

# EMAAR

INDIA

Date: 15.05.2021

**Dr. Vimal Kumar Hatwal**  
**Joint Director**  
**Ministry of Environment, Forests & Climate Change**  
**Northern Regional Office**  
**Bays No. 24-25, Sector 31-A**  
**Dakshin Marg, Chandigarh-160030**

**Subject: Construction of Proposed Group Housing Project “Palm Hills” at Village – Shikhopur, Sector-77, Gurgaon, Haryana by M/s Emaar India Ltd. – Submission of Six-monthly Compliance Report – June 2021**

**Ref: Environmental Clearance F. No. 21-234/2017-IA-III dated 10.10.2017**

Dear Sir,

With reference to the above-mentioned subject, we are here by submitting soft copy of six-monthly Compliance Report for the Group Housing project ‘Palm Hills’ for **June 2021**.

**Thanks and Regards,**

**For M/S EMAAR INDIA LIMITED**



**(Authorized Signatory)**

**Encl:** As stated

- CC:**
1. State Environmental Impact Assessment Authority, Bay No. 55-58, Paryatan Bhawan, Sector-2, Panchkula, Haryana – 134 151.
  2. The Chairman, Haryana State Pollution Control Board, C-11, Sector-6, Panchkula, Haryana – 134 109.

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## SIX MONTHLY REPORT

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### Status of Environmental Clearance

**Project Name: Expansion of Group Housing Project at village Shikhopur, Sector 77, Gurgaon, Haryana.**

**Environmental Clearance F. No. 21-234/2017-IA-III dated 10.10.2017**

### **Part A: Specific Conditions**

#### **I. Construction Phase**

S. No.	Specific Condition	Status
1	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 byelaws.	Will be adhered. Consent to Establish has already been obtained for the project vide No.HSPCB/Consent/:329962318GUSOCT E5062632 date 17/02/2018 valid till 9.10.2024 has already been submitted.
2	Sewage shall be treated in the STP (SAFF Technology) with tertiary treatment i.e. Ultra Filtration. The treated effluent from STP shall be recycled/re-used for flushing, horticulture & DG cooling. Excess treated sewage will be discharged into municipal drain.	Is being adhered
3	The local bye-law provisions on rain water harvesting should be followed. If local byelaw provision is not available, adequate provision for storage and recharge should be followed as per the Ministry of Urban Development Model Building Byelaws, 2016. As proposed, 29 nos. of rain water harvesting pits shall be provided as per CGWB guidelines.	Will be adhered
4	Separate wet and dry bins must be provided in each unit and at the ground level for shall be provided as per CGWB guidelines facilitating segregation of waste. Solid waste shall be segregated into wet garbage and inert materials. Wet garbage shall be composted in Organic Waste Converter. As proposed, 300 m <sup>2</sup> space shall be provided for solid waste management within the premises which will include area for segregation, composting. The inert waste from group housing project will be sent to dumping site.	Will be adhered

5	The natural drains 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 system (SUDS) are allowed for maintaining the drainage pattern and to harvest rainwater. Building shall be designed to follow the natural topography as much as possible. Minimum cutting and filling should be done.	Will be adhered
6	Construction site shall be adequately barricaded before the construction begins. Dust, smoke and other air pollution prevention measures shall be provided for the building as well as at site. These measures shall include screens for the building under construction, continuous dust/wind breaking wall all around the site (at least 3-meter height). Plastic /tarpaulin sheet covers shall be provided for vehicles bringing sand, cement, murrum and other construction materials prone to causing dust pollution at the site as well as taking out debris from the site. Sand murrum, loose soil, cement, stored on the site shall be covered adequately to prevent dust pollution. Wet jet shall be provided for grinding and stone cutting. Unpaved surfaces and loose soil shall be adequately sprinkled with water to suppress dust.	Is being adhered. Ambient air quality and noise is enclosed as <b>Annexure 1 &amp; Annexure 2</b> respectively
7	All construction and demolition debris shall be stored at site (and not dumped on the road or open spaces outside) before they are properly disposed. All demolition and construction waste shall be managed as per the provision of the construction and demolition waste rules 2016. All workers working at the construction site and involved in loading, unloading, carriage of construction debris or working in any area with dust pollution shall be provided with dust mask.	Will be adhered
8	Provisions shall be made for the housing of construction labors with in the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical facilities creche etc. The housing may be in the form of temporary structure to be removed after the completion of the project.	Will be adhered. Drinking water quality is enclosed as <b>Annexure 3</b>
9	At least 20 % of the open spaces as required by the local building byelaws shall be provided. Use of grass pavers, paver blocks with at least 50 % opening, landscape etc. would be considered as pervious surface.	Will be adhered

