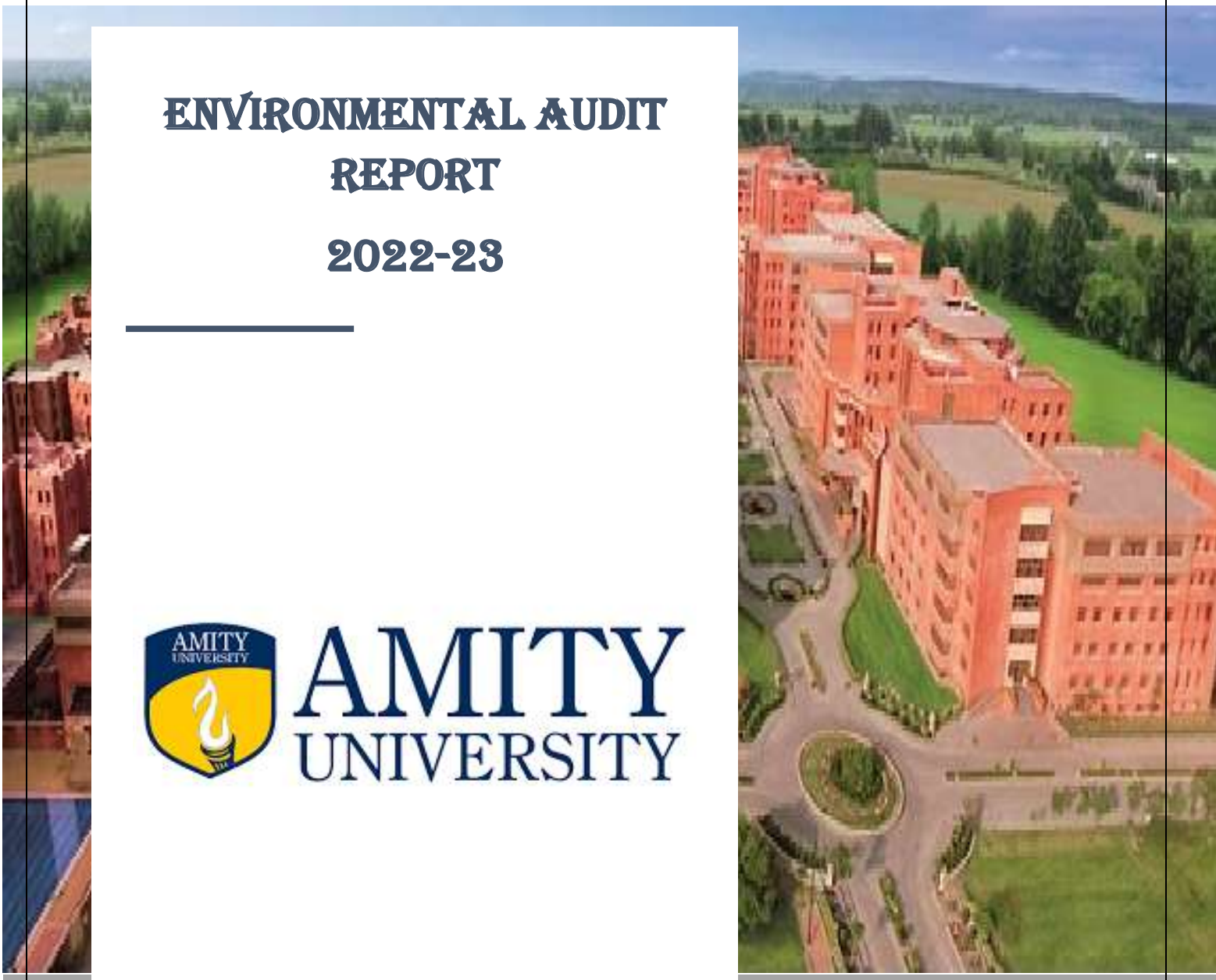


ENVIRONMENTAL AUDIT REPORT

2022-23

AMITY UNIVERSITY

APRIL 2023,

Amity University, Uttar Pradesh,
Sector 125, NOIDA, Uttar Pradesh

ENVIRONMENTAL AUDIT REPORT 2022-23

Amity University, Uttar Pradesh, Sector 125, NOIDA, Uttar Pradesh

In exercise of its powers conferred under the provisions of Section 7(x) of AUUP Act 2005 and Article 6.3 b(viii) of First Statues Amity University Uttar Pradesh, endeavors to ensure the environment sustainability

