all cases the nozzle of the spray should be held approximately450mm from the concrete surface and should be passed back and forth to ensure complete and even coverage. The pump pressure should be maintained at a level to produce a fine spray ensuring complete coverage of the surface.

Precautions

Wear hand gloves, safety shoes and safety goggles while using and handling the product. In case eyes or mouth are affected wash with plenty of clean water and seek medical treatment immediately. Before use, refer to the Material Safety Data Sheet(MSDS).

BERGER PAINTS INDIA LIMITED
Berger House, 129 Park Street, Kolkata - 700017.
Phone : (033) 2229 9724 (5 lines)/2249 9754 (4 lines)
protectonhelpdesk@bergerindia.com | www.bergerpaints.com

DS#735
Jan 2021

Standard^{S}
Environmental Monitoring

TC-5402

TEST REPORT

ULR No:TC540222000008598F		
LRI No.:SEAAL22091388A	Date: 30-09-2022	Page 1 of 2

CUSTOMER DETAILS	
Customer Name & Address	**M/s Lulu International Shopping Mall Pvt Ltd** Nattakam, Kottayam District.
Customer Reference	Test Request dt 24-09-2022

SAMPLE DETAILS			
Product Category	Water	Sample Code	WT22090344
Sample Name	River Water	Sample Received on	26-09-2022
Sample Conditions at Receipt	Fit for Analysis	Temperature @ Receipt	4 °C
Sample Quantity& Packing	2 litre & Plastic Bottle	Test Commenced on	26-09-2022
Sampled by	Lab Authorized Sampler	Test Completed on	30-09-2022
Information Provided by Customer	----		
DETAILS OF SAMPLING			
Sample Source	Manipuzha -South Side of the Project Site	Date of Sampling	24-09-2022
Sampling Procedure	SEAAL/ENL/GEN/SOP/01& SEAAL/MBL/SOP/06	Sample Temperature	29 °C

TEST RESULTS – CHEMICAL PARAMETERS

Sl. No.	PARAMETERS	TEST METHOD	UNIT	RESULT	Requirement as per Acceptable Limit of IS 10500 : 2012
1	Colour	IS 3025 (Part 4): 1983	Hazen	5.00	Max 5.0
2	Odour	IS 3025 (Part 5): 2018	---	Agreeable	Agreeable
3	Turbidity	IS 3025 (Part 10): 1984	NTU	5.20	1.00
4	pH	IS 3025 (Part 11): 1983	---	6.23	6.50 – 8.50
5	Total Dissolved Solids	IS 3025 (Part 16): 1984	mg/L	137	Max 500
6	Total Hardness (as $CaCO_3$)	IS 3025 (Part 21): 2009	mg/L	45.0	Max 200
7	Calcium (as Ca)	IS 3025 (Part 40): 1991	mg/L	12.0	Max 75.0
8	Magnesium (as Mg)	IS 3025 (Part 46): 1994	mg/L	3.48	Max 30.0

Shency Joy
Dy. TM Chemical
Checked by:

Salini T. S.
Microbiologist
Authorized Signatory

Laiju P. N.
Laboratory Head
Authorized Signatory

Standard^{S}
Environmental Monitoring

TC-5402

TEST REPORT

ULR No:TC540222000008598F		
LRI No.:SEAAL22091388A	Date: 30-09-2022	Page 2 of 2

TEST RESULTS – CHEMICAL PARAMETERS

Sl. No.	PARAMETERS	TEST METHOD	UNIT	RESULT	Requirement as per Acceptable Limit of IS 10500 : 2012
9	Chloride (as Cl)	IS 3025 (Part 32): 1988	mg/L	26.0	Max 250
10	Total Alkalinity (as $CaCO_3$)	IS 3025 (Part 23): 1986	mg/L	40.2	Max 200
11	Iron (as Fe)	IS 3025 (Part 53): 2003	mg/L	1.20	Max 1.00
12	Sulphate (as SO_4)	IS 3025 (Part 24): 1986	mg/L	6.58	Max 200
13	Fluoride (as F)	IS 3025 (Part 60): 2008	mg/L	< 0.10	Max 1.00
14	Selenium (as Se)	IS 3025 (Part 56): 2003	mg/L	BDL (LOD-0.001)	Max 0.01
15	Arsenic (as As)	IS 3025 (Part 37): 1988	mg/L	BDL (LOD-0.001	Max 0.01
16	Copper (as Cu)	IS 3025 (Part 42):1992	mg/L	BDL (LOD-0.016)	Max 0.05
17	Manganese (as Mn)	IS 3025 (Part 59): 2006	mg/L	BDL (LOD-0.016)	Max 0.05
18	Cadmium (as Cd)	IS 3025 (Part 41): 1992	mg/L	BDL (LOD-0.003)	Max 0.003
19	Chromium (as Cr)	IS 3025 (Part 52): 2003	mg/L	BDL (LOD-0.05)	Max 0.05
20	Zinc (as Zn)	APHA 23rd Edition 3111B:2017	mg/L	BDL (LOD-0.008)	Max 5.00
21	Mercury (as Hg)	IS 3025 (Part 48): 1994	mg/L	BDL (LOD-0.001)	Max 0.001
22	Cyanide (as CN)	IS 3025 (Part 27): 1986	mg/L	< 0.01	Max 0.05
23	Lead (as Pb)	IS 3025 (Part 47):1994	mg/L	BDL (LOD-0.01)	Max 0.01
24	Aluminium (as Al)	IS 3025 (Part 55): 2003	mg/L	BDL (LOD-0.03)	Max 0.03
25	Boron (as B)	IS 3025 (Part 57): 2005	mg/L	< 0.20	Max 0.50

TEST RESULTS – BIOLOGICAL PARAMETERS

Sl.No.	PARAMETERS	TEST METHOD	UNIT	RESULT	Requirement as per Acceptable Limit of IS 10500 : 2012
1	Total Coliform Bacteria	IS 15185: 2016	---	Present/100 ml	Absent/100 ml
2	E coli	IS 15185: 2016	---	Absent/100 ml	Absent/100 ml

Note: BDL-Below Detection Limit LOD-Limit of Detection

Remarks:

End of Report

Shency Joy
Dy. TM Chemical
Checked by:

Salini T. S.
Microbiologist
Authorized Signatory

Laboratory Head
Authorized Signatory

Standard^{S} Environmental & Analytical Laboratories
Accreditation & Approval: NABL accredited Testing Laboratory as per ISO/IEC 17025:2017
vide Certificate No. TC - 5402 & "A" Grade Laboratory approved by KSPCB.
K.J. Tower, Pathalam, Udyogamandal P.O., Ernakulam-683 501, Tel. 0484-2546660, 93 87 27 24 02, 90 74 34 14 43
Web: www.sealabs.in, E-mail: seaalab@gmail.com

Standard^{S}
Environmental Monitoring

TC-5402

TEST REPORT

ULR No:TC540222000008594F		
LRI No.:SEAAL22091384A	Date: 30-09-2022	Page 1 of 1

CUSTOMER DETAILS	
Customer Name & Address	**M/s Lulu International Shopping Mall Pvt Ltd** Nattakam, Kottayam District.
Customer Reference	Test Request dt 24-09-2022

DETAILS OF MONITORING			
Product Category	Atmospheric Pollution	Sample Code	EN22090520
Sample Name	Ambient Noise	Monitoring Commenced on	24-09-2022 / 06:00
Monitoring Location	Near Office -South Side	Monitoring Completed on	25-09-2022 / 06:00
Test Method	IS 9989:1981	Monitored by	Lab Authorized Sampler

MONITORING RESULTS - Leq

TIME	RESULTS dB(A)	TIME	RESULTS dB(A)	TIME	RESULTS dB(A)
06:00	34.4	14:00	46.2	22:00	33.4
07:00	36.9	15:00	46.5	23:00	35.5
08:00	40.8	16:00	47.6	24:00	38.1
09:00	44.0	17:00	47.9	01:00	38.8
10:00	46.2	18:00	43.0	02:00	38.4
11:00	49.0	19:00	39.8	03:00	39.2
12:00	46.5	20:00	36.2	04:00	38.1
13:00	45.8	21:00	35.8	05:00	39.9