10	Compliance with the energy conservation building code (ECBC) of Bureau of Energy Efficiency shall be ensured. Building in the sates which have notified their own ECBC shall comply with the State ECBC. Outdoor and common area lighting shall be LED. Concept of passive solar design that minimize energy consumption in buildings by using design elements such as building orientation, landscaping, efficient building envelop, 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 the ECBC specification.	Will be adhered
11	Use of water saving devices/fixtures (viz. low flow flushing system; use of low flow faucets tap aerators etc.) for water conservation shall be incorporated in the building plan.	Will be adhered
12	Installation of dual pipe plumbing for supplying fresh water for drinking, cooking and bathing etc. and for other supply of recycled water for flushing, landscape irrigation, car washing, thermal cooling, conditioning etc. shall be done.	Will be adhered
13	Separation of grey & black water should be done by use of dual plumbing line. In case of single stack system separate recirculation lines for flushing by giving dual plumbing system be done.	Will be adhered
14	Solar based electric power shall be provided to each unit at least two bulbs/light and one fan. As proposed, central lighting and street lighting shall also be based on solar power.	Will be adhered
15	A First Aid Room as proposed in project report will be provided both during construction and operation of the project.	Will be adhered
16	Topsoil should be stripped to a depth of 20 cm from the areas proposed for building, roads, paved areas, and external services. It should be stockpiled appropriately in designated areas and reapplied during plantation of the proposed vegetation on site.	Will be adhered
17	Disposal of muck during construction phase should not create any adverse effect on neighboring communities & be disposed-off taking necessary precautions for general safety & health aspects of people, only in approved sites with approval of competent authority.	Will be adhered
18	Diesel generator sets to be used during construction should be low Sulphur diesel type & should conform to Environment (Protection) Rules prescribed for air & noise emission standards.	Low Sulphur diesel is being used to run Diesel generator sets with proper acoustic enclosure type. Copy of report for DG stack emission and DG noise is attached as <b>Annexure 4 &amp; Annexure 5</b> , respectively.

19	Water demand during construction should be reduced by use of pre-mixed concrete, curing agents & other best practices referred.	Best practices are being adopted to reduce water demand.
20	As proposed no ground water shall be used during construction/operation phase of the project.	Will be adhered
21	Approval of the CGWA required before any dewatering for basements.	Will be adhered
22	The approval of competent authority shall be obtained for structural safety of the building due to earthquake, adequacy of fire fighting equipments etc. as per National Building Code including protection measures from lightening etc.	Provision for structure safety has taken care during the Building Plan approval from Department of Town and Country Planning. Approval for Firefighting scheme of the project obtained and submitted with previous compliance report.
23	Any hazardous waste generated during construction phase should be disposed off as per applicable rules & norms with necessary approval of State Pollution Control Board.	Waste oil from DG sets is the only hazardous waste generated at present & is being stored in earmarked area and will be sold to authorized recycler. Hence there is no contamination of water course and no leaching into groundwater. Soil analysis report is enclosed as <b>Annexure 6</b>
24	Vehicles hired for bringing construction materials 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.	
25	Ambient noise levels should conform to residential standards both during day & night as per Noise Pollution Rules 2000. Incremental pollution loads on ambient air and noise quality should be closely monitored during construction. Adequate measure should be made to reduce ambient air & noise level during construction, to conform to stipulated standards by CPCB/SPCB.	Ambient air and noise level monitoring is carried out regularly at project site. Latest copy of reports is attached as <b>Annexure 1</b> & <b>Annexure 2</b> , respectively. Measure like landscaping, water sprinkling, nose mask, PPE to labors & training, development of landscaped area is being adopted
26	Use of environmentally friendly materials in bricks, blocks and other construction material quantity. These includes Fly Ash bricks, hollow bricks, AACs, Fly Ash Lime Gypsum blocks, compressed earth blocks and other environment friendly materials. Fly ash should be used as building materials in the construction as per the provisions of fly ash Notification of September 1999 and amendments as on 27th August 2003 and 25th January 2016. Ready mixed concrete must be used in building construction.	

27	<p>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.</p> <ul style="list-style-type: none"> <li>• Hierarchy of roads with proper segregation of vehicular and pedestrian traffic.</li> <li>• Traffic calming measures.</li> <li>• Proper design of entry and exit points.</li> <li>• Parking norms as per local regulations.</li> </ul>	Will be adhered
28	<p>An assessment of the cumulative impact of all activities being carried out or proposed to be carried out by the project, shall be made for traffic densities and parking capabilities in a 05 kms radius from the site. A detailed traffic management and a traffic decongestion plan drawn up through an organization of repute and specializing in Transport Planning shall be implemented to the satisfaction of the State Urban Development and Transport Departments shall also include the consent of all the concerned implementing agencies.</p>	Will be adhered
29	<p>Project proponent should comply with conditions stipulated at Appendix-XIV of the amendment EIA notification vide S.O. 3999 (E) dated 09.12.2016.</p>	Will be adhered

## II. Operation Phase

S. No.	Specific Condition	Status
1	Fresh water requirement from HUDA Supply Water Supply shall not exceed 829 KLD.	Will be adhered
2	A minimum of 1 tree for every 80 sqm of land should be planted and maintained. The existing trees will be counted for this purpose. Preference should be given to planting native species. Where the trees need to be cut, compensatory plantation in the ratio of 1:3 (i.e., planting of 3 trees for every 1 tree that is cut) shall be done and maintained. As proposed 32770 sqm area shall be provided for green belt development	Will be adhered
3	The gaseous emission from DG set shall be dispersed through adequate stack height as per CPCB standards. Acoustic enclosures shall be provided to the DG set to mitigate the noise 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.	Will be adhered
4	For indoor air quality the ventilation previous as	