"The future depends on what we do in the present."
-MAHATMA GANDHI

April, 2023

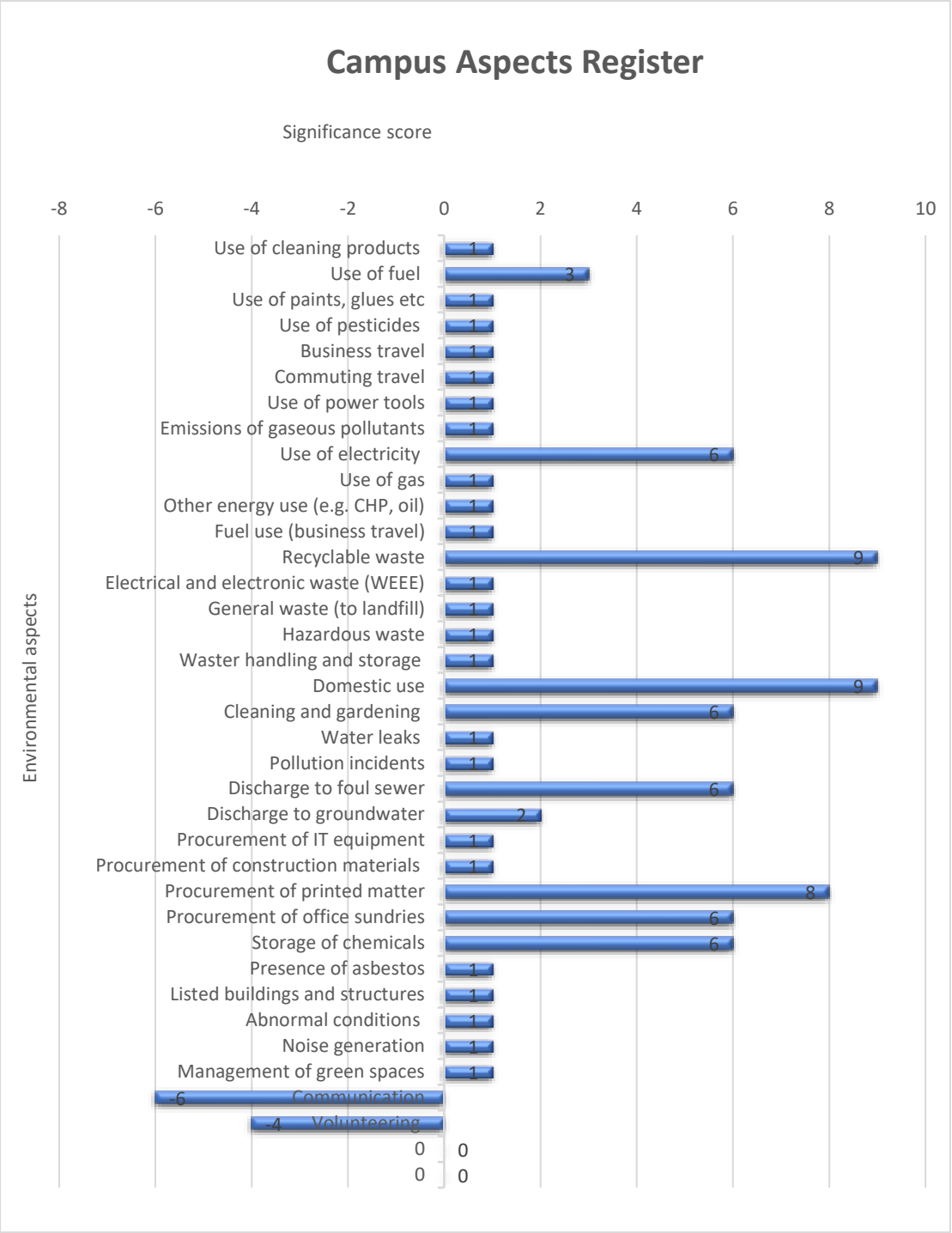
Prepared and Certified by: ***Dr. Richa Nagar***
(CII-Certified Sustainability Professional)

