NEW HORIZON
COLLEGE OF ENGINEERING

ENVIRONMENTAL IMPACT

Recycling of Waste – Liquid Waste

Link - Refer P.No: 69, 72-76 & 80-81
https://newhorizoncollegeofengineering.in/wp-content/uploads/2025/03/NHCE_Sustainability-report.pdf

GREEN AUDIT AND QUALITY AUDIT REPORT

ON

WATER AUDIT, ENERGY AUDIT,

WASTE MANAGEMENT AUDIT,

GREEN CAMPUS MANAGEMENT AUDIT

AND ENVIRONMENT AUDIT

OF

NEW HORIZON COLLEGE OF ENGINEERING

BELLANDUR MAIN ROAD, NEAR MARATHAHALLI,

BENGALURU – 560 103

2023-24

NEW HORIZON
COLLEGE OF ENGINEERING
New Horizon Knowledge Park, Ring Road, Marathalli
Autonomous College Permanently Affiliated to VTU, Approved by AICTE & UGC
Accredited by NAAC with 'A' Grade. Accredited by NBA

ECO ENERGIME ENGINEERS LLP

ENHANCING RESOURCE EFFICIENCY

GREEN AUDIT AND QUALITY AUDIT REPORT

OF

NEW HORIZON COLLEGE OF ENGINEERING

BELLANDUR MAIN ROAD, NEAR MARATHAHALLI,

BENGALURU – 560 103

2023-24

FOR MORE INFORMATION

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ACKNOWLEDGEMENTS

We are thankful to the management of **New Horizon College of Engineering, Bengaluru,** for the support, guidance and, giving us the opportunity to be involved in this very interesting and challenging assignment.

We would be happy to provide any further clarifications, if required, to facilitate the implementation of the recommendations.

We received full co-operation and support from the concerned personnel/ staff members of the college. They took key interest and gave valuable inputs during the course of study. We would like to thank:

Chairman – New Horizon Educational Institutions, Bangalore

And other Staff in personnel who have given full co-operation and support. They took a keen interest and gave valuable inputs during the course of study.

Certificate

This is to certify that M/s. Eco Energime Engineers LLP, Bengaluru has conducted **Green Audit** and **Quality Audit** that comprises of **Water Audit, Energy Audit, Waste Management Audit, Green Campus Management Audit, and Environment Audit** of **"New Horizon College of Engineering, Bengaluru"** during the **November 2023 to October 2024**.

The audit involves field visit, measurements and observations, verification of bills, log books, data base, maintenance registers and interview with staffs, and this gives an overview of the existing system. In an opinion and to the best of our information and according to the information given to us, said Quality Audit gives a true and fair view in conformity with auditing principles.

For Eco Energime Engineers LLP

Authorized Signatory

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Smart Solutions for
Sustainable Tomorrow **Eco Energime Engineers LLP**

EEELLP ACKNOWLEDGEMENT

EEELLP Team thanks the Management of **New Horizon College of Engineering, Bengaluru** for assigning this interesting work to us. We appreciate the cooperation extended to our team during the entire process.

Our special thanks to **The Registrar – Mr H N Suryaprakash & Team of colleagues** for giving us necessary support and inputs to carry out this very vital exercise.

We would like to thank Principal, the Head of Departments and staff members who were actively involved while collecting the data and conducting field measurements.

For Eco Energime Engineers LLP

Authorized Signatory

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DISCLAIMER

The audit team has prepared this report for **New Horizon College of Engineering, Bengaluru** based on input data submitted by the representatives of College complemented with the best judgment capacity of the expert team.

While all reasonable care has been taken in its preparation, details contained in this report have been compiled in good faith based on information gathered.

It is further informed that the recommendations are arrived following best judgments and no representation, warranty or undertaking, express or implied is made and no responsibility is accepted by Audit Team in this report or for any direct or consequential loss arising from any use of the information, statements or forecasts in the report.

For Eco Energime Engineers LLP

Authorized Signatory

2. WASTE MANAGEMENT AUDIT

2.1. Facility Description

The study involved carrying out various analyses to realistically assess waste generation.

There are different types of waste generated in the college and is tabulated in table 6-1.