	per National Building Code of India.	
5	The quality of freshwater usage, water recycling and rain water 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 the six-monthly Reports.	Will be adhered
6	The installation of Sewerage 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. Periodical monitoring of water quality of treated sewerage shall be conducted. Necessary Measures should be made to mitigate the odor Problem from STP.	Will be adhered. CTO for the existing project has already been submitted. STP analysis report is enclosed as <b>Annexure 7</b>
7	No sewage or untreated effluent water would be discharged through storm water drains.	Will be adhered
8	Sludge from the onsite sewerage 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 System 2013.	Will be adhered
9	The provision of solid waste management rules 2016, E-waste Rules 2016, the construction and demolition Waste Management rules 2016 and plastic waste management rules 2016 should be followed.	Will be adhered
10	Solar, wind or other Renewal 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.	Will be adhered
11	Solar power shall be used for lighting in the apartment to reduce the power load on 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 bye-laws, whichever is higher. Residential building is also recommended to meet its hot water demand from solar water heaters, as far as possible.	Will be adhered
12	Energy conservation measures such as 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. Used CFLs, TFL and LED shall be properly collected and disposed off/sent for recycling as per the prevailing guidelines /rules of the regulatory authority to avoid mercury	Will be adhered

	contamination.	
13	An environmental management plan (EMP) shall be prepared and implemented to ensure compliance with the environmental conditions specified above. A dedicated Environment Monitoring Cell with defined functions and responsibility shall be put in place to implement the EMP. The environmental cell shall ensure that the environment infrastructure like Sewage Treatment Plant, Landscaping, Rainwater Harvesting, Energy efficiency and conservation, water efficiency and conservation, solid waste management, renewable energy etc. are kept operational and meet the required standards. The environmental cell shall also keep the record of environment monitoring and those related to the environment infrastructure	Will be adhered. Is an integral part of Environment Management Plan submitted with Environmental Impact Assessment Report.
14	The company shall draw up and implement a corporate social Responsibility plan as per the Company's Act of 2013	

## Part B: General Conditions

S.No.	General Condition	Status
i	A copy of the environmental clearance letter shall also be displayed on the website of the concerned State Pollution Control Board. The EC letter shall also be displayed at the Regional Office, District Industries centre and Collector's Office/ Tehsildar's office for 30 days.	Is being adhered
ii	The funds earmarked for environmental protection measures shall be kept in separate account and shall not be diverted for other purpose. Year-wise expenditure shall be reported to this Ministry and its concerned Regional Office.	Will be adhered
iii	Officials from the Regional Office of MoEF&CC, Chandigarh who would be monitoring the implementation of environmental safeguards should be given full cooperation, facilities, and documents/data by the project proponents during their inspection. A complete set of all the documents submitted to MoEF&CC shall be forwarded to the APCCF, Regional Office of MoEF&CC, Chandigarh.	Is being adhered
iv	In the case of any change(s) in the scope of the project, the project would require a fresh appraisal by this Ministry	Is being adhered
v	The Ministry reserves the right to add additional safeguard measures subsequently, if found necessary, and to act including revoking of the	Noted



S.No.	General Condition	Status
	environment clearance under the provisions of the Environmental (Protection) Act, 1986, to ensure effective implementation of the suggested safeguard measures in a time bound and satisfactory manner.	
vi	All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department, the Forest Conservation Act, 1980 and the Wildlife (Protection) Act, 1972 etc. shall be obtained, as applicable by project proponents from the respective competent authorities.	Is being adhered
vii	These stipulations would be enforced among others under the provisions of the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and the EIA Notification, 2006.	Is being adhered
viii	The project proponent shall advertise in at least two local Newspapers widely circulated in the region, one of which shall be in the vernacular language informing that the project has been accorded Environmental Clearance and copies of clearance letters are available with the State Pollution Control Board and may also be seen on the website of the Ministry of Environment, Forest, and Climate Change at <a href="http://www.envfor.nic.in">http://www.envfor.nic.in</a> . The advertisement shall be Proposal No. INHR/NCP/64704/2015 Page 7 of 8 made within Seven days from the date of receipt of the Clearance letter and a copy of the same shall be forwarded to the Regional Office of this Ministry at Chandigarh.	Is being adhered
ix	Any appeal against this clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010	Noted
x	A copy of the clearance letter shall be sent by the proponent to concern Panchayat, Zilla Parishad/Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of	Noted

S.No.	General Condition	Status
	the company by the proponent.	
xi	The proponent shall upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF&CC, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; SPM, RSPM, SO <sub>2</sub> , NO <sub>x</sub> (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.	Is being adhered
xii	The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of EC conditions and shall also be sent to the respective Regional Offices of MoEF&CC by email.	Is being adhered



# Vardan EnviroLab

Laboratory: Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051, Haryana  
ISO 9001 | ISO 14001 | ISO 45001

## Test Report

**Sample Number:** VEL/PHC/A/01 **Report No.:** VEL/A/2104/12/001  
**Name & Address of the Project:** M/s Palm Hills Condominium Association  
Estate Management Office, Sector - 77 **Format No.:** 7.8 F-01  
Gurugram, (Haryana). **Party Reference No.:** NIL  
**Reporting Date:** 15/04/2021  
**Period of Analysis:** 12/04/2021 to 15/04/2021  
**Receipt Date:** 12/04/2021