Environmental Audit Plan

S. No:	Aspect	Components covered	Date of audit
1	Aspect – Impact Assessment	All Environmental aspects when unmanaged	09/09/2022
2	Aspect Management Plan	The management plan of all Environmental aspects	07/12/2022
3	Aspect Management Plan	The management plan of all Environmental aspects	09/12/2022
4	Waste Management Profile	Waste segregation, hazardous waste management	15/12/2022
5	Water Quality Management	Sewage treatment, Effluent treatment	16/12/2022

Aspect Impact Analysis Report

The aspect impact analysis of the campus is as under for the scenario of unmanaged environmental aspects. **All the aspects are managed by a complete aspect management plan by the campus**



Waste Management Profile

The campus produces and disposes solid waste through its day-to-day operations. There can be difference between individuals, between certain day's activities, and between holidays and work days, as well as between seasons.

The Waste segregation and Management is as per GRI standard clause no. GRI 306-2

Adequate numbers of garbage bins are provided in every room and in every floor in every hostel as well as in the academic area and guest house, and the students are using them as and when required.

Fig: Hazardous waste collection

Fig: Dustbins for waste segregation at campus

- Waste segregation, recycling and disposal is as per the current Solid Waste

Management (SWM) rules of 2016 on the subject. The waste is given to second party vendor M/S AG Enviro Infra Projects Pvt. Ltd. As per contract since 2019 for 10 years. Though the waste is segregated at source, but they collect unsegregated waste.

- Posters placed in Academic Blocks to create awareness. Waste Paper, Cardboard, Other useful scrap material disposed of for value.
- The biomedical waste is collected by M/S Synergy Waste Management P Ltd. From GATE 2A. The contract is renewed annually.
- Lab Waste treated in ETP.
- Centralised more Efficient sturdy bins are required for plastic waste collection.
- E-waste collection centres and means needs to be established.
- Onsite composting of Food Waste received from the Cafeterias and other food outlets exists.

  Green waste should be buried to convert into manure. Review of Composting Plant Capacity should be undertaken.
- Use of both side printing of paper where required is followed to have minimum use of printing and wastage of paper.
- Maximum communication specially in last two years has been online.