TEST RESULTS - CHEMICAL

Sl. No.	PARAMETERS	UNIT	RESULT
1	Ambient Sound Level (Leq) Day Time (06:00 to 22:00)	dB(A)	44.6
2	Ambient Sound Level (Leq) Night Time (22:00 to 06:00)	dB(A)	38.4

Remarks:

End of Report

Shency Joy
Dy. TM Chemical

Checked by:

Laiju P. N.
Laboratory Head
Authorized Signatory

Standard^{S}
Environmental Monitoring

TC-5402

TEST REPORT

ULR No:TC540222000008595F		
LRI No.:SEAAL22091385A	Date: 30-09-2022	Page 1 of 1

CUSTOMER DETAILS	
Customer Name & Address	**M/s Lulu International Shopping Mall Pvt Ltd** Nattakam, Kottayam District.
Customer Reference	Test Request dt 24-09-2022

DETAILS OF MONITORING			
Product Category	Atmospheric Pollution	Sample Code	EN22090521
Sample Name	Ambient Noise	Monitoring Commenced on	24-09-2022 / 06:00
Monitoring Location	Near Security Cabin -West Side	Monitoring Completed on	25-09-2022 / 06:00
Test Method	IS 9989:1981	Monitored by	Lab Authorized Sampler

MONITORING RESULTS - Leq

TIME	RESULTS dB(A)	TIME	RESULTS dB(A)	TIME	RESULTS dB(A)
06:00	32.9	14:00	44.1	22:00	31.9
07:00	35.3	15:00	44.4	23:00	34.3
08:00	39.0	16:00	45.4	24:00	36.8
09:00	42.0	17:00	45.8	01:00	37.5
10:00	44.1	18:00	41.0	02:00	37.2
11:00	46.8	19:00	38.0	03:00	37.9
12:00	44.4	20:00	34.6	04:00	36.8
13:00	43.7	21:00	34.2	05:00	38.6

TEST RESULTS - CHEMICAL

Sl. No.	PARAMETERS	UNIT	RESULT
1	Ambient Sound Level (Leq) Day Time (06:00 to 22:00)	dB(A)	42.5
2	Ambient Sound Level (Leq) Night Time (22:00 to 06:00)	dB(A)	37.2

Remarks:

End of Report

Shency Joy
Dy. TM Chemical
Checked by:

Laiju P. N.
Laboratory Head
Authorized Signatory

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K.J. Tower, Pathalam, Udyogamandal P.O., Ernakulam-683 501, Tel. 0484-2546660, 93 87 27 24 02, 90 74 34 14 43
Web: www.sealabs.in, E-mail: seaalab@gmail.com

Standard^{S}
Environmental Monitoring

TC-5402

TEST REPORT

ULR No:TC540222000008596F		
LRI No.:SEAAL22091386A	Date: 30-09-2022	Page 1 of 1

CUSTOMER DETAILS	
Customer Name & Address	**M/s Lulu International Shopping Mall Pvt Ltd** Nattakam, Kottayam District.
Customer Reference	Test Request dt 24-09-2022

DETAILS OF MONITORING			
Product Category	Atmospheric Pollution	Sample Code	EN22090522
Sample Name	Ambient Noise	Monitoring Commenced on	24-09-2022 / 06:00
Monitoring Location	North Side	Monitoring Completed on	25-09-2022 / 06:00
Test Method	IS 9989:1981	Monitored by	Lab Authorized Sampler

MONITORING RESULTS - Leq

TIME	RESULTS dB(A)	TIME	RESULTS dB(A)	TIME	RESULTS dB(A)
06:00	36.5	14:00	48.9	22:00	35.3
07:00	39.1	15:00	49.3	23:00	34.9
08:00	43.2	16:00	50.4	24:00	37.4
09:00	46.6	17:00	50.8	01:00	38.2
10:00	48.9	18:00	45.5	02:00	37.8
11:00	51.9	19:00	42.1	03:00	38.5
12:00	49.3	20:00	38.4	04:00	37.4
13:00	48.5	21:00	37.9	05:00	39.2

