Reg.: Enviraj/CERT/2022/AMITY/02

Issue date:30/09/2022

Global Waste Cleaning Network

Member Ref: GWCN/M22.926

Certificate No: 22EEGQ75

CERTIFICATE

This is to certify that

M/s AMITY UNIVERSITY, MADHYA PRADESH
Gwalior, India 474005

has been assessed by us for institutional performance against its environmental policies and objectives to fulfil the requirement of

Environmental Audit

As per the findings detailed in the submitted report, it has been verified that the Institute's environmental protection measures meet the required standards and are deemed satisfactory.

The administration's commendable efforts to mitigate environmental pollution while ensuring compliance with all relevant environmental standards are highly appreciated.

enviraj
CONSULTING

ENVIRAJ CONSULTING PRIVATE LIMITED
enviraj CONSULTING
GWALIOR

Rajdeep Pandey
Director
QCI Certified EMS Auditor
(Certificate No: PRA/EMS/2225/001)

Enviraj Consulting Pvt. Ltd.
F-29 Bhagat Singh Nagar, Bhind Road Gwalior-474005 | P: 7987416317 | E: info@enviraj.com | W: www.enviraj.com

ENVIRONMENTAL AUDIT REPORT

AMITY UNIVERSITY
MADHYA PRADESH
Established vide Government of Madhya Pradesh Act No. 27 of 2010

Amity University
Madhya Pradesh, Gwalior

Submitted by:

enviraj
CONSULTING

Enviraj Consulting Private Limited
(An ISO 14001:2015 & 50001:2018 Certified Company)
F-29 Bhagat Singh Nagar,
Bhind Road, Gwalior
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2021-2022

Quality Information

Prepared by **Internal Members**

Rajdeep Pandey
Environmental Consultant (ECPL)
& QCI Certified EMS Auditor
(Certificate No: PRA/EMS/2225/001)

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Contents

Executive Summary

The purpose of this audit is to evaluate the environmental performance of the institute in accordance with relevant environmental laws and guidelines, as well as to assess the effectiveness of measures taken by the administration for continuous improvement. The findings of the audit can aid the institute in identifying areas for enhancing operational efficiency and establishing new environmental policy benchmarks.

During the audit, data from the past five years (2018-2022) was examined in three key areas: Air quality, water management, and solid waste management. This data was assessed for quality, usage, management, disposal, and discharge, and was compared against regulatory standards. It was determined that the institute is compliant with the relevant environmental guidelines.

In addition to compliance, the institute has implemented various initiatives to reduce pollution and enhance environmental performance on campus, such as sewage treatment and reuse, and rainwater harvesting. Recommendations specific to each area were provided to further improve the environmental performance of the institute.

1. Introduction

Environmental auditing is essentially an environmental management tool for measuring the effects of institutional activities on the environment (air, water, and land) against set standards or environmental laws, as well as investigating, understanding, and identifying gaps in existing institutional performance and assisting in its improvement through recommendations.

Therefore, to assess its environmental performance as well as to meet with NAAC Criteria 7; Institutional Values and Best Practices, the Institution has undergone the Environmental Audit. This audit evaluates an organization's environmental

performance including air, water and waste management, while also suggests the ways to improve it.

About Institute

Amity University Madhya Pradesh was established by Ritnand Balved Education Foundation (RBEF) vide Madhya Pradesh Government Legislature Act of 2010 with the view to promote professional, industry-oriented education in the state of Madhya Pradesh. Amity University Madhya Pradesh, Gwalior located on a sprawling campus of 102 acres of land opposite Gwalior Airport, imparts modern, practical, and research-oriented courses which will lead to the development of professionals who are employable and industry ready. This in turn will drive the socio-economic upliftment of the region.

Amity University Madhya Pradesh provides future-focused and market-oriented programmes in Management, Engineering, Biotechnology, Law, Communication, Nanotechnology, Behavioural Science, Pharmacy, Fashion Design, Architecture and Liberal Arts among others.

Amity University Madhya Pradesh was adjudged the "Best Private University of Madhya Pradesh" by CMAI Association of India and has been accredited as "Premier University" by Accreditation Service for International Colleges (ASIC) UK. Amity University Madhya Pradesh is No. 1 Best Private University in Madhya Pradesh and Ranked No. between 151 – 200 in the University category by National Institutional Ranking Framework (NIRF) India Ranking 2020 and Amity Institute of Engineering & Technology was All India Ranked 162nd in the Engineering Category for the year 2020. Amity University Madhya Pradesh is ranked 24th among the best 62 private universities in India with the overall score of 1157.0 by India's Best Universities Ranking Survey 2021 conducted by India Today.

2. Objectives of the Audit

The objectives of environmental audit are:

- To determine the environmental performance status of an institute
- To monitor ambient environmental condition of the air and noise in the campus
- To assess water usage and solid waste management system
- To ensure compliance with relevant environmental laws and regulations

3. Methodology

The methodology adopted for this audit was a three-step process comprising of:

1. **Data collection:** In this phase, exhaustive data collection was performed using different tools such as observation, survey communicating with responsible persons and measurements. Following steps were taken for data collection:

- Site Visit
- Data about the air & noise, water, solid waste was collected by observation and interview.

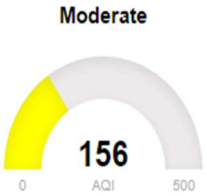
2. **Data Analysis** - The collected data analysed and compared with the relevant standards.
3. **Findings & Recommendations** – On the basis data analysis results and site observations, recommended were made for further improving environmental performance of the institute.

4. Findings and Recommendations

4.1 Air and Noise

4.1.1 Ambient Air Quality

The closest air quality monitoring station to the institute is located at City Center, Gwalior. The monitoring data on 3rd March 2022 at 12:00 via Deen Dayal Nagar, Gwalior – MPPCB monitoring station is presented below.



4.1.1 DG Stack Air Quality

The last stack monitoring of DG sets was conducted on 28/01/2019. All the monitoring parameters are found within the limits as specified the central pollution control board.

Parameters	Spec. As per CPCB	DG Stack 1 250KVA (S1D1)	DG Stack 2 750KVA (S1D2)	DG Stack 3 750KVA (S1D3)	DG Stack 4 750KVA (S1D4)	DG Stack 5 750KVA (S1D5)
Particulate Matter	0.3 g/kw-hr	0.23	0.18	0.14	0.16	0.20
NOx	9.2 g/kw-hr	1.66	3.04	2.19	3.31	2.66
CO	3.5 g/kw-hr	2.18	1.16	1.04	1.12	1.18
SO2	-	6.81	4.99	5.13	4.09	3.99
Hydrocarbon	1.3 g/kw-hr	0.11	0.16	0.17	0.29	0.106

4.1.2 Noise level

The noise level measurements were carried out using noise meter at three locations. The noise level measured in the campus are found within the permissible limit

Sr. No	Location		
1	Admin Building	55.3	59.1
2	Canteen Area	60.9	69.4
3	Main Gate	58.2	67.4

Recommendations

- ✓ The ambient air quality on the specified date was found moderate. On the close monitoring of historical data, it is found that air quality deteriorates in the region during the winter season. Also, monitoring station is 2.5 km far from the institute. Therefore, real-time monitoring of air quality within the campus is recommended.

- ✓ Noise levels in the monitoring areas was found under limit. Flyers and posters with the phrase "Keep Silence" can be displayed in the college canteen and main building corridors.
- ✓ Yearly air and noise monitoring of DG sets is recommended.

4.2 Water Management

Groundwater is the primary water supply source in the institute. There are ten borewells fulfilling the water requirements of the institute.

Details of Borewell	Yield/Discharge
Bore No-1 Discharge 4360 LPH (Behind BK-A) commissioned in 2010	69,760
Bore No-2 Discharge 3130 LPH (In front of Wksp) commissioned in 2011	1,565
Bore No-3 Discharge 3100 LPH (Rear of Wksp) commissioned in 2013	49,600
Bore No-4 Discharge 4500 LPH (Near STP-1) commissioned in May 2014	72,000
Bore No-5 Discharge 0 LPH (Near Hostel gate) Commissioned in May 14	0
Bore No-6 Discharge (AV)-600 LPH (Rear BK-C) commissioned in Nov 14	300
Bore No-7 Discharge (Av)- 3000 LPH (near STP-2) commissioned in Jul 15	3,000
Bore No-8 Discharge- 3000 LPH (front of BK-A) commissioned in Jul 15	1,500
Bore No-9 Discharge 2180 LPH (Back of H-1 Hostel) commissioned in Apr 2016	34,880
Bore No-10 Discharge 8000 LPH (Near Herbal Garden) commissioned in Feb 2019	48,000
Availability (Approx)	**2,80,605**

4.2.1 Groundwater Quality

The prevailing groundwater hardness in the campus is high, with an average TDS (total dissolved solids) level of 1800 PPM. To address this issue, a 30 KL (kiloliter) ION-EXCHANGE plant has been installed to improve the water quality.