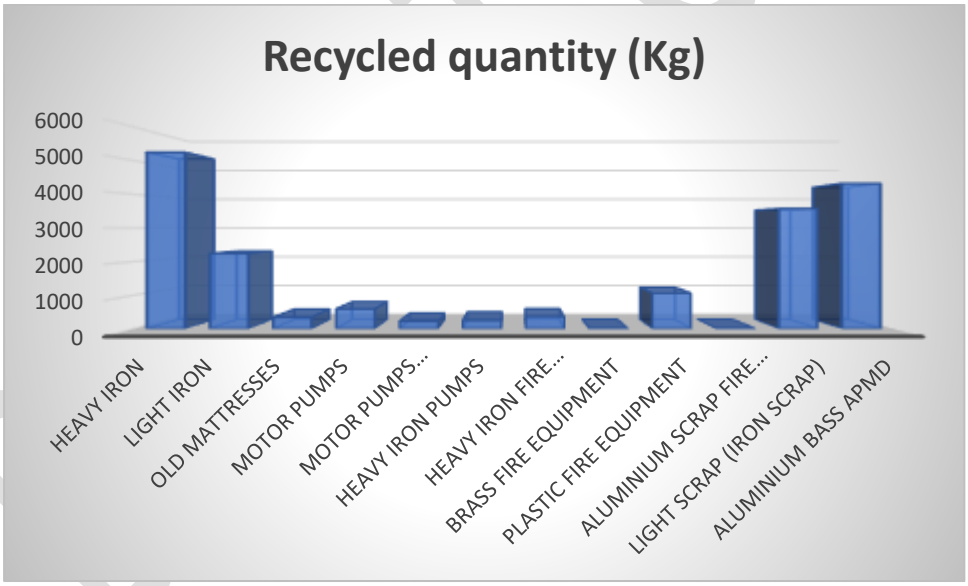


Fig: **Recycled waste and scrap**

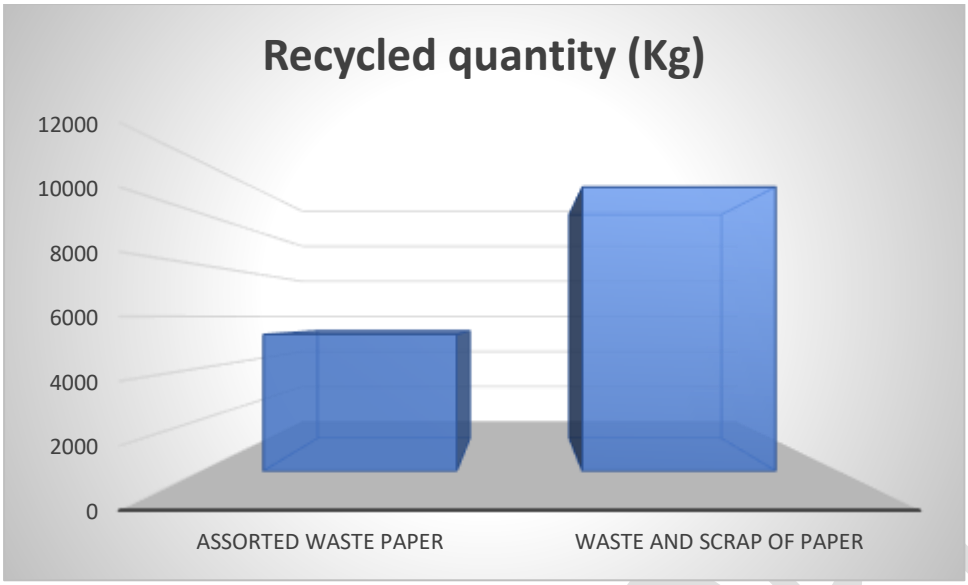


Fig: **Recycled paper waste and scrap**

The disposal of all the scrap material are being disposed off after receiving the mails by the concerned departments with its declaration. After receiving the disposal requirement the approved vendor are being called for its disposal work followed with the procedures given as under.

- Particular vehicle is being sent for the weighing of the empty vehicle by the nominate person of the security department.
- After weighing the required materials are loaded in the presence of the departmental representative along-with the disposal committee members.
- After the said procedures the vehicle is again sent to for weighing the loaded vehicle along-with the security person.
- After the said procedure the details of the disposal items along-with its approved rates for its preparation of e-billing to the accounts department for issuance of the E- Invoice.
- After the said procedures documents of the detail report of the scraped materials prepared and dully signed of the committee members and accordingly issue the gate pass to vendor along- with the invoice and copy of the same submitted to the accounts department after the proceeding.

Amity University's key operations has very less impact on the environment as the University is very conscious of generating less waste and recycling it by passing it through a system that enables the used material to be reused ensuring that less natural resources are consumed.

Water Treatment and Recycling

The AUUP campuses are zero water discharge campuses, which means that no water is discharged outside the campus and all the water is treated and recycled for reuse for horticultural activities and flushing the toilets etc. This saves potable groundwater and supply of plant treated water by government agency.

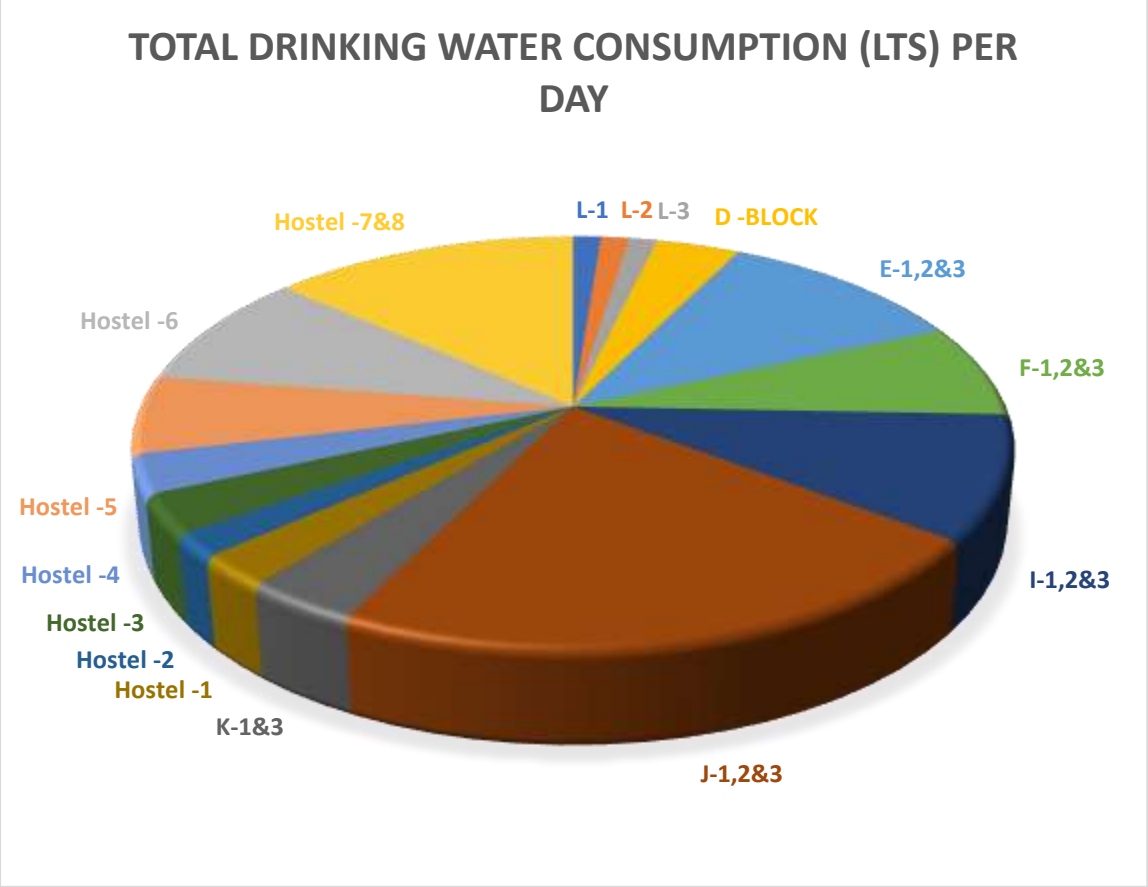


Fig: Total Drinking Water consumption (Lts) per day

Rainwater Harvesting facility consists of an elaborate network of rainwater harvesting wells spread all overthe campus.

- Numbers of wells : 42
- No. of bores : 227
- Capacity of each well : 40,000 litres

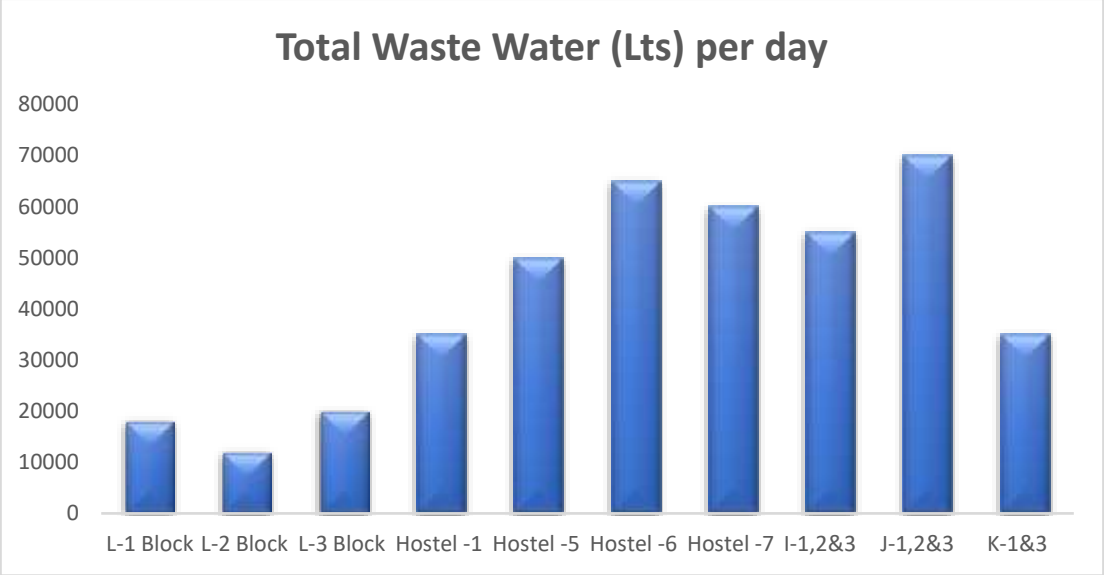


Fig: Total Waste Water (Lts) per day

The University campus has 5 STPs and 7 ETPs to treat the waste water efficiently.