S. No.	Description	Yes / No	Details
1	E-Waste	Yes	External Agency
2	Hazardous / Chemical Waste	No	NA
3	Solid Waste	Yes	External Agency
4	Dry Leaves	Yes	Compost Unit
5	Food Waste	Yes	Compost Unit
6	Waste Water	Yes	STP
7	Glass Waste	No	NA
8	Unused Materials	No	External Agency
10	Plastic Waste	Yes	External Agency

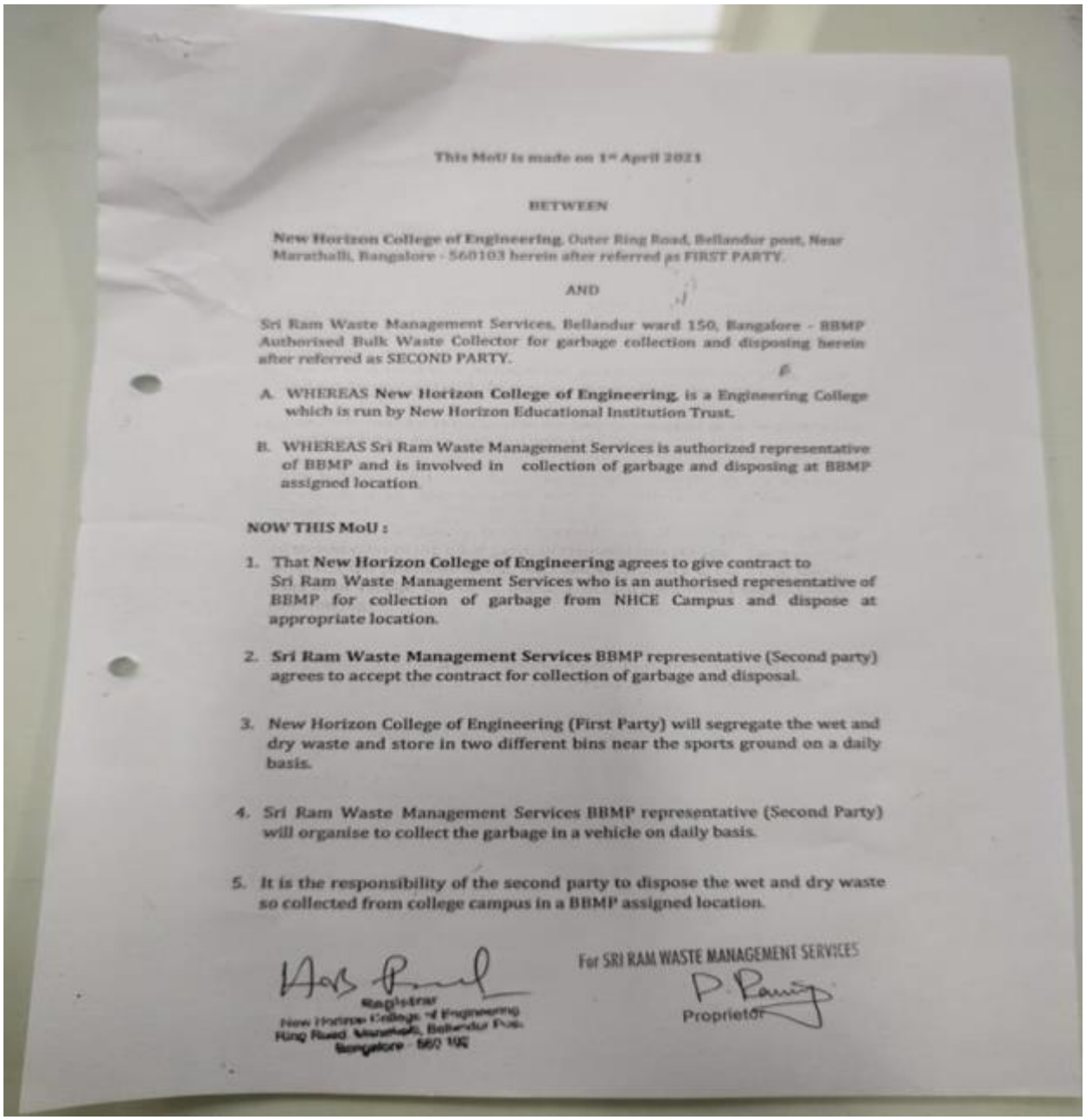
Table 6-1: Types of Waste Generated in the college

2.1.1. Dry Waste Management

Separate bins are used across the campus for waste collection. Each room (Staff, class rooms, corridors, office, restrooms, and library) is provided with the separate dustbin to segregate waste. MoU with VAH trucks is signed to manage dry waste in the campus which is as shown in figure 6-1 and figure 6-2.

2.1.2. Wet Waste Management

To manage the wet waste produced in the college, which is produced from kitchens of canteens in the campus, from the remains of the tiffin boxes brought by the students, teachers, & staff of the college, the college management has signed MoU with external agency; the copy of MoU is given in figure 6.3 and 6.4.



This MoU is made on 1st April 2021

BETWEEN

New Horizon College of Engineering, Outer Ring Road, Bellandur post, Near Marathalli, Bangalore - 560103 herein after referred as FIRST PARTY.

AND

Sri Ram Waste Management Services, Bellandur ward 150, Bangalore - BBMP Authorised Bulk Waste Collector for garbage collection and disposing herein after referred as SECOND PARTY.

A. WHEREAS **New Horizon College of Engineering**, is a Engineering College which is run by New Horizon Educational Institution Trust.

B. WHEREAS Sri Ram Waste Management Services is authorized representative of BBMP and is involved in collection of garbage and disposing at BBMP assigned location.

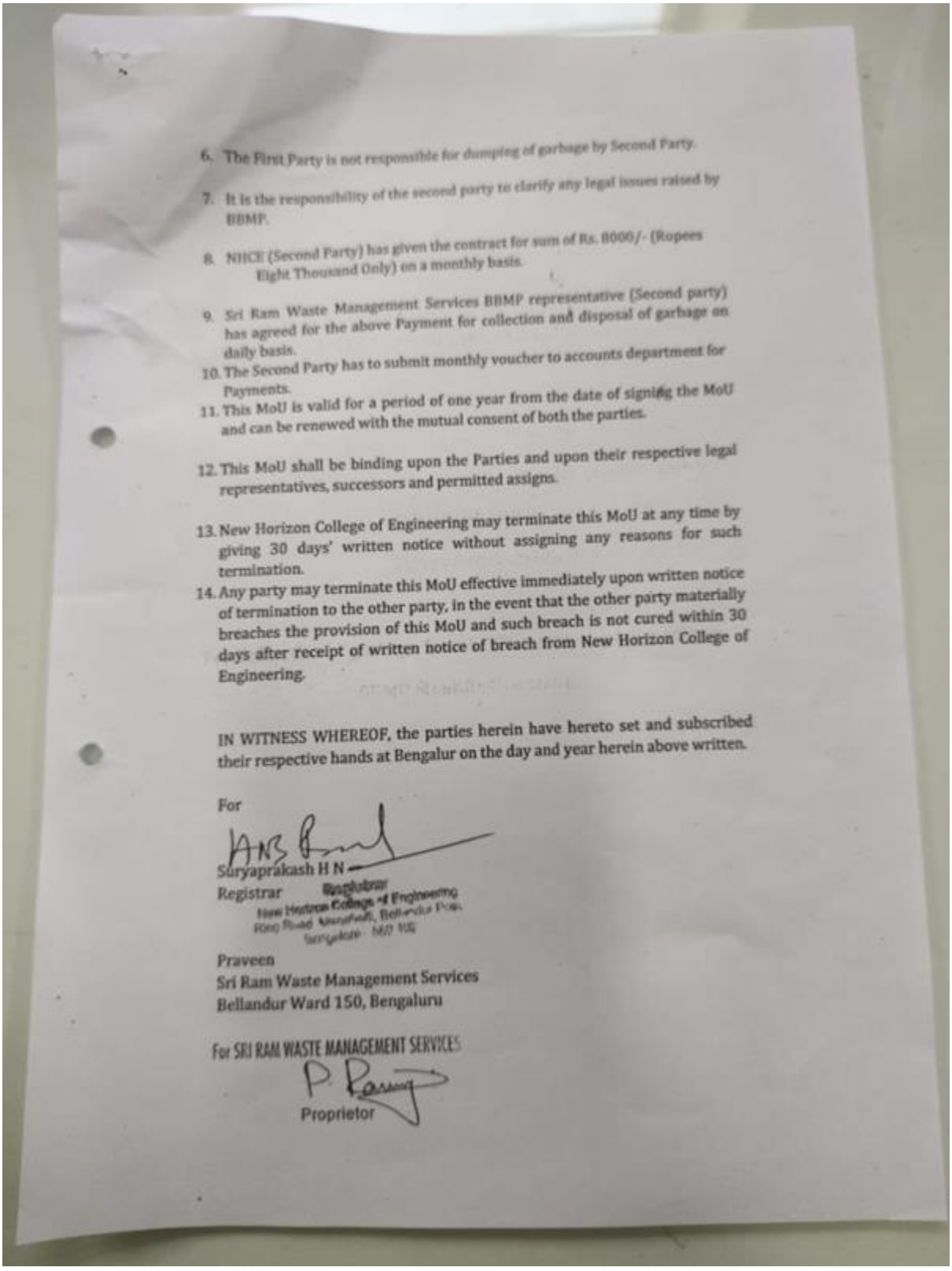
NOW THIS MoU :

1. That **New Horizon College of Engineering** agrees to give contract to Sri Ram Waste Management Services who is an authorised representative of BBMP for collection of garbage from NHCE Campus and dispose at appropriate location.
2. **Sri Ram Waste Management Services** BBMP representative (Second party) agrees to accept the contract for collection of garbage and disposal.
3. New Horizon College of Engineering (First Party) will segregate the wet and dry waste and store in two different bins near the sports ground on a daily basis.
4. Sri Ram Waste Management Services BBMP representative (Second Party) will organise to collect the garbage in a vehicle on daily basis.
5. It is the responsibility of the second party to dispose the wet and dry waste so collected from college campus in a BBMP assigned location.