4.2.2 Water Usage

The water on campus is used for drinking, toilet usage, and gardening purposes. Upon surveying the campus, no water loss due to leakages or overflow from overhead tanks was observed. The water usage breakup in different buildings/areas is given below:

Building	Daily Water Consumption (Liters/day)
Academic Block-A	20,000
Academic Block-B	30,000
Academic Block-C	30,000
Hostel H1	40,000
Hostel H2	30,000
Hostel H3	30,000
Horticulture	1,00,000

4.2.3 Drinking Water

To ensure the availability of safe drinking water that is free from impurities, the institute has installed 23 water purification systems, each with a capacity of 50 liters, to provide potable water. The TDS of Water from RO is found to be below 100 mg/L.

4.2.3 Wastewater Treatment

Two sewage treatment plants with a capacity of 210 KLD and 160 KLD are installed on the campus for the treatment of sewage water. The treated water is used for gardening and irrigation purposes.

Below are the STP effluent water quality tested on 4th June 2019 and compared with the MPPCB effluent discharge standards:

Sr. No	Parameters	STP-1 210KLD	STP-2 160KLD	MPPCB Standards
1	pH	6.95	7.97	5.5- 9.5
2	COD	62 mg/l	20	<50 mg/l
3	BOD	20 mg/l	7.50	<30 mg/l
4	TSS	26 mg/l	6.0	<30 mg/l
5	O&G	0.60 mg/l	0.20	<10 mg/l

There are no exceedances were observed in treated water when compared to the MPPCB standards.

4.2.4 Rainwater harvesting

The institute has undertaken the construction of 10 water harvesting pits with a capacity of 30,000 litres each, at various locations within the water catchment area. These pits have been equipped with ample filter media to prevent the accumulation of mud and silt during the rainy season. The implementation of rainwater harvesting in the campus has resulted in a significant improvement in the groundwater level, thereby enabling the institute to meet its water requirements during peak summer months.

Recommendations

- ✓ To improve water management, it is necessary to install water meters at every inlet and outlet water source.
- ✓ Annual water audits are recommended to understand the water consumption patterns in various departments and identify losses and improve water use efficiency on campus.
- ✓ Periodic monitoring of groundwater level and quality is suggested to understand the effects groundwater recharge on water quality and efficiency of the RWH recharge structure.
- ✓ Since rainwater harvesting has been implemented on campus, it is important to ensure that all cleaning products used by university staff are eco-friendly and non-toxic. This will prevent contamination of the groundwater during the recharge.
- ✓ Yearly performance evaluation of STPs is recommended for its optimal functioning and maintenance.
- ✓ Adopting micro irrigation system shall further improve water use efficiency of the campus.
- ✓ It is recommended to periodically monitor the quality of drinking water produced by each RO plant in accordance with IS 10500 standards

4.3 Solid Waste Management

- The institute generates various kind of waste that includes paper cups, metal, plastics etc.
- Waste generated from tree droppings and lawn management is a major solid waste generated in the campus.