STP WATER DETAILS AUUP-125				
S no.	**Location**	**Cap**	**Avg. Flow**	**Use of Treated water**
1	STP -1	200000 LTR/D	386000 L/D	Horticulture
2	STP -2	120000 L/D	243000 L/D	Cooling Tower G-BLOCK
				Flushing, Acad A,B,C
3	STP-3	500000 L/D	413000 L/D	Horticulture , K- Block area, H-BLOCK area , E- BLOCK area
4	STP-4	600000 L/D	436000 L/D	Transferred to STP-4
				Flushing, K-1, K-2, H-5, H-6, H-7, I & J-BLOCK
				J-BLOCK Cooling Tower
5	Laundary ETP	40000 L/D	34300 L/D	After Treatment Transfer to STP
6	H-BLOCK ETP cafeteria	25000 L/D	___	After treatment water released to STP
7	E-1 BLOCK Lab ETP	2000 L/D	500 L/D	Ater newtrilization water released to STP
8	E-2 BLOCK Lab ETP	500 L/D	200 L/D	Ater newtrilization water released to STP
9	A-BLOCK	500 L/D	200 L/D	Ater newtrilization water released to STP
10	A-BLOCK Lab ETP H-7 side	500 L/D	200 L/D	After neutralization water released to STP
11	Dell Building STP	30000 L/D	20000 L/D	Flushing, L-1

12	L - 1 Block Lab ETP	200 L/D	120 L/D	After neutralization water released to STP

The STPs, RO Water Plants and Effluent Treatment Plants are audited every year during the internal auditconducted by the University. University strives towards developing water conservation and water efficiency through following strategies:

1. Promote water efficiency practices to all the University's stakeholders.
2. Monitor and minimise the University's water consumption.
3. Plants indigenous flora to reduce water usage.
4. Promotes planting indigenous trees in and around the University to reduce water usage.
5. Regularly reviews opportunities to install alternative water systems on campus wherever feasible.
6. Sustain implementation of innovative water-efficient technologies such as rainwater harvesting,reuse of water etc.