Registrar
New Horizon College of Engineering
Ring Road Marathalli, Bellandur Post
Bangalore - 560 103

For SRI RAM WASTE MANAGEMENT SERVICES
Proprietor

Figure 6-3: Image 1 of 2 – MoU for Wet - Waste management



6. The First Party is not responsible for dumping of garbage by Second Party.
7. It is the responsibility of the second party to clarify any legal issues raised by BBMP.
8. NHCE (Second Party) has given the contract for sum of Rs. 8000/- (Rupees Eight Thousand Only) on a monthly basis.
9. Sri Ram Waste Management Services BBMP representative (Second party) has agreed for the above Payment for collection and disposal of garbage on daily basis.
10. The Second Party has to submit monthly voucher to accounts department for Payments.
11. This MoU is valid for a period of one year from the date of signing the MoU and can be renewed with the mutual consent of both the parties.
12. This MoU shall be binding upon the Parties and upon their respective legal representatives, successors and permitted assigns.
13. New Horizon College of Engineering may terminate this MoU at any time by giving 30 days' written notice without assigning any reasons for such termination.
14. Any party may terminate this MoU effective immediately upon written notice of termination to the other party, in the event that the other party materially breaches the provision of this MoU and such breach is not cured within 30 days after receipt of written notice of breach from New Horizon College of Engineering.

IN WITNESS WHEREOF, the parties herein have hereto set and subscribed their respective hands at Bengalur on the day and year herein above written.

For

Suryaprakash H N
Registrar

Praveen
Sri Ram Waste Management Services
Bellandur Ward 150, Bengaluru

For SRI RAM WASTE MANAGEMENT SERVICES

Proprietor

Figure 6-4: Image 2 of 2 – MoU for Wet - Waste management

2.1.3. Bio- Waste Management

As part of maintaining hygienic environment for the girl's, the management has provided the sanitary napkin dispenser and sanitary napkin incinerator in the girl's toilet. The pictures of the same are given in figure 6-5.

Figure 6-5: Bio – waste management

2.2. Best Practices Implemented for Waste management

2.2.1. Zero Waste Campus Campaigns

Zero waste campus was one of the major initiatives taken to ban all one time use plastic items. The awareness poster for zero waste campaign is given in figure 6-6.

Figure 6-6: Zero waste campus campaign poster

2.2.2. Color Code Bins

The garbage segregation is done and the garbage is given to external agencies / municipal agencies from time to time in order to maintain the college premises clean & hygiene. Figure 6-7 shows the waste segregation bins at each floor in the college campus.

Figure 6-7: Dry and wet waste collection bins at different places

Waste collection bins of different colours Blue, Green and Red are kept in all the floors in each block. The self explanation poster helps the students/ staffs to dispose the waste according to the category in the relevant waste collection bins. The waste collection bins picture is shown in figure 6.7 and the self explanation poster is show in figure 6.8 respectively.

Figure 6-8: Poster for waste collection bins

2.2.6. Sewage Treatment Plant for waste water recycling

The procedure for removing contaminants from the wastewater basically from the household sewage is called sewage treatment. It has to undergo the chemical, physical and biological procedure to remove these contaminants and give out an environmentally safe treated effluent. A semi-solid slurry called the sewage sludge is the by-product of the sewage treatment. This sludge is further processed before it is suitable for land application.

The institution has installed STP with capacity of 200 kLPD and the quantity of final treated water is 75% of the total capacity, which is 150 kLPD.

The details of water savings and cost savings due to installation of STP is given in table 6.2.

S. No.	Description	Unit	Values
1	STP capacity	kLPD	200
2	Quantity of final treated water from STP	kLPD	150
3	Quantity of water reused @ 50% utilization factor	kLPD	75
4	No. of working days per year	days	250
5	Annual Quantity of water reused (saved)	kLPD	18750
6	Average water cost	Rs./Litre	0.086
7	Annual cost savings achieved	Rs. lakh/year	16.125

Table 6-2: Annual water and cost savings by installation of STP

2.3. Recommendations on Waste Management Audit

- Conducting waste management (collection) drives