TEST RESULTS - CHEMICAL

Sl. No.	PARAMETERS	UNIT	RESULT
1	Ambient Sound Level (Leq) Day Time (06:00 to 22:00)	dB(A)	47.4
2	Ambient Sound Level (Leq) Night Time (22:00 to 06:00)	dB(A)	38.3

Remarks:

End of Report

Shency Joy
Dy. TM Chemical
Checked by:

Laiju P. N.
Laboratory Head
Authorized Signatory

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Web: www.sealabs.in, E-mail: seaalab@gmail.com

Standard^{S}
Environmental Monitoring

TC-5402

TEST REPORT

ULR No:TC540222000008597F		
LRI No.:SEAAL22091387A	Date: 30-09-2022	Page 1 of 1

CUSTOMER DETAILS	
Customer Name & Address	**M/s Lulu International Shopping Mall Pvt Ltd** Nattakam, Kottayam District.
Customer Reference	Test Request dt 24-09-2022

DETAILS OF MONITORING			
Product Category	Atmospheric Pollution	Sample Code	EN22090523
Sample Name	Ambient Noise	Monitoring Commenced on	24-09-2022 / 06:00
Monitoring Location	East Side	Monitoring Completed on	25-09-2022 / 06:00
Test Method	IS 9989:1981	Monitored by	Lab Authorized Sampler

MONITORING RESULTS - Leq

TIME	RESULTS dB(A)	TIME	RESULTS dB(A)	TIME	RESULTS dB(A)
06:00	37.0	14:00	49.5	22:00	35.8
07:00	39.6	15:00	49.9	23:00	35.4
08:00	43.8	16:00	51.1	24:00	38.0
09:00	47.2	17:00	51.4	01:00	38.7
10:00	49.5	18:00	46.1	02:00	38.3
11:00	52.6	19:00	42.7	03:00	39.1
12:00	49.9	20:00	38.9	04:00	38.0
13:00	49.1	21:00	38.4	05:00	39.8

TEST RESULTS - CHEMICAL

Sl. No.	PARAMETERS	UNIT	RESULT
1	Ambient Sound Level (Leq) Day Time (06:00 to 22:00)	dB(A)	48.0
2	Ambient Sound Level (Leq) Night Time (22:00 to 06:00)	dB(A)	38.3

Remarks:

End of Report

Shency Joy
Dy. TM Chemical

Checked by:

Laiju P. N.
Laboratory Head
Authorized Signatory

Standard^{S} Environmental & Analytical Laboratories
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Web: www.sealabs.in, E-mail: seaalab@gmail.com

efox https://vahan.parivahan.gov.in/puc/views/pucCertificateNew.xhtml

Form 59

[See rules 115 (2)]

Pollution Under Control Certificate

Authorised By :
GOVERNMENT OF KERALA

Date	:	**31/08/2022**
Time	:	**12:10:08 PM**
Validity upto	:	**27/02/2023**

Certificate SL No.	:	KL04000050013669
Registration No.	:	KL64A0540
Date of Registration	:	15/Nov/2012
Month & Year of Manufacturing	:	July-2012
Valid Mobile Number	:	******3414
Emission Norms	:	BHARAT STAGE III
Fuel	:	DIESEL
Code	:	KL0400005
GSTIN	:	
Fees	:	Rs.150.00 (GST to be paid extra as applicable)
MIL observation	:	No

Vehicle Photo with Registration plate
60 mm x 30 mm

Sr. No.	Pollutant (as applicable)	Units (as applicable)	Emission limits	Measured Value (upto 2 decimal places)
1	2	3	4	5
Idling Emissions	Carbon Monoxide (CO)	percentage (%)		
	Hydrocarbon, (THC/HC)	ppm		
High idling emissions	CO	percentage (%)		
	RPM	RPM	2500 ± 200	
	Lambda	-	1 ± 0.03	
Smoke Density	Light absorption coefficient	1/metre	2.45	0.52