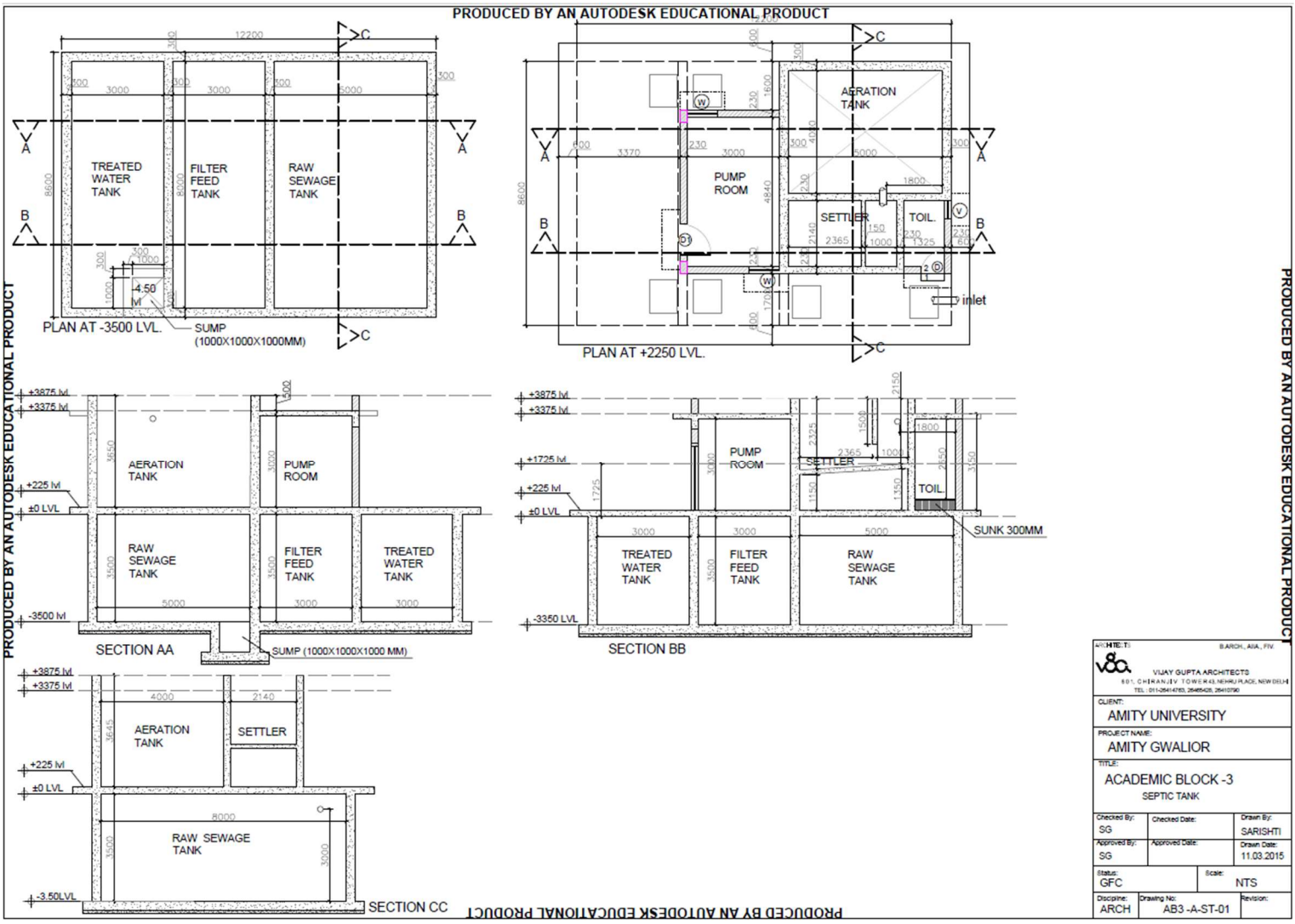
- Two bin waste collection system is adopted in the campus; hence segregation of waste is done in the form of dry (non-biodegradable) and wet (biodegradable) waste.
- The municipal corporation collects the solid waste and manages its disposal through their own methods.
- E-waste is supplied to certified E-waste recycler.
- Single sided used papers are recommended for use for writing and printing in all departments.
- For the safe disposal of hazardous waste, such as fuel oil, it is provided to a vendor registered with the MPPCB.

Recommendations

- ✓ The segregation of waste is well practiced by the institute but the scope for quantification of different types of waste generated is recommended. Systemic waste generation report shall be prepared be group of students for various types of waste. This will be useful for setting baseline, taking new initiative for waste minimization, handling, treatment and disposal in the efficient manner.
- ✓ The compostable waste and food waste from mess and hostel kitchen can be used for composting. A compact food waste composting plant is recommended.
- ✓ Provisions for proper disposal of biomedical waste from the dispensary should be adopted.
- ✓ Use of banner near the two-bin system indicating proper use of bin for different kind of waste is recommended for the better segregation.
- ✓ Paper use shall be further minimised by adopting a paperless office culture.

