



# PAAVAI COLLEGE OF ENGINEERING

(Approved by AICTE | Affiliated to Anna University)

Paavai Nagar, NH-44, Pachal, Namakkal -637 018. Tamilnadu, India.

Ph.No : 04286 - 248658, Email : pceprincipal@paavai.edu.in, Website : <http://pce.paavai.edu.in>

## CRITERION 7 - INSTITUTIONAL VALUES AND BEST PRACTICES

### 7.1 Institutional Values and Social Responsibilities

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2	Management of the various types of Degradable and Non-Degradable waste	
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## 7.1.2 – 2. Management of the various types of Degradable and Non-Degradable waste

Efficient waste management, encompassing proper disposal and recycling practices, is crucial for any organization, as it affects the well-being of individuals both on campus and in the neighboring community. Consequently, ensuring a safe and healthy environment remains our highest priority.

The following management of the various types of degradable and non-degradable wastes facilities is available at our college

- (i) Solid Waste Management
- (ii) Waste Water Recycling System
- (iii) E-Waste Management
- (iv) Biomedical Waste Management
- (v) Hazardous Chemicals and Radioactive Waste Management

The geo tagged photos of the above mentioned facilities are attached below



  
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## (i) Solid Waste Management:

Solid wastes management is an essential service of any society. Solid waste management is a critical aspect of environment hygiene PCE has implemented an effective solid waste management system, demonstrating a commitment to environmental sustainability.

### Collection of Biodegradable and Non-Biodegradable wastes:



### Collection of Biodegradable waste



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## Collection of Non-Biodegradable waste

Over **100 bins** have been provided across the campus for collection of the solid waste generated at different sources in college. The college campus is equipped with separate dust bins for the collection of biodegradable and non-biodegradable waste, promoting responsible waste disposal.



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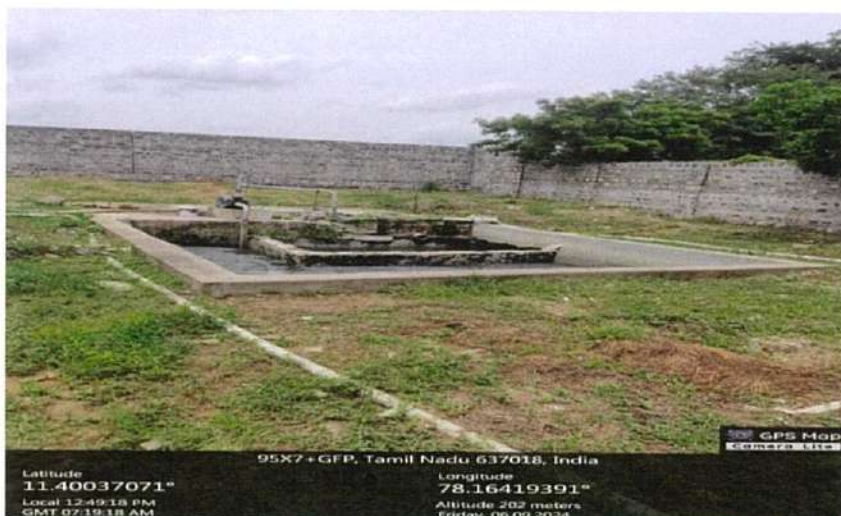
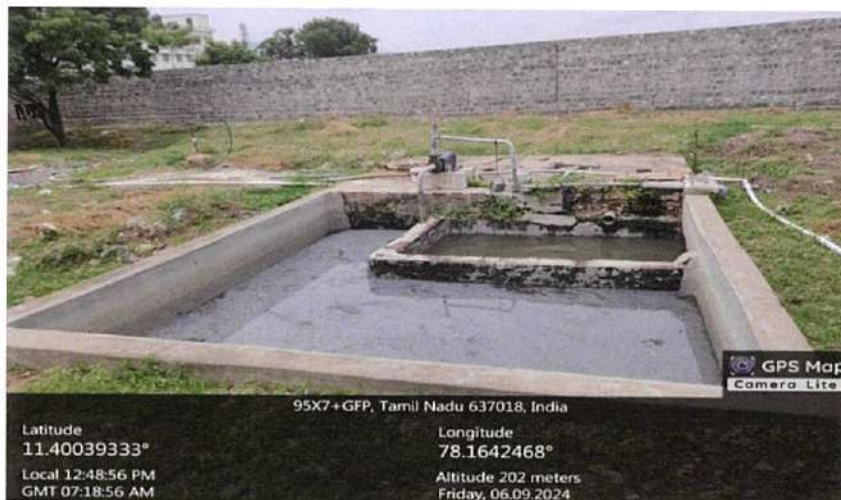
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## Treating Bio-Degradable Waste:

### 1. Bio-gas plant:

To treat the food waste, the biogas plant is installed in hostel of Paavai College of Engineering to conserve the environment. The hostel and college has produced **680 kgs** of waste daily. The biogas produced from this plant is **51 m<sup>3</sup>/day**. This biogas is used in the kitchen of hostel, so as to reduce the level of usage LPG. The usage level of **LPG is 34 kg/day**.



**Biogas Plant**

*[Signature]*  
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## 2. Vermicompost Process:

From PCE campus, biodegradable solid waste is collected from boys hostel, girls hostel, Guest houses and dumped into the vermicompost pits of size **4 feet×6 feet and 5 feet×6 feet** have been made in the campus. It takes **6-8 days for pit to fill and 45 days** to convert the biodegradable waste into vermicompost. **Vermi-compost organic bio fertilizers** are used for our own **agricultural farms.**



**Vermicompost Pit 1**



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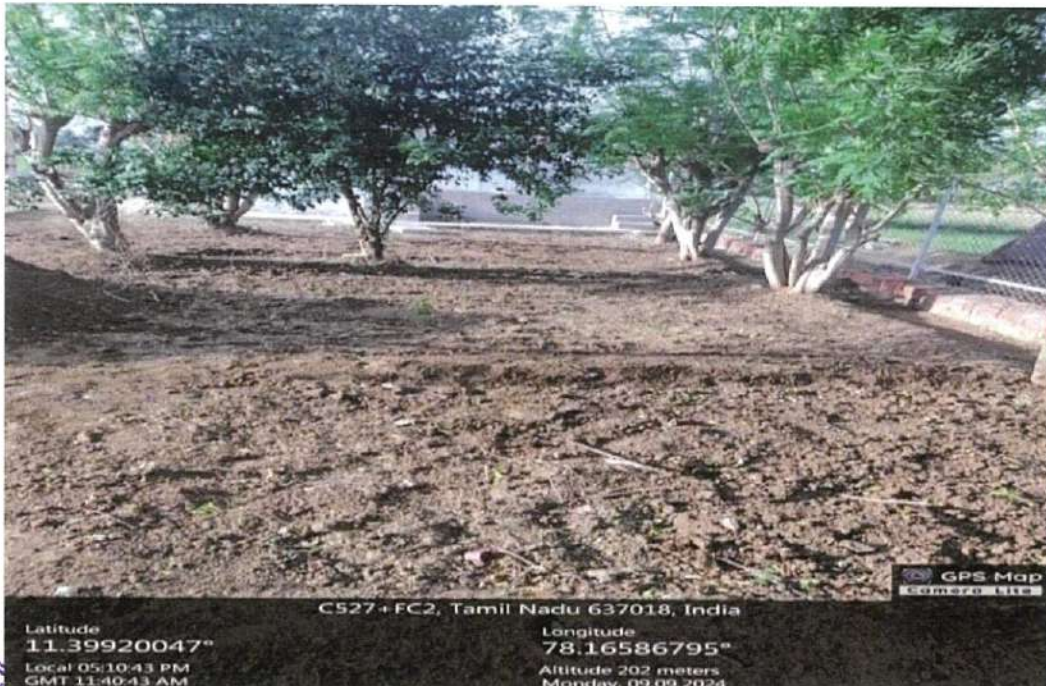
Ph.No : 04286 - 248658, Email : pceprincipal@paavai.edu.in, Website : <http://pce.paavai.edu.in>



Latitude  
11.39913993°  
Local 05:12:46 PM  
GMT 11:42:46 AM

Longitude  
78.16587019°  
Altitude 202 meters  
Monday, 09.09.2024

## Vermicompost Pit 2



Latitude  
11.39920047°  
Local 05:10:43 PM  
GMT 11:40:43 AM

Longitude  
78.16586795°  
Altitude 202 meters  
Monday, 09.09.2024



Usage of organic bio fertilizer in agricultural land

*[Signature]*  
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## Non-Biodegradable Wastes:

The non-Biodegradable solid wastes are collecting from the PCE campus and disposed to a village panchayat dumpyard by the help of college tracktor.



## Disposal of Non-Biodegradable waste into Dump yard



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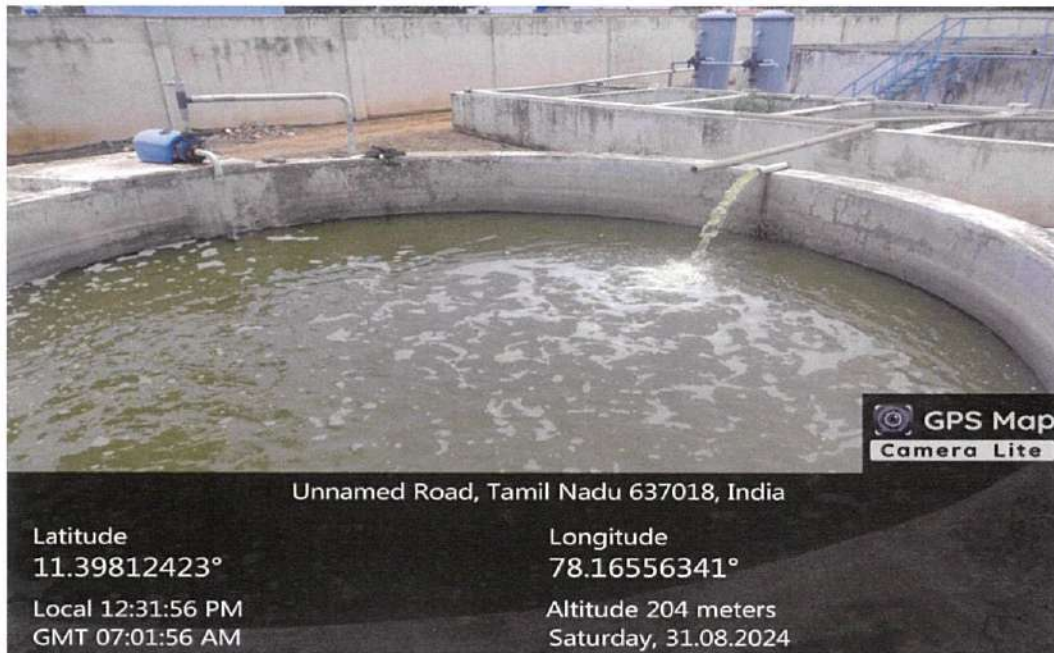
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## (ii) Waste Water Recycling Plant:

The Paavai College of Engineering men's hostel has a waste water treatment plant next to it. **4,50,000 liters of waste water** are to be treated every day in total. For our institution gardens and some of the neighboring regions agricultural lands, treated water is used.



### Recycling tank

Waste water recycling facilities include the following parts:

1. Bar screen chamber
2. Grit chamber
3. Tank for collection
4. Aeration tank
5. A tank that collects treated sewage
6. Diffusers & Roots blowers

transfer pump for raw sewage



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8. Pump for biomass recirculation
9. A sludge dryer
10. Activated carbon filter and pressure sand filter
11. Pump for filter feed

For the removal of floating materials, a bar screen chamber =>It is used. **The Screen Chamber measures 2 meters in length, 1 meter in width, and 1.5 meters in depth.** Grit Chamber: This device is used to remove inorganic or grid particles, including sand, gravel, and glass materials. **Grid Chamber measures 2.0 m in length, 2.0 m in breadth, and 2.0 m in depth.** The purpose of an equalization tank is to neutralize the characteristics of waste water. **The Equalization tank measures 15 meters long, 3.5 meters wide, and 3 meters deep.**

**BOD** removal from waste water is possible using the activated sludge process. **Detention term for hydraulics is 20 hours. The tank measures 15 meters long, 15 meters wide, and 3 meters deep.** Sludge is dried in sludge drying beds with the aid of sunshine. **The sludge drying beds measure 3m by 2m by 1.5m in size.**

## Water Recycling Advantages:

1. It primarily aids in easing the campus's water shortage.
2. It can be applied to improve or create wetlands.
3. Both electricity and soil enhancements are produced during this process.
4. The main uses for recycled water include household and agricultural ones.
5. It lessens water pollution by preventing and minimizing discharges of waste water.



  
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Wastewater storage well



Wastewater Recycling Plant



*Subban*  
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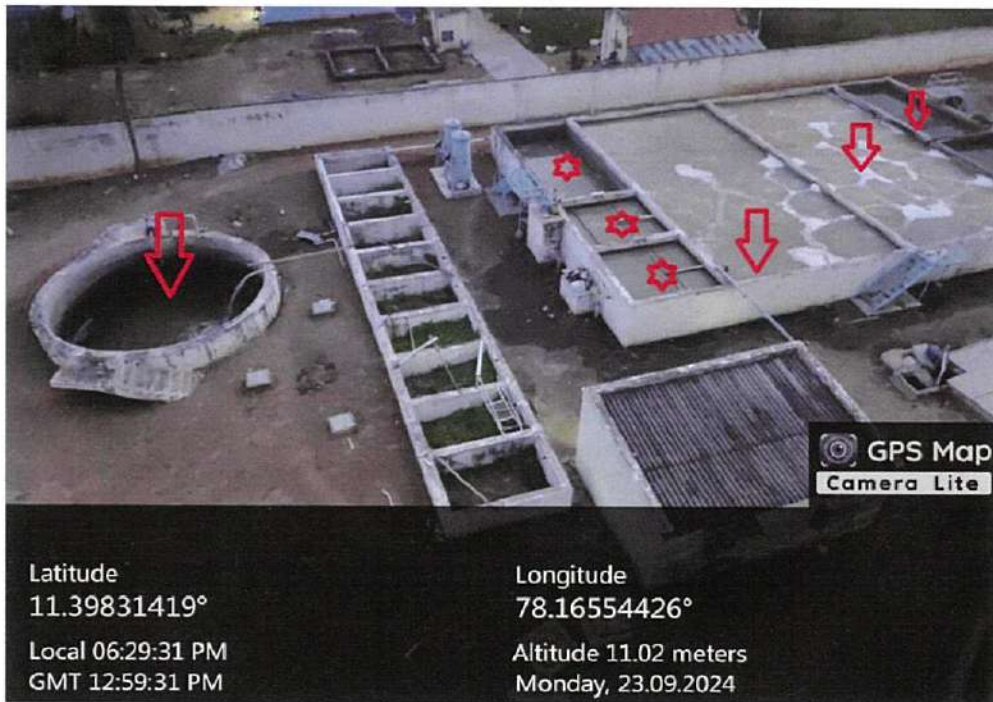
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**Sand Filter with Activated Carbon**



**Ariel view of the Wastewater Recycling Plant**



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**Recycled Water Supply to the trees**



**Recycled Water Supply to the plant**



*Aruban*  
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**Reclaimed Water Supply Pipeline 1 in front of Main Block**



**Reclaimed Water Supply Pipeline 2 in front of Main Block**



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**Reclaimed Water Supply Pipeline 3 infront of Main Block**



**Reclaimed Water Supply Pipeline near Globe**



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**Reclaimed Water Supply Pipeline 1 in front of Arjun Maidan**



**Reclaimed Water Supply Pipeline 2 in front of Arjun Maidan**



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**Reclaimed Water Supply Pipeline 1 opposite Arjun Maidan**



**Reclaimed Water Supply Pipeline 2 opposite Arjun Maidan**



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C527+FC2, Tamil Nadu 637018, India

Latitude  
11.40026889°

Longitude  
78.1633156°

Local 04:42:07 PM  
GMT 11:12:07 AM

Altitude 202 meters  
Tuesday, 10.09.2024



C526+5PP, Rd, Paavai Nagar, Pachal, Tamil Nadu 637018, India

Latitude  
11.40032843°

Longitude  
78.16273252°

Local 12:40:07 PM  
GMT 07:10:07 AM

Altitude 202 meters  
Thursday, 12.09.2024

Water used in landscaping and plantations



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## (iii) E-Waste Management:

Electronic trash management has recently emerged as a big issue. Disposing of waste in educational institutions is challenging. The Paavai college of Engineering has a policy in place to safely dispose of electronic trash. E-waste is collected from all departments and gathered and sorted by the college's computer center. The networking team can upgrade the computers, while the rest of the systems are safely handed over to outsourcing organizations.

Miscellaneous accessories such as batteries, **PCBS**, and **CDS** are safely gathered from all departments and administrative offices and delivered to an external agency for disposal.

**The college always adheres to the policy of sustaining Green Campus.**



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## Collection of E-Waste



  
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## (iv) Biomedical Waste Management:

The college has a medical center that serves both students and all staffs. The medical center collects and properly disposes of biological trash, including cotton, syringes, and discarded gloves, alongside non-biodegradable garbage. Wastes such as culture media, wasted cottons, glass plates, discarded blood, lancets, and so on are safely disposed. It prevents infections, environmental contamination, and exposure to toxic materials.



Latitude: 11.482207  
Longitude: 78.100474  
Elevation: 311.67196 m  
Accuracy: 0.5 m  
Time: 26-04-2021 12:11  
Photo: Bio medical waste management

**Paavai Medical centre**



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## Napkin Etiquette: Usage and Disposal

In the Paavai College of Engineering, napkins play a vital role in maintaining hygiene and cleanliness across the campus dining facilities. These essential items are used in various settings, from the bustling canteen during daily meals to formal events such as cultural festivals, conferences, and seminars. Napkins serve multiple purposes: they help keep hands and mouths clean, prevent clothing from getting stained, and contribute to an overall pleasant dining experience. The college predominantly uses disposable paper napkins for everyday dining due to their convenience and ease of disposal, making them a practical choice for high-traffic areas. In contrast, cloth napkins are reserved for more formal occasions, enhancing the sophistication and aesthetic appeal of these events.

The disposal of napkins is a significant concern for Paavai College of Engineering, particularly due to the high volume of usage on campus. While disposable paper napkins provide convenience, they significantly contribute to waste accumulation, particularly in dining areas that serve hundreds of students daily. In response, the college is actively exploring eco-friendly alternatives, such as biodegradable or recyclable napkins, as part of its sustainability commitment. The administration recognizes the importance of not only reducing waste but also educating the campus community about responsible consumption. Workshops and informational campaigns are being developed to raise awareness about the environmental impact of single-use products and promote the benefits of using sustainable alternatives. To further enhance this initiative, the college is partnering with local suppliers to source high-quality eco-friendly napkins and exploring innovative composting solutions for napkin waste. Additionally, the administration aims to implement a feedback system where students and staff can share their thoughts on the new alternatives, ensuring that the college's efforts align with the preferences and habits of the campus community. Napkin waste management is encouraged by the presence of clearly marked bins in dining areas, which encourage students and staff to dispose of napkins responsibly. Instead of multifaceted strategy these useful attempts to promote a sustainable culture on campus in addition to lessening the environmental impact of napkin consumption. Paavai College hopes to set an exemplary example in the fight for a more environmentally friendly future by endorsing these activities.



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Cloth napkins, while more sustainable due to their reusability, present their own set of challenges. They require regular laundering, which can increase water and energy consumption. The college is mindful of these factors and is exploring methods to optimize laundry practices to minimize resource usage. This includes adopting energy-efficient washing techniques and considering the overall lifecycle of cloth napkins. By prioritizing sustainability in both napkin use and disposal, Paavai College of Engineering aims to strike a balance between hygiene, convenience, and environmental responsibility. The college is committed to continuous improvement in its dining practices, fostering an awareness of sustainability among the campus community while ensuring a clean and pleasant dining experience for everyone.



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## (v) Hazardous Chemicals and Radioactive Waste Management:

In chemistry laboratory, **no strong or hazardous substances are used**. Diluted acids are disposed of and drained in controlled proportions to safeguard the environment. There are no radioactive elements created or used on our academic campuses.



**Chemicals handled by Chemistry Laboratory**



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