**Sample Description:** AMBIENT AIR QUALITY MONITORING

### General Information:-

**Sampling Location** : Club House  
**Sample collected by** : Vardan EnviroLab Representative  
**Sampling Equipment used** : RDS & FPS  
**Instrument Code** : VEL/RDS/FPS/01  
**Instrument Calibration Status** : Calibrated  
**Meteorological condition during monitoring** : Clear Sky  
**Date of Monitoring** : 10/04/2021 to 11/04/2021  
**Time of Monitoring** : 02:10 PM to 02:10 PM  
**Ambient Temperature (°C)** : Min. 20.0°C, Max. 33.0°C  
**Surrounding Activity** : Human & Vehicular Activities  
**Scope of Monitoring** : Regulatory Requirement  
**Sampling & Analysis Protocol** : IS : 5182 & CPCB Guidelines  
**Sampling Duration** : 24 Hours.  
**Parameter Required** : As per Work Order

S. No	Parameters	Test Method	Results	Units	Limit as per CPCB
1.	Particulate Matter (as PM – 10)	IS:5182 (P-23), Gravimetric Method, RA:2006	175.45	µg/m <sup>3</sup>	100
2.	Particulate Matter (as PM – 2.5)	SOP No. VEL/SOP/01, Section No. SP 63:2013	97.87	µg/m <sup>3</sup>	60
3.	Nitrogen Dioxide (as NO <sub>2</sub> )	IS: 5182 (P-6), Jacob & Hochheiser, RA:2006	28.25	µg/m <sup>3</sup>	80
4.	Sulphur Dioxide (as SO <sub>2</sub> )	IS: 5182 (P-2), Modified West and Gaeke, RA:2012	15.41	µg/m <sup>3</sup>	80
5.	Carbon Monoxide (as CO)	IS: 5182 (P-10), Gas Chromatography, RA:2003	0.82	mg/m <sup>3</sup>	4.0
6.	Lead (as Pb)	IS:5182 (P-22), Air Acetylene Method, RA:2009	*BDL(**DL0.05 µg/m <sup>3</sup> )	µg/m <sup>3</sup>	1.0

\*BDL- Below Detection Limit, \*\*DL- Detection Limit

KANCHAN SHARMA  
Analyst  
(Tested By)

Dr. Shiv Prakash  
Dy. (Checked By)



**Note:** Terms & conditions refer on backside of test report.

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Laboratory: Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051, Haryana  
ISO 9001 | ISO 14001 | ISO 45001

### Test Report

**Sample Number:** VEL/PHC/AN/01 **Report No.:** VEL/AN/2104/12/001  
**Name & Address of Party:** M/s Palm Hills Condominium Association  
Estate Management Office, Sector - 77  
Gurugram, (Haryana). **Format No.:** 7.8 F-01  
**Party Reference No.:** NIL  
**Reporting Date:** 15/04/2021  
**Period of Analysis:** 12/04/2021 to 15/04/2021  
**Receipt Date:** 12/04/2021

**Sample Description :** AMBIENT NOISE LEVEL MONITORING

#### General Information:-

**Sample collected by** : Vardan EnviroLab Representative  
**Sampling Location** : Near Main Gate  
**Instrument Used** : Sound Level Meter  
**Instrument Code** : VEL/SLM/01  
**Instrument Calibration Status** : Calibrated  
**Meteorological condition during monitoring** : Clear Sky  
**Date of Monitoring** : 10/04/2021 to 11/04/2021  
**Time of Monitoring** : 06:00 AM to 06:00 AM  
**Ambient Temperature (°C)** : Min. 20.0°C, Max. 33.0°C  
**Surrounding Activity** : Human & Vehicular Activities  
**Scope of Monitoring** : Regulatory Requirement  
**Control measure if Any** : No any  
**Sampling & Analysis Protocol** : CPCB Guidelines & IS-9989  
**Sampling Duration** : 24 Hours.  
**Parameter Required** : As per Work Order

S. No.	Parameters	Test Method	Test Result dB (A)		Unit
			Day Time (6:00 am to 10:00 pm)	Night Time (10:00 pm to 06:00 am)	
1.	$L_{max}$	IS -9989	62.7	53.4	dB(A)
2.	$L_{min}$	IS- 9989	46.1	37.8	dB(A)
3.	$L_{eq}$	IS -9989	50.4	41.8	dB(A)
4.	CPCB Limits in dB(*A) Leq (Residential Area)		55.0	45.0	dB(A)

Note: \*A "decibel" is a unit in which noise is measured.

**KANCHAN ARMA**  
Jr. Lab Analyst  
(Tested By)

**BIP JYOTI NAYAK**  
Manager  
(Checked By)



Note: Terms & conditions refer on backside of test report.

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# Vardan EnviroLab

Laboratory: Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051, Haryana  
ISO 9001|ISO 14001|ISO 45001

## Test Report

**Sample Number:** VEL/PHC/W/01 **Report No.:** VEL/W/2104/12/001  
**Name & Address of Project:** M/s Palm Hills Condominium Association Estate Management Office, Sector - 77 Gurugram, (Haryana). **Format No.:** 7.8 F-01  
**Sample Description:** Domestic Water Sample **Party Reference No.:** NIL  
**Sampling Location:** Pump Room **Reporting Date:** 17/04/2021  
**Sample Collected by:** Vardan EnviroLab Representative **Period of Analysis:** 12/04/2021 to 17/04/2021  
**Sampling & Analysis Protocol:** APHA & IS **Receipt Date:** 12/04/2021  
**Preservation:** Refrigerated **Sampling Date:** 10/04/2021  
**Type of Sampling:** Grab **Sampling Quantity:** 5.0 L+250ml.