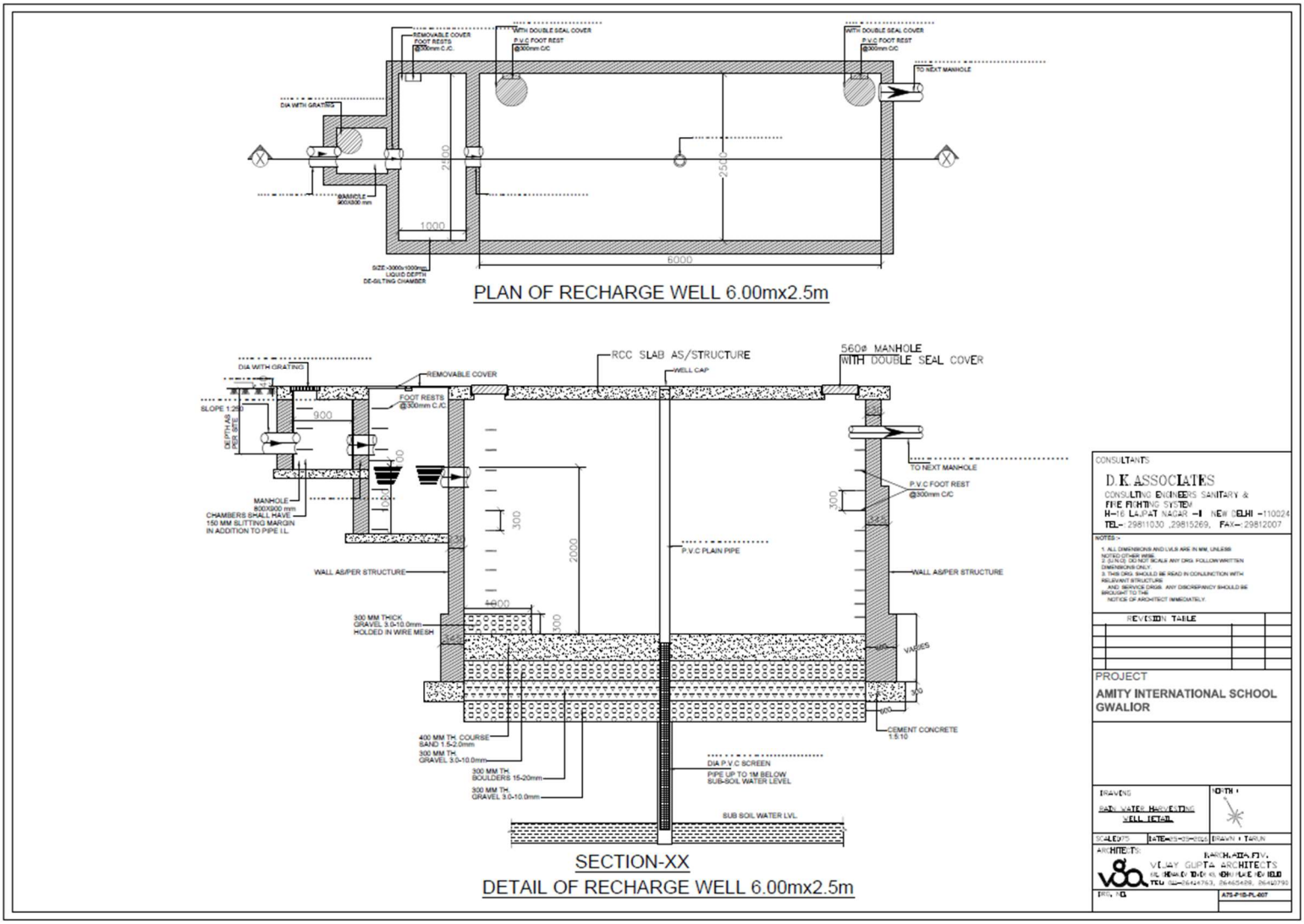
Annexure I

STP-2 Process flow Chart



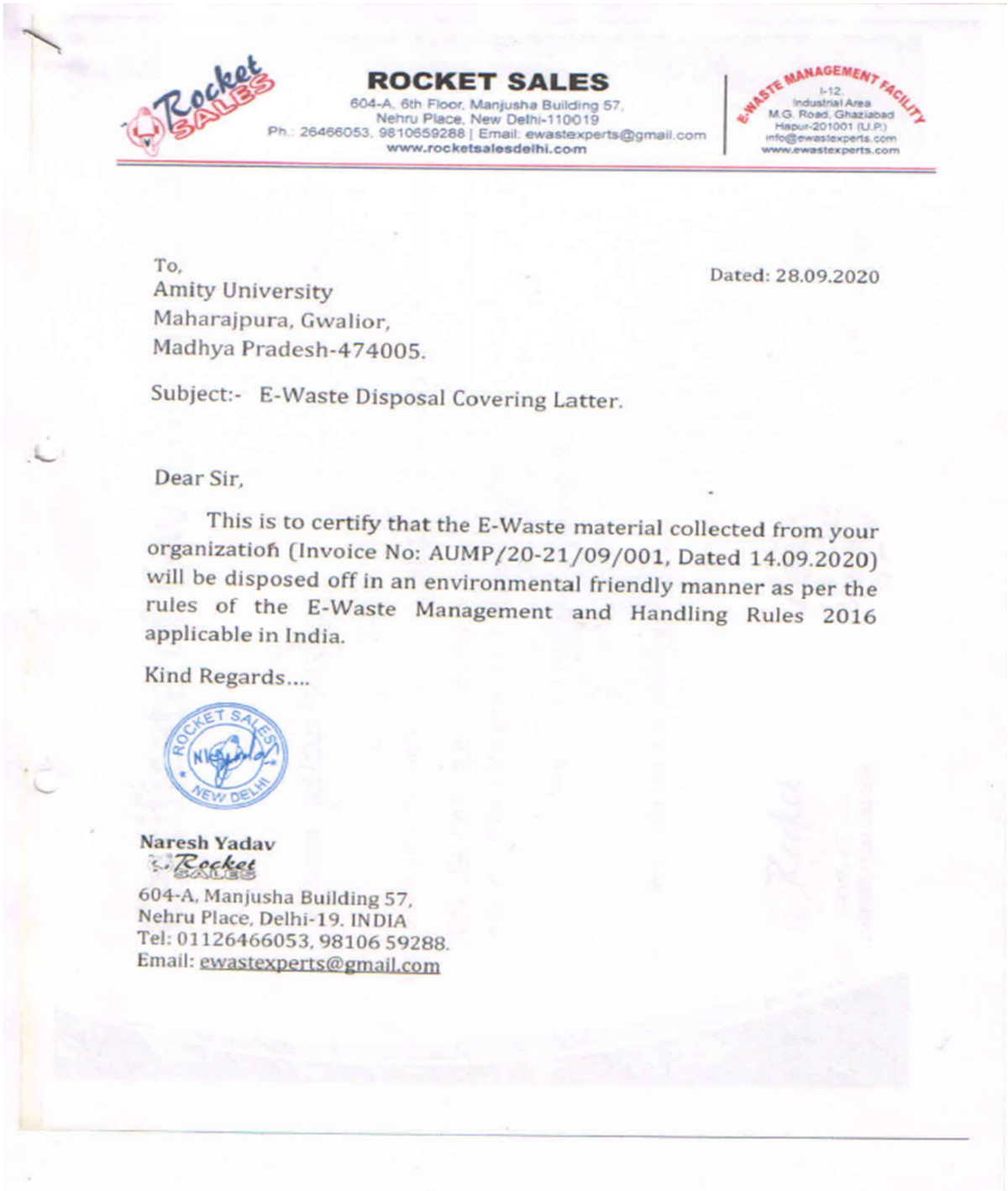
Annexure II

Rainwater Harvesting Recharge Well



Annexure III

E-waste disposal Certificate



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Nehru Place, New Delhi-110019
Ph.: 26466053, 9810659288 | Email: ewastexperts@gmail.com
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E-WASTE MANAGEMENT FACILITY
I-12,
Industrial Area
M.G. Road, Ghaziabad
Hapur-201001 (U.P.)
info@ewastexperts.com
www.ewastexperts.com

To,
Amity University
Maharajpura, Gwalior,
Madhya Pradesh-474005.

Dated: 28.09.2020

Subject:- E-Waste Disposal Covering Latter.

Dear Sir,

This is to certify that the E-Waste material collected from your organization (Invoice No: AUMP/20-21/09/001, Dated 14.09.2020) will be disposed off in an environmental friendly manner as per the rules of the E-Waste Management and Handling Rules 2016 applicable in India.

Kind Regards....

ROCKET SALES NEW DELHI

Naresh Yadav
Rocket SALES
604-A, Manjusha Building 57,
Nehru Place, Delhi-19. INDIA
Tel: 01126466053, 98106 59288.
Email: ewastexperts@gmail.com

greenscape

D.C.NO:2113 /20-21

CERTIFICATE OF REFURBISHMENT

This Certificate is hereby issued to: **M/s. Amity University, Maharajpura, Gwalior, Madhya Pradesh, India.** The material received was repaired & processed according to all applicable Local, State and Pollution Control guidelines and in an environmentally controlled way, eliminating waste to landfill. This also conforms to the guidelines of the Used Electronic Waste, as prescribed under the Basel Convention (1994).

Materials were repaired, recovered and converted to raw materials/ useful form in our operation facility.

Date of Pickup: 06/10/2020
Invoice No. : DN/AU GWALIOR/61/20-21

Issue date: 19/12/2020

Total Quantity of Material: 65 Nos.

S.No.	Title	Quantity
1	Lenovo Laptop	65 Nos.