This PUC certificate is system generated through the national register of motor vehicles and does not require any signature

Note . 1. Vehicle owners to link their mobile numbers to registered vehicle by logging to https://vahan.parivahan.gov.in

Authorised Signature with stamp of PUC operator
60mm x 20 mm

31/5

Form 59

[See rules 115 (2)]

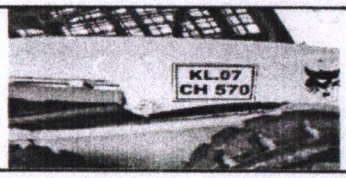
Pollution Under Control Certificate

Authorised By :
GOVERNMENT OF KERALA

Date	:	**18/07/2022**
Time	:	**14:33:39 PM**
Validity upto	:	**17/01/2023**

Certificate SL. No.	:	KL00500100007440
Registration No.	:	KL07CH0570
Date of Registration	:	25/Aug/2016
Month & Year of Manufacturing	:	-2015
Valid Mobile Number	:	******2685
Emission Norms	:	BHARAT STAGE III
Fuel	:	DIESEL
PUC Code	:	KL0050010
GSTIN	:	
Fees	:	Rs.110.00 (GST to be paid extra as applicable)
MIL observation	:	No

Vehicle Photo with Registration plate
60 mm x 30 mm



Sr. No.	Pollutant (as applicable)	Units (as applicable)	Emission limits	Measured Value (upto 2 decimal places)
1	2	3	4	5
Idling Emissions	Carbon Monoxide (CO)	percentage (%)		
	Hydrocarbon, (THC/HC)	ppm		
High idling emissions	CO	percentage (%)		
	RPM	RPM	2500 ± 200	
	Lambda	-	1 ± 0.03	
Smoke Density	Light absorption coefficient	1/metre	2.45	1.14

This PUC certificate is system generated through the national register of motor vehicles and does not require any signature.

Note : 1. Vehicle owners to link their mobile numbers to registered vehicle by logging to https://vahan.parivahan.gov.in

Authorised Signature with stamp of PUC operator
60mm x 20 mm

P.J. GEORGE & CO.
KOTTAYAM
Ph : 0481 - 2363089
EXHAUST EMISSION TESTING STATION

Form 59

[See rules 115 (2)]

Pollution Under Control Certificate

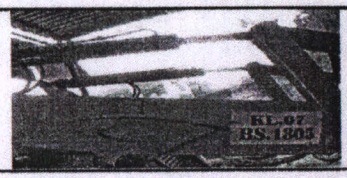
Authorised By :
GOVERNMENT OF KERALA

Date	:	**10/05/2022**
Time	:	**15:20:10 PM**
Validity upto	:	**09/11/2022**

KL07BS1305

Certificate SL. No.	:	KL00500100006569
Registration No.	:	KL07BS1305
Date of Registration	:	05/Sep/2011
Month & Year of Manufacturing	:	-2011
Valid Mobile Number	:	******2685
Emission Norms	:	BHARAT STAGE III
Fuel	:	DIESEL
PUC Code	:	KL0050010
GSTIN	:	
Fees	:	Rs.150.00(GST as applicable)
MIL observation	:	No

Vehicle Photo with Registration plate
60 mm x 30 mm



Sr. No.	Pollutant (as applicable)	Units (as applicable)	Emission limits	Measured Value (upto 2 decimal places)
1	2	3	4	5
Idling Emissions	Carbon Monoxide (CO)	percentage (%)		
	Hydrocarbon, (THC/HC)	ppm		
High idling emissions	CO	percentage (%)		
	RPM	RPM	2500 ± 200	
	Lambda	-	1 ± 0.03	
Smoke Density	Light absorption coefficient	1/metre	2.45	0.16

This PUC certificate is system generated through the national register of motor vehicles and does not require any signature.