S. No.	Parameter	Test-Method	Result	Unit	Requirement as per IS:10500 -2012#	
					Acceptable Limits	Permissible Limits
1.	pH (at 25 °C)	APHA ,4500-H <sup>+</sup> B Electrometric Method	7.53	--	6.5 to 8.5	No Relaxation
2.	Colour	APHA ,2120 B, Visual Comparison Method	*BDL (**DL 1.0 Hazen)	Hazen	5	15
3.	Turbidity	APHA, 2130 B, Nephelometric Method	*BDL (**DL 1.0 NTU)	NTU	1	5
4.	Odour	APHA, 2150 B , Threshold Test Method	Agreeable	--	Agreeable	Agreeable
5.	Taste	APHA , 2160 B, Threshold Test Method	Agreeable	--	Agreeable	Agreeable
6.	Total Hardness as CaCO <sub>3</sub>	APHA , 2340 C, EDTA Titrimetric Method	187.32	mg/l	200	600
7.	Calcium as Ca	APHA, 3500 Ca B, EDTA Titrimetric Method	56.14	mg/l	75	200
8.	Alkalinity as CaCO <sub>3</sub>	APHA , 2320 B, Titrimetric Method	179.36	mg/l	200	600
9.	Chloride as Cl	APHA. 4500-Cl <sup>-</sup> B, Argentometric Method	36.21	mg/l	250	1000
10.	Cyanide as CN	IS:3025 (P-27)	*BDL(**DL 0.02 mg/l)	mg/l	0.05	No Relaxation
11.	Magnesium as Mg	APHA , 3500 Mg B, Calculation Method	11.48	mg/l	30	100
12.	Total Dissolved Solids	APHA , 2540 C, Gravimetric Method	324.14	mg/l	500	2000
13.	Sulphate as SO <sub>4</sub>	APHA , 4500 E, Turbidimetric Method	23.14	mg/l	200	400
14.	Fluoride as F	APHA , 4500-F <sup>-</sup> D, SPADNS Method	0.42	mg/l	1.0	1.5
15.	Nitrate as NO <sub>3</sub>	IS 3025 (P-34) ,Chromotropic Method	3.24	mg/l	45	No Relaxation
16.	Iron as Fe	IS 3025 (Part-65)	0.21	mg/l	1.0	No relaxation
17.	Aluminum as Al	IS 3025 (Part-65)	*BDL(**DL 0.002 mg/l)	mg/l	0.03	0.2
18.	Boron	IS 3025 (Part-65)	*BDL(**DL 0.01 mg/l)	mg/l	0.5	2.4
19.	Total Chromium as Cr	IS 3025 (Part-65)	*BDL(**DL 0.002 mg/l)	mg/l	0.05	No Relaxation

K. Anshu  
(Tested By)  
Sr. Lab Analyst

Dr. Shiv Prakash  
(Checked By)

Dr. Shiv Prakash  
(Approved By)  
Sr. Analyst

Note: Terms & conditions refer on backside of test report.

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Ph: 0124-4343750/752/753, 9810355569, 9953147268 E-mail: lab@vardanenvirolab.com, bd@vardanenvirolab.com



# Vardan EnviroLab

Laboratory: Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051, Haryana  
ISO 9001|ISO 14001|ISO 45001

## Test Report


Sample No.: VEL/PHC/W/01

Report No: VEL/W/2104/12/001

S. No	Parameter	Test-Method	Result	Unit	Requirement as per IS:10500 -2012#	
					Acceptable Limits	Permissible Limits
20.	Phenolic Compounds	APHA, 5530 C Chloroform Extraction Method	*BDL(**DL 0.0004 mg/l)	mg/l	0.001	0.002
21.	Mineral Oil	Clause 6 of IS:3025(Part 39)	*BDL(**DL 0.05mg/l)	mg/l	0.5	No Relaxation
22.	Anionic Detergents as MBAS	Anex K, IS 13428/IS 3025 (P-68)	*BDL(**DL 0.05 mg/l)	mg/l	0.2	1.0
23.	Zinc as Zn	IS 3025 (Part-65)	*BDL(**DL 0.01 mg/l)	mg/l	5	15
24.	Copper as Cu	IS 3025 (Part-65)	*BDL(**DL 0.002 mg/l)	mg/l	0.05	1.5
25.	Manganese as Mn	IS 3025 (Part-65)	*BDL(**DL 0.01 mg/l)	mg/l	0.1	0.3
26.	Cadmium as Cd	IS 3025 (Part-65)	*BDL(**DL 0.002 mg/l)	mg/l	0.003	No Relaxation
27.	Lead as Pb	IS 3025 (Part-65)	*BDL(**DL 0.002 mg/l)	mg/l	0.01	No Relaxation
28.	Selenium as Se	IS 3025 (Part-65)	*BDL(**DL 0.001 mg/l)	mg/l	0.01	No Relaxation
29.	Arsenic as As	IS 3025 (Part-65)	*BDL(**DL 0.005 mg/l)	mg/l	0.01	No Relaxation
30.	Mercury as Hg	IS 3025 (Part-65)	*BDL (**DL 0.0005 mg/l)	mg/l	0.001	No Relaxation
31.	Total Coliform	IS 15185:2002(RA- 2016)	Absent	/100ml	Shall not be detectable in any 100 ml sample	
32.	E. Coli	IS 15185:2002 (RA- 2016)	Absent	/100ml	Shall not be detectable in any 100 ml sample	

Note: - This Report Complies as per IS 105000:2012 Amendment No.2 Sept 2018

\*BDL-Below Detection Limit, \*\*DL- Detection Limit

  
Anshu SHARMA  
(Tested By)  
Jr. Lab Analyst

  
(Checked By)



Note: Terms & conditions refer on backside of test report.

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# Vardan EnviroLab

ANNEXURE 4

Laboratory: Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051, Haryana  
ISO 9001|ISO 14001|ISO 45001

## Test Report

Sample Number: VEL/PHC/ST/01 Report No.: VEL/ST/2104/12/001  
Name & address of the Project: M/s Palm Hills Condominium Association Estate Management Office, Sector - 77 Gurugram, (Haryana). Format No.: 7.8 F-01  
Party Reference No.: NIL  
Reporting Date: 15/04/2021  
Period of Analysis: 12/04/2021 to 15/04/2021  
Receipt Date: 12/04/2021

Sample Description : Stack Emission Monitoring

### General Information

Sampling Location : MLCP  
Sample Collected by : Vardan EnviroLab Representative  
Date of Sampling : 10/04/2021  
Sampling Duration (Minutes) : 40.0  
Stack attached to : DG Set (2000 KVA)  
Make of stack : M S  
Diameter of stack (m) : 0.50 Mtr.  
Height of stack (m) : 45.0 Mtr.  
Instruments calibration status : Calibrated  
Meteorological Condition : Clear Sky  
Ambient Temperature – Ta (°C) : 32.0  
Temperature of stack Gases – Ts (°C) : 198.0  
Velocity of stack Gases (m/sec.) : 8.74  
Flow rate of PM (LPM) : 24.0  
Flow rate of Gas (LPM) : 2.0  
Sampling condition : Isokinetic  
Protocol used : IS :11255

### RESULTS

S. No.	Parameters	Test Method	Results	Units	Limits as per CPCB
1.	PM (at 15 % O <sub>2</sub> Correction)	IS: 11255 (P-1), Gravimetric Method, RA: 2003	62.33	mg/Nm <sup>3</sup>	75.00
2.	Sulphur Dioxide (as SO <sub>2</sub> )	IS: 11255 (P-2), Titrimetric Method, RA: 2003	24.54	mg/Nm <sup>3</sup>	Not Specified
3.	NOX (at 15 % O <sub>2</sub> Correction)	IS: 11255 (P-7), Colorimetric Method, RA: 2012	195.45	ppmv	710.0
4.	Carbon Monoxide (as CO) (at 15 % O <sub>2</sub> Correction)	SOP, SP-74, Issue No.01: 2018	60.14	mg/Nm <sup>3</sup>	150.0
5.	NMHC (at 15 % O <sub>2</sub> Correction)	SOP, SP-75, Issue No.01: 2018	21.44	mg/Nm <sup>3</sup>	100.0

*Kanchan*  
KANCHAN SHARMA  
Jr. Lab Analyst

*Biraj*  
BIRAJ NAYAK  
(Checked By) Manager



Note: Terms & conditions refer on backside of test report.

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# Vardan EnviroLab

Laboratory: Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051, Haryana  
ISO 9001|ISO 14001|ISO 45001

## Test Report

**Sample Number:** VEL/PHC/ST/02 **Report No.:** VEL/ST/2104/12/002  
**Name & address of the Project:** M/s Palm Hills Condominium Association Estate Management Office, Sector - 77 Gurugram, (Haryana). **Format No.:** 7.8 F-01  
**Party Reference No.:** NIL **Reporting Date:** 15/04/2021  
**Period of Analysis:** 12/04/2021 to 15/04/2021  
**Receipt Date:** 12/04/2021

**Sample Description :** Stack Emission Monitoring

### General Information

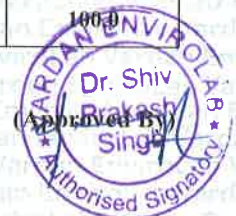
**Sampling Location :** MLCP  
**Sample Collected by :** Vardan EnviroLab Representative  
**Date of Sampling :** 10/04/2021  
**Sampling Duration (Minutes) :** 35.0  
**Stack attached to :** DG Set (1010 KVA)  
**Make of stack :** M S  
**Diameter of stack (m) :** 0.35 Mtr.  
**Height of stack (m) :** 45.0 Mtr.  
**Instruments calibration status :** Calibrated  
**Meteorological Condition :** Clear Sky  
**Ambient Temperature – Ta (°C) :** 33.0  
**Temperature of stack Gases – Ts (°C) :** 175.0  
**Velocity of stack Gases (m/sec.) :** 8.42  
**Flow rate of PM (LPM) :** 23.0  
**Flow rate of Gas (LPM) :** 2.0  
**Sampling condition :** Isokinetic  
**Protocol used :** IS :11255

### RESULTS

S. No.	Parameters	Test Method	Results	Units	Limits as per CPCB
1.	PM (at 15 % O <sub>2</sub> Correction)	IS: 11255 (P-1), Gravimetric Method, RA: 2003	49.25	mg/Nm <sup>3</sup>	75.00
2.	Sulphur Dioxide (as SO <sub>2</sub> )	IS: 11255 (P-2), Titrimetric Method, RA: 2003	19.23	mg/Nm <sup>3</sup>	Not Specified
3.	NOX (at 15 % O <sub>2</sub> Correction)	IS: 11255 (P-7), Colorimetric Method, RA: 2012	159.45	ppmv	710.0
4.	Carbon Monoxide (as O <sub>2</sub> ) (at 15 % O <sub>2</sub> Correction)	SOP, SP-74, Issue No.01: 2018	53.88	mg/Nm <sup>3</sup>	150.0
5.	NMHC (at 15 % O <sub>2</sub> Correction)	SOP, SP-75, Issue No.01: 2018	22.63	mg/Nm <sup>3</sup>	100.0

**KANCHAN SHARMA**  
(Tested By)  
Sr. Lab Analyst

**Dr. Shiv Prakash Singh**  
(Checked By)  
Dy. Technical Manager



Note: Terms & conditions refer on backside of test report.