M/S GREENSCAPE ECO MANAGEMENT PVT. LTD

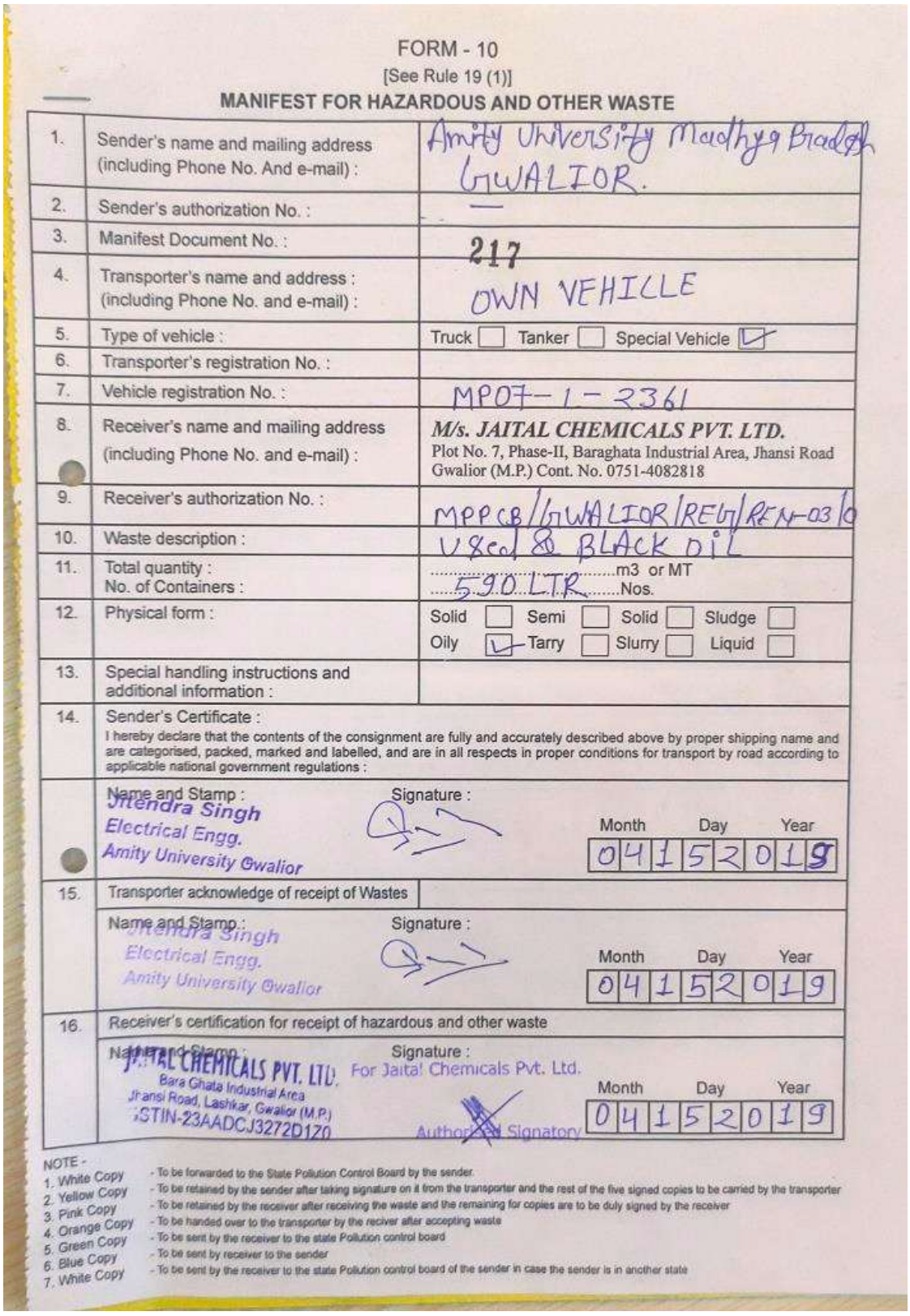
Authorized Signatory,

(Shubhra Kumar)
Country Head–Customer Relations

Greenscape Eco Management Pvt. Ltd
Regd. Off: 512, Elegance Tower, Jasola, New Delhi-110025. | Tel: 011-40515662 | Fax: 011 40515661
Website: www.greenscape-eco.com | Email: info@greenscape-eco.com
CIN U93000DL2007PTC170264

Annexure IV

FORM 10: MANIFEST FOR HAZARDOUS AND OTHER WASTE



FORM - 10

[See Rule 19 (1)]