Note : 1. Vehicle owners to link their mobile numbers to registered vehicle by logging to https://vahan.parivahan.gov.in

Authorised Signature with stamp of PUC operator
60mm x 20 mm

P. T. JOSEPH & CO.
KOTTAYAM
Ph : 0481 - 2363089
EXHAUST EMISSION TESTING STATION

BHARAT BENZ

Form 59

[See rules 115 (2)]

Pollution Under Control Certificate

Authorised By :
GOVERNMENT OF KERALA

Date	:	**10/05/2022**
Time	:	**14:51:15 PM**
Validity upto	:	**09/11/2022**

KL07CC3847

Certificate SL. No.	:	KL00500100006566
Registration No.	:	KL07CC3847
Date of Registration	:	20/Jan/2015
Month & Year of Manufacturing	:	August-2014
Valid Mobile Number	:	******2685
Emission Norms	:	BHARAT STAGE III
Fuel	:	DIESEL
PUC Code	:	KL0050010
GSTIN	:	
Fees	:	Rs.150.00(GST as applicable)
MIL observation	:	No

Vehicle Photo with Registration plate
60 mm x 30 mm

Sr. No.	Pollutant (as applicable)	Units (as applicable)	Emission limits	Measured Value (upto 2 decimal places)
1	2	3	4	5
Idling Emissions	Carbon Monoxide (CO)	percentage (%)		
	Hydrocarbon, (THC/HC)	ppm		
High idling emissions	CO	percentage (%)		
	RPM	RPM	2500 ± 200	
	Lambda	-	1 ± 0.03	
Smoke Density	Light absorption coefficient	1/metre	2.45	0.26

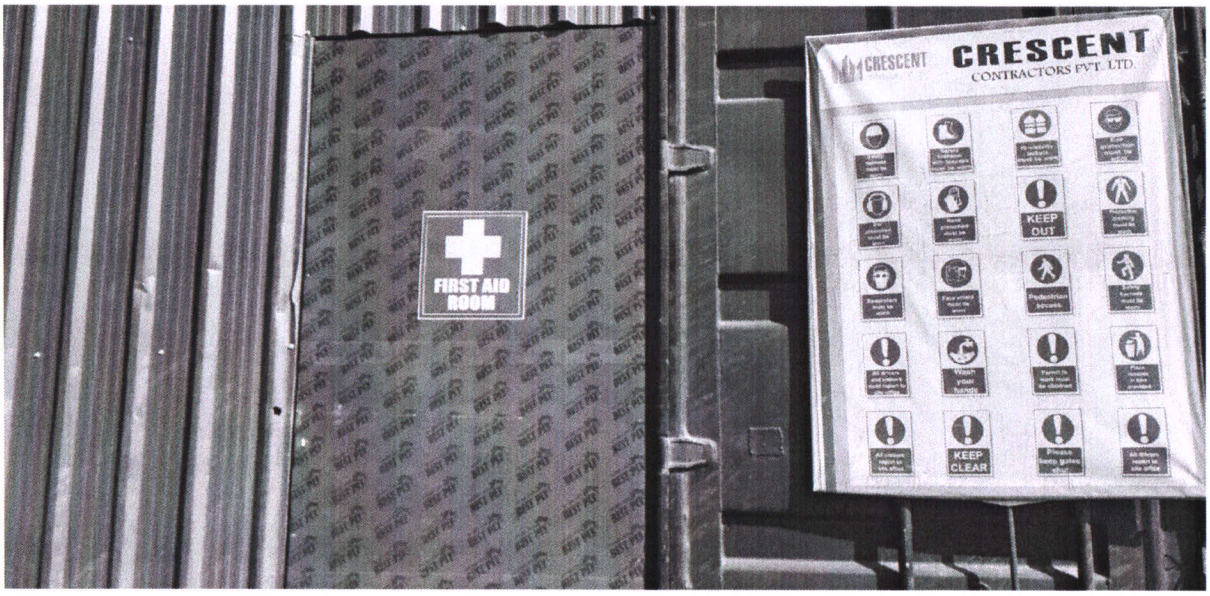
This PUC certificate is system generated through the national register of motor vehicles and does not require any signature.

Note : 1. Vehicle owners to link their mobile numbers to registered vehicle by logging to https://vahan.parivahan.gov.in

Authorised Signature with stamp of PUC operator
60mm x 20 mm

P.J. GEORGE & CO. KOTTAYAM Ph : 0481 - 2563099 EXHAUST EMISSION TESTING STATION

Vehicle PUC certificate



First aid room

Malls. Hypermarkets. Department stores. Supermarkets

Lulu Mall Kottayam
LULU INTERNATIONAL SHOPPING MALLS PVT.LTD
34, 1000, Old NH 47, Edapally Junction
Nethaji Nagar, Edapally
Kochi – 682 024
Phone No: 0484-2727776/94
Email: lulukochi@luluindia.com

Lulu Shopping Mall Kottayam – EC- EMC Meeting

Meeting No	:	2
Date & Time of Meeting	:	27-06-2022, 10.30 AM
Venue	:	Lulu RO Office, Kochi

Attendees:

Name	***Designation/ Organization***	***Title***	***Absentees***
Mr. Sadhik Kassim	Commercial Manager - Lulu Kochi	Chairman	
Mr. Babu Varghese	Project Director - Lulu Kochi	Member	
Mr. Paul KO	General Manager (MEP) - Lulu Kochi	Member	
Mr. Midhun Chullickal	Legal officer – Lulu Kochi	Member	
Mr. Beshy Kuriakose	Project Manager – Lulu Kottayam	Member Secretary	

Distribution: All attendees plus

Name	***Designation***	***Organization***
Mr. Nishad M A	Director and CEO	Lulu Kochi
Project office		Lulu Kottayam

Sl No	Subject/ Action/ Information	Action By	Date
	The Environmental Management Cell was formed as per clause 10.60 of the EC issued to the project. The committee must monitor the actions to be taken to mitigate environmental impacts and other requirements mentioned in EC, if any for this project. This meeting should happen every 6 months. The committee was formed with 1. Mr. Sadik Kasim, Commercial Manager as Chairman; 2. Mr. Babu Varghese, Project Director as Member; 3. Mr. Paul K Olekkengil, General Manager as Member, 4. Mr. Midhun Chullickal, Legal Officer as Member and 5. Mr. Beshy Kuriakose as Member Secretary.		
	The EC was awarded to the project on 22.12.2021 through the environmental clearance number EC21A038KL164412 by Ministry of Environment Forest and Climate change. The committee reviewed all conditions mentioned in the environmental clearance. The committee decided to attend all conditions mentioned in the EC, priority wise as well as project schedule wise. As per the condition mentioned clause 10.4, *"The project proponent shall subunit six monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest, and Climate Change at environment clearance portal"*. The committee reviewed and ensured the previous compliance report was submitted on 14.06.2022, The clearance portal. The next compliance report to be submitted in the month of October 2022, As per the condition mentioned in clause 1.05, in chapter 4, *"The project proponent shall obtain Consent to establish from pollution control board"*. The committee decided to apply and obtain "consent to establish" from Kerala PCB. As per the clause 11 of chapter 3A, *"The Project Proponent is under obligation to obtain approvals / clearances under any other Acts / Regulations or Statutes as applicable."* It is already applied for obtain building permit from Kottayam municipality as well as the NOC from Kerala fire and rescue department. The committee	Lulu Lulu	

	decided to follow-up the same for obtaining approvals. As per the clause 10 of chapter 3A, *"The Solar panel vendor M/S Uronic informed that the production of all solar panels has been completed."* The committee decided to stock the solar panels at own warehouse, till completion of the civil structure.		

Prepared by Lulu Mall Kottayam

NOTE: The preceding is intended to be an accurate recording of the discussions of the meeting. It is the responsibility of those who present to identify any errors or omissions. These corrections should be noted to the recorder within **two (2) days** of the issuance of these minutes. If no comments are provided in writing within this time frame, the minutes of meeting will be considered as accepted as recorded.