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Laboratory: Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051, Haryana  
ISO 9001 | ISO 14001 | ISO 45001

### Test Report

**Sample Number:** VEL/PHC/PN/01 **Report No.:** VEL/PN/2104/12/001  
**Name & Address of Party:** M/s Palm Hills Condominium Association **Format No.:** 7.8 F-01  
 Estate Management Office, Sector - 77 **Party Reference No.:** NIL  
 Gurugram, (Haryana). **Reporting Date:** 15/04/2021  
**Period of Analysis:** 12/04/2021 to 15/04/2021  
**Receipt Date:** 12/04/2021

**Sample Description:** DG NOISE MONITORING

**General Information:-**

**Sample collected by** : Vardan EnviroLab Representative  
**Sampling Location** : DG Room (1 NOS. 1010 KVA & 1 NOS. 2000 KVA)  
**Instrument Used** : Sound Level Meter  
**Instrument Code** : VEL/SLM/02  
**Instrument Calibration Status** : Calibrated  
**Meteorological condition during monitoring** : Clear Sky  
**Date of Monitoring** : 10/04/2021  
**Scope of Monitoring** : Regulatory Requirement  
**Control measure if Any** : No any  
**Sampling & Analysis Protocol** : IS 9989  
**Sampling Duration** : 30 Minutes.  
**Parameter Required** : As per Work Order

S. No.	Parameters	Test Method	Result dB(A)		
			Inside D.G Room Result dB(A)	Outside of D.G Room (0.5 mtr Distance) Result dB(A)	Insertion Loss
1.	$L_{eq}$	CPCB Guideline & Indian Standard:9989	94.2	68.9	25.1
2.	CPCB Limits in dB ( $\hat{A}$ )	-	--	75.00	25.00

Note: - All DG Set are Installed in one Room.

KANCHAN SHARMA  
(Tested By)

BIJAY NAYAK  
Dy. Manager  
(Checked By)



Note: Terms & conditions refer on backside of test report.

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# Vardan EnviroLab

ANNEXURE 6


Laboratory: Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051, Haryana  
ISO 9001|ISO 14001|ISO 45001


## Test Report

**Sample Number:** VEL/PHC/S/01 **Report No.:** VEL/S/2104/12/001  
**Name & Address of Party:** M/s Palm Hills Condominium Association Estate Management Office, Sector - 77 Gurugram, (Haryana). **Format No.:** 7.8 F-01  
**Party Reference No.:** NIL  
**Reporting Date:** 17/04/2021  
**Period of Analysis:** 12/04/2021 to 17/04/2021  
**Sample Description:** Soil Sample **Receipt Date :** 12/04/2021  
**Sampling Location:** Near Club House **Sampling Date:** 10/04/2021  
**Packing Status:** Temp Sealed **Type of Sampling:** Composite  
**Sampling & Analysis Protocol:** IS 2720 & SOP **Sampling Quantity:** 2.0 Kg

S. No.	Parameter	Test-Method	Result	Unit
1.	pH (at 25 °C)	IS : 2720 (P-26) by pH Meter	8.21	--
2.	Conductivity	IS:14767 by Conductivity meter	0.340	mS/cm
3.	Color	*SOP , SP-78,Issue No.-01& Issue Date-14/02/2013	Brown	--
4.	Water holding capacity	*SOP , SP-81,Issue No.-01& Issue Date-14/02/2013	39.25	%
5.	Bulk density	*SOP , SP-80,Issue No.-01& Issue Date-14/02/2013	1.35	gm/cc
6.	Chloride as Cl	*SOP , SP-85,Issue No.-01& Issue Date-14/02/2013	39.52	mg/100g
7.	Calcium as Ca	*SOP , SP-82,Issue No.-01& Issue Date-14/02/2013	32.15	mg/100g
8.	Sodium as Na	*SOP , SP-84,Issue No.-01& Issue Date-14/02/2013	50.41	mg/kg
9.	Potassium as K	*SOP , SP-84,Issue No.-01& Issue Date-14/02/2013	122.54	kg/hect.
10.	Organic Matter	IS:2720 (P-22) Titrimetric Method	0.56	%
11.	Magnesium as Mg	*SOP , SP-83,Issue No.-01& Issue Date-14/02/2013	24.25	mg/100g
12.	Available Nitrogen as N	IS:14684 Distillation Method	210.55	kg./hect.
13.	Available Phosphorus	*SOP , SP-86,Issue No.-01& Issue Date-14/02/2013	24.15	kg./hect.
14.	Zinc (as Zn)	USEPA 3050B	16.41	mg/kg
15.	Manganese (as Mn )	USEPA 3050B	9.85	mg/kg
16.	Lead (as Pb)	USEPA 3050B	1.08	mg/kg
17.	Cadmium (as Cd )	USEPA 3050B	0.76	mg/kg
18.	Chromium (as Cr)	USEPA 3050B	0.65	mg/kg
19.	Copper (as Cu )	USEPA 3050B	4.96	mg/kg
20.	Soil Texture	*SOP , SP-87,Issue No.-01& Issue Date-14/02/2013	Silty Loam	--

\*SOP-Laboratory standard operating procedure.