MANIFEST FOR HAZARDOUS AND OTHER WASTE

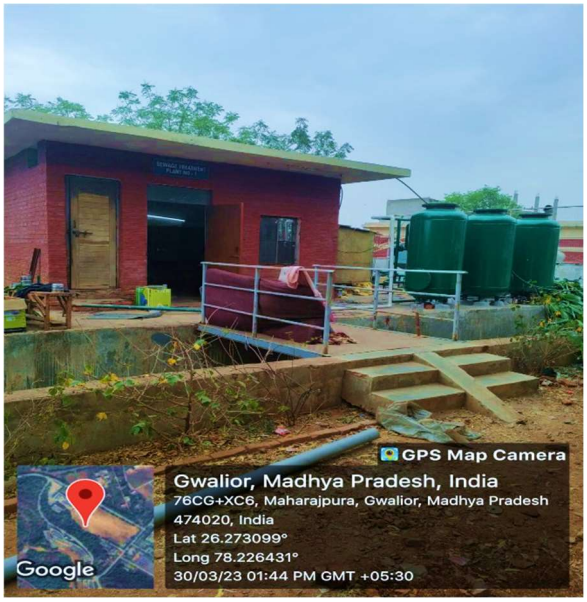
1.	Sender's name and mailing address (including Phone No. And e-mail) :	Amity University Madhya Pradesh GWALIOR.
2.	Sender's authorization No. :	—
3.	Manifest Document No. :	217
4.	Transporter's name and address : (including Phone No. and e-mail) :	OWN VEHICLE
5.	Type of vehicle :	Truck ☐ Tanker ☐ Special Vehicle ☑
6.	Transporter's registration No. :	
7.	Vehicle registration No. :	MP07-L-2361
8.	Receiver's name and mailing address (including Phone No. and e-mail) :	M/s. JAITAL CHEMICALS PVT. LTD. Plot No. 7, Phase-II, Baraghata Industrial Area, Jhansi Road Gwalior (M.P.) Cont. No. 0751-4082818
9.	Receiver's authorization No. :	MPPCB/GWALIOR/REG/REN-03/0
10.	Waste description :	Used BLACK OIL
11.	Total quantity : No. of Containers :	.....m3 or MT 590 LTR .....Nos.
12.	Physical form :	Solid ☐ Semi ☐ Solid ☐ Sludge ☐ Oily ☑ Tarry ☐ Slurry ☐ Liquid ☐
13.	Special handling instructions and additional information :	
14.	Sender's Certificate : I hereby declare that the contents of the consignment are fully and accurately described above by proper shipping name and are categorised, packed, marked and labelled, and are in all respects in proper conditions for transport by road according to applicable national government regulations :	
	Name and Stamp : Jitendra Singh Electrical Engg. Amity University Gwalior	Signature : Month 04 Day 15 Year 2019
15.	Transporter acknowledge of receipt of Wastes	
	Name and Stamp : Jitendra Singh Electrical Engg. Amity University Gwalior	Signature : Month 04 Day 15 Year 2019
16.	Receiver's certification for receipt of hazardous and other waste	
	Name and Stamp : JAITAL CHEMICALS PVT. LTD. Bara Ghata Industrial Area Jhansi Road, Lashkar, Gwalior (M.P.) GSTIN-23AADCJ3272D1ZO	Signature : For Jaital Chemicals Pvt. Ltd. Authorised Signatory Month 04 Day 15 Year 2019

NOTE -

1. White Copy - To be forwarded to the State Pollution Control Board by the sender.
2. Yellow Copy - To be retained by the sender after taking signature on it from the transporter and the rest of the five signed copies to be carried by the transporter
3. Pink Copy - To be retained by the receiver after receiving the waste and the remaining four copies are to be duly signed by the receiver
4. Orange Copy - To be handed over to the transporter by the reciver after accepting waste
5. Green Copy - To be sent by the receiver to the state Pollution control board
6. Blue Copy - To be sent by receiver to the sender
7. White Copy - To be sent by the receiver to the state Pollution control board of the sender in case the sender is in another state

Annexure V

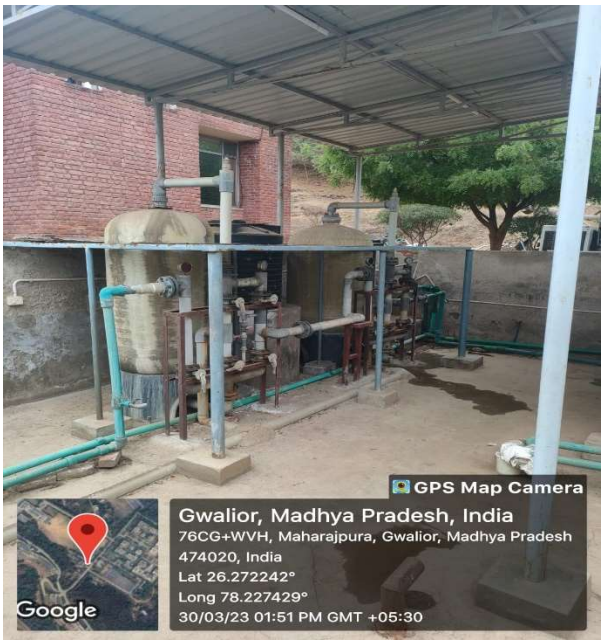
Photographs



Sewage Treatment Plant

Two bin system

50 LPH RO System



Softening Plant

Pumping Well

RWH Recharge Well