



PAAVAI ENGINEERING COLLEGE

(Autonomous Institution)

(Approved by AICTE and Affiliated to Anna University)

(Accredited by National Board of Accreditation, New Delhi & NAAC (UGC) with 'A' Grade)

Paavai Nagar, NH - 7, PACHAL, NAMAKKAL - 637 018. Tamil Nadu

☎ 04286-243038, 58,88 & 98 Fax: 04286-243068 Email: pecprincipal@paavai.edu.in website: http://pec.paavai.edu

7.1.4 Water conservation facilities available in the Institution:

1. Rainwater Harvesting

Paavai Engineering College is located at Pachal, Namakkal. Which is a rural area and it demands more ground water as it is comparatively has less ground water. So the Paavai Engineering College store the rain water in the mechanism of Rain water harvesting and it is named as 'AMIRTHAVARSHINI' a Mega Rain water Harvester. The dimension of the Mega Rain Harvester is 270ft×180ft×18ft. The volume of the harvester is about 874800cft. The lake has ordinary soil up to 5'0'' and it has 13'0'' of soft rock. The rain water all over from the campus is saved here for further usage. As it can store 2 crore litres of water and it is used for irrigation purposes of thousands of cultivable lands in and around Paavai Institutions.

One gets a peace of mind & immense pleasure while the rain water falls like a cascade. It adds splendorous and stunning beauty to the complete campus of Paavai institutions. It increases the availability of ground water level to the radius of 400 acres. It keeps the water level constant throughout the year.

The main advantage of the lake is that it can provide a stress free environment to the students. The cool wind from the lake relaxes the mind of the students. So it will be the apt place for the students to spend their leisure time.



Latitude: 11.398972
Longitude: 78.162796
Elevation: 181.4±33 m
Accuracy: 23.2 m
Time: 04-07-2021 12:02
Note: India

Powered by NoteCam

'AMIRTHAVARSHINI' a Mega Rain water Harvester




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'AMIRTHAVARSHINI' a Mega Rain water Harvester

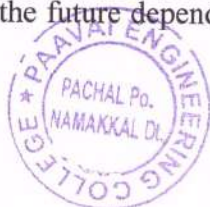
Benefits of 'AMIRTHAVARSHINI'

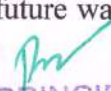
1. AMIRTHAVARSHINI can be an excellent back-up source of water for the college.
2. It reduces demand on ground water.
3. Rainwater harvesting systems are energy efficient and environmentally friendly in nature.
4. Low maintenance cost and requirements.
5. It reduces the soil erosion and runoff.
6. Rainwater is free from various chemicals found in ground water.
7. It is suitable for irrigation and watering gardens.

Composite Fish Culture:

The Composite fish culture system is a technology developed in India by the Indian Council of Agricultural Research in the 1970s. It is a method in which five or six different types of fish species are grown together in a single fish pond. Paavai Engineering College has built rain water harvesting, where composite fish culture is adopted to maintain the fertility of soil and water. In our system, the local and imported fish species are available. These aquatic communities like fish and plant grow to sustain the ground water level.

Water is precious and it is one of the elements, which is very essential for living. All organisms require water for their life and living. Now, due to climatic change the ecosystem has become imbalanced. So there is a scare of water all around the earth. The water based resources in the future depends on the sustainability of the current and future water resource




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allocation. As water becomes more scarce the importance of storing becomes significant. The balance between using water based on necessity of human and environment becomes an important thing. Therefore it is the responsibility for all individuals, organizations and institutions to conserve, maintain water for their use. So, Paavai Engineering College has cater the needs of society by having the Rain water harvester which benefits the rural areas. So save water and save your life.

2. Bore well /Open well recharge

Bore water or groundwater is the most common source of water, assessed by drilling the ground and pumping water from the aquifers. An aquifer is a water-holding permeable rock or clay that holds groundwater. In the campus, nearly 5 bore wells each of 6 inch and 600-750 feet in depth and 3 open wells each of 50-60 feet in depth are available.

Ground water from the bore and open wells are used for domestic purposes all over the college. In addition to that, it is also used for agriculture purpose. Each well has separate water supply system to collect water from one place to other places in and around the campus. The roads in the college campus are constructed with adequate camber in order to drain water during rainy season that can be used for well recharge. The runoff during rainfall from the terrace of the building blocks are collected and channelized into wells for recharge. Hence the operation and performance of pumps, motors and water supply systems are checked periodically in order to avoid issues and inconvenience.