  
KANCHAN SHARMA  
(Hosted By)  
Jr. Lab Analyst

  
UTTI NAYAK  
(Checked By)  
Technical Manager



Note: Terms & conditions refer on backside of test report.

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# Vardan EnviroLab

Laboratory: Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051, Haryana  
ISO 9001 | ISO 14001 | ISO 45001

## Test Report

**Sample Number:** VEL/PHC/WW/01  
**Name & Address of Party:** M/s Palm Hills Condominium Association  
Estate Management Office, Sector - 77  
Gurugram, (Haryana).  
**Report No.:** VEL/WW/2104/12/001  
**Format No.:** 7.8 F-01  
**Party Reference No.:** NIL  
**Reporting Date:** 17/04/2021  
**Period of Analysis:** 12/04/2021 to 17/04/2021  
**Receipt Date:** 12/04/2021  
**Sampling Date:** 10/04/2021  
**Preservation:** Refrigerated  
**Sampling Quantity:** 2.0 Ltr

**Sample Description:** Waste Water Sample  
**Sampling Location:** STP Plant (STP Inlet)  
**Sample Collected by:** Vardan EnviroLab Representative  
**Sampling & Analysis Protocol:** APHA & IS

S. No.	Parameter	Test-Method	Result	Unit
1.	pH (at 25 °C)	APHA 4500-H+ B Electrometric Method:2017	6.98	--
2.	Total Suspended Solid	APHA 2540 D Gravimetric Method	209.00	mg/l
3.	Oil & Grease	APHA 5520 B Partition Gravimetric Method:2017	10.60	mg/l
4.	BOD (3 Days at 27 °C)	APHA, 5210 C Ultimate BOD Test:2017	127.00	mg/l
5.	COD	APHA 5220 B Open Reflux Method:2017	478.12	mg/l
6.	Electrical Conductivity	APHA 2510 B Conductivity Meter Method:2017	785.00	µS/cm
7.	Total Coliform	IS 1622:1981- (RA 2009)	1400	MPN/100ml
8.	E-coli	IS 1622:1981- (RA 2009)	200	MPN/100ml

*K. Anchan*  
(Tested By)

ANSHU SHARMA  
Lab Analyst

*Dr. Shiv Singh*  
(Checked By) Manager





# Vardan EnviroLab

Laboratory: Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051, Haryana  
ISO 9001|ISO 14001|ISO 45001

## Test Report

<b>Sample Number:</b>	VEL/PHC/WW/02	<b>Report No.:</b>	VEL/WW/2104/12/002
<b>Name &amp; Address of Party:</b>	M/s Palm Hills Condominium Association Estate Management Office, Sector - 77 Gurugram, (Haryana).	<b>Format No.:</b>	7.8 F-01
<b>Sample Description:</b>	Waste Water Sample	<b>Party Reference No.:</b>	NIL
<b>Sampling Location:</b>	STP Plant (STP Outlet)	<b>Reporting Date:</b>	17/04/2021
<b>Sample Collected by:</b>	Vardan EnviroLab Representative	<b>Period of Analysis:</b>	12/04/2021 to 17/04/2021
<b>Parameter Required:</b>	As per Work Order	<b>Receipt Date</b>	12/04/2021
		<b>Sampling Date:</b>	10/04/2021
		<b>Preservation:</b>	Refrigerated
		<b>Sampling Quantity:</b>	2.0 Ltr

S. No.	Parameter	Test – Method	Result	Unit	Standards for Discharge as per CPCB		
					In-Land Surface Water	Public Sewers	Land for Irrigation
1.	pH (at 25 °C)	APHA 4500-H+ B Electrometric Method:2017	7.43	--	5.5-9.0	5.5-9.0	5.5-9.0
2.	Total Suspended Solid	APHA 2540 D Gravimetric Method	49.36	mg/l	100	600	200
3.	Oil & Grease	APHA 5520 B Partition Gravimetric Method:2017	1.68	mg/l	10.0	20.0	10.0
4.	BOD (3 Days at 27 °C)	APHA, 5210 C Ultimate BOD Test:2017	22.00	mg/l	30.0	350.0	100.0
5.	COD	APHA 5220 B Open Reflux Method:2017	79.30	mg/l	250.0	--	--
6.	Conductivity	APHA 2510 B Conductivity Meter Method:2017	735.0	µS/cm	--	--	--
7.	Total Coliform	IS 1622:1981- (RA 2009)	800	MPN/100ml	--	--	--
8.	E-coli	IS 1622:1981- (RA 2009)	20	MPN/100ml	--	--	--

**KANCHAN SHARMA**  
(Tested By) Lab Analyst

**Dr. T. JAYAK**  
(Checked By) Manager

**Dr. Sarb Prakash Singh**  
(Approved By) Manager

Note: Terms & conditions refer on backside of test report.

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