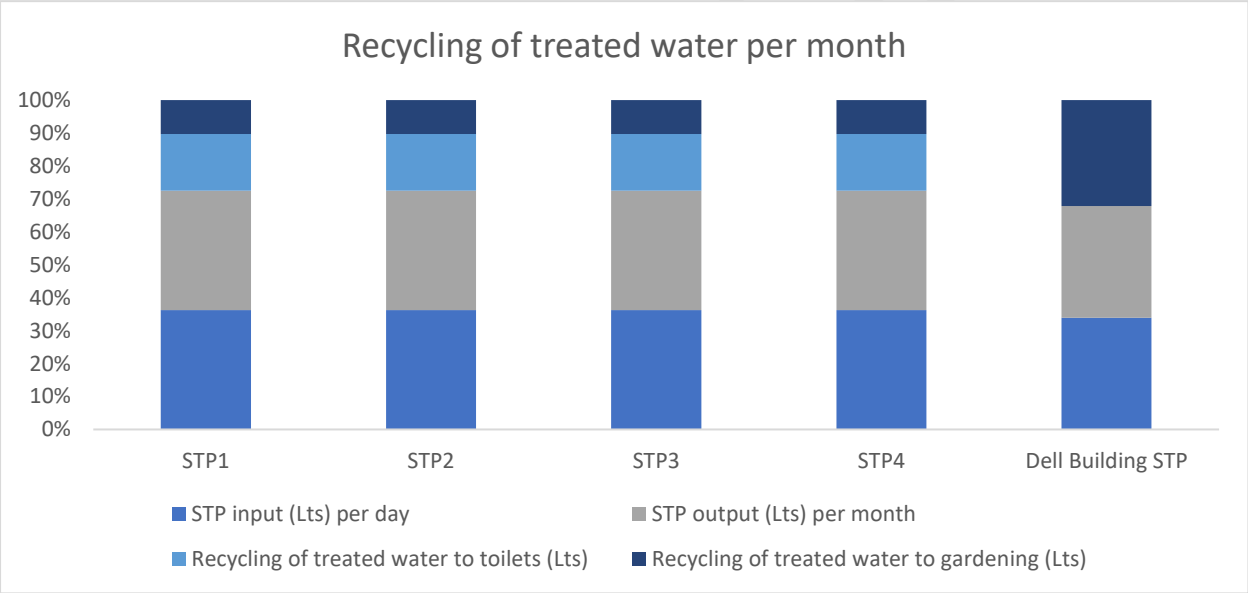


Fig: Recycling of treated water per month

Recycling & Reuse of Water

The gray water from bathrooms and utensils wash etc in the campus is treated in 7 ETPs with handling Capacity : 68,200 (Effluent treatment plant) and 5 STPs with handling Capacity: 10,13,000 liters/day and reused for gardening and for toilet flushing etc. This amounts to nearly 50% of daily water consumption in the campus. The drinking and water used for cooking, bathing etc are passing through a water purification plant, drawn from the rain water harvesting collection. This is a positive for carbon footprint reduction.

The water recycling and reuse is as per GRI standard clause no GRI 303-3

Findings and Recommendations

As per UNEP Universities Greening Toolkit V2, UGC-SATAT guidelines and GRI standards the university campus has good green cover and various environmental aspects are managed with an extensive Environment Management Plan (EMP) - ISO 14001:2015. The university houses adequate number of STPs, ETPs and RO plant which are in conformance with standards (ISO 14001:2015) to ensure water quality management. The waste management strategies are as per Solid Waste Management (SWM 2016) rules. The social and transport management ensures environmental commitment as per GRI standards.

Some of the specific observations of Environmental Management system as per ISO 14001:2015 are enlisted below for review and consideration for continual improvement:

Environmental Management Plan-Findings

As per ISO 14001:2015 the status of raised points in 2021-22 audit:

S. No:	Aspect	Management Plan in place	Status
1	EMP	As per ISO 140001:2015 clause 6 EMP may also include Environmental Statement Report on green practices followed by different departments, support services and administration	**The compiled report may be maintained centrally**
2	Water pollution	5 STPs and 7 ETPs are in operation and STP/ETP water is treated for re-use for Flushing in Toilets, Horticulture & Cooling Towers. The accounting of water consumption can be monitored fortnightly.	**The monitoring records need to be maintained.**
3	Segregation of waste	The waste is segregated at source with Blue and Green dustbins 20Lts at roadside, 10Lts in classrooms and washrooms. But the segregation at source may be enhanced by pictures of	The dustbins need to be properly labelled

		different waste pasted on the dustbins for correct identification by students.	
4	Dry Waste	Is collected and sent to contractor. A separate dustbin for plastic waste can be made for separate disposal and accounting of recycling of plastic waste recycling.	Plastic waste is recycled and evidenced
5	Wet Waste	Composting pit is available but requires regular maintenance. A larger area can be devoted and monitored fortnightly for food waste composting scientifically.	Regular maintenance of compost pit is required.
6	Hazardous / Biomedical waste	At gate 2A the biomedical waste collection site is present where the waste is collected and sent to contractor. The monitoring and accounting should be fortnightly.	The proper disposal records to be maintained
7	Water consumption	Total water consumption data for each block should be monitored every month for usage analysis.	**Monitoring is evidenced**
8	Waste generated	Total waste generated data needs to be accounted	Data needs to be maintained on daily basis
9	Rainwater harvesting	The campus houses recharging wells but the water input data should be accounted and monitored every month.	Quantification of volume needs to be computed.

For the water conservation measures AUUP campus is a zero water discharge campus, which means that no water is discharged outside the campus and all the water is treated and recycled for reuse for horticultural activities and flushing the toilets etc. The STPs, RO Water Plants and Effluent Treatment Plants are audited every year during the internal audit conducted by the University. The monitoring may be done for the consumption and recycled / treated total volumes data fortnightly.

Amity University campus is the most hygienic, well maintained with state of the the art infrastructure, the campus has high number of awareness and voluntary

activities in the field of environment.

As a long term zero carbon mission the following recommendations are given:

1- Inventory needs to be maintained on waste generated and recycled on daily basis.
2- Water consumption of each block can be monitored with sensors.
3- The waste from laboratories needs to be segregated further and sent to different vendors.
4- Outreach activities for nearby areas should be further developed for waste segregation.
5- Compost pits can be increased for in-house composting of kitchen waste.