Open well 1



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Latitude: 11.400082
Longitude: 78.162135
Elevation: 166.26±25 m
Accuracy: 13.1 m
Time: 04-07-2021 11:40

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Open well 2



Latitude: 11.399448
Longitude: 78.165764
Elevation: 217.29±11 m
Accuracy: 12.2 m
Time: 04-07-2021 15:11
Note: India

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Open well 3




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3. Construction of Tanks and Bunds:

In the college campus tanks are constructed in all areas. The storage tanks situated at various locations of the college are pumped with ground water. There are 14 numbers of over head storage tanks having the capacity of 5,000 to 6,000 litres and 2 underground tanks each having the capacity of 20,000 litres.

We have a separate tank system for drinking as well as bore water for the convenient usage. Water from the bore well, open well and other water bodies are collected through the pipes and stored in the tank (at every block). Maintenance department of the college taking responsible for cleaning the tanks regularly as per the Government norms.

The proper Bunds are constructed in the campus and used for retaining the water, creating obstruction and thus to control erosion. Bunds can be used to hold rainwater in lightly sloping plains and to ensure that bunds continue to provide the necessary protection against leaks and spills etc. Hence bunds should be assessed periodically to ensure that they continue to provide sufficient integrity around the campus.



Latitude: 11.39834
Longitude: 78.161335
Elevation: 201.63±3 m
Accuracy: 16.1 m
Time: 04-05-2021 11:44

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Water Tank 1



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Latitude: 11.39829
Longitude: 78.162155
Elevation: 211.3±13 m
Accuracy: 15.1 m
Time: 04-05-2021 11:48

Powered by NoteCam

Water Tank 2



Latitude: 11.398595
Longitude: 78.165677
Elevation: 181.24±32 m
Accuracy: 17.8 m
Time: 04-13-2021 10:27

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Water Tank 3



[Signature]

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Latitude: 11.399261
Longitude: 78.16255
Elevation: 196.47±15 m
Accuracy: 12.7 m
Time: 04-24-2021 15:51

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Construction of Bunds



Latitude: 11.398231
Longitude: 78.166092
Elevation: 212.03±11 m
Accuracy: 170.0 m
Time: 04-24-2021 15:32

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Construction of Bunds




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4. Waste Water Recycling

A Waste Water Treatment plant is located at the back side of men's hostel of Paavai Engineering College. It is to treat a total volume of waste water generated 4,50,000 lit/day. Treated water is used for gardening purpose for our Institutions & some agricultural lands of our neighbouring areas. Sludge produced from this treatment plant is used as manure.



Latitude: 11.398058
Longitude: 78.165121
Elevation: 228.03±11 m
Accuracy: 18.9 m
Time: 04-07-2021 14:40
Note: India

Powered by NoteCam

Waste water recycling plant

The following are the components of Waste Water Recycling plant:

1. Bar screen chamber
2. Grit chamber
3. Collection tank
4. Aeration tank
5. Treated sewage collection tank
6. Roots blowers & Diffusers
7. Raw sewage transfer pump
8. Bio-mass recirculation pump.
9. Sludge drying pump
10. Pressure sand filter & Activated Carbon Filter
11. Filter feed pump

Bar Screen chamber => It is used for the Removal of floating materials. The size of the Screen Chamber is length = 2m, width = 1m and Depth = 1.5m.




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Grit Chamber => It is used for the removal of Grid particles or Inorganic particles such as Sand Gravel, Slit and glass materials. The size of Grid Chamber is 2.0m length, 2.0m width, 2.0m depth.

Equalization tank => It is used for Neutralizing the characteristics of waste water. The size of Equalization tank is 15m length, 3.5m width, 3m liquid depth.

Activate Sludge Process => It can be used for the Removal of BOD from waste water. Hydraulic detention time is 20 hrs. Size of the tank is 15m length, 15m width and 3m liquid depth.

Sludge drying beds is used for dewatering of sludge with the help of sunlight. Size of the sludge drying beds is 3m x 2m x 1.5m.

Benefits of Water Recycling:

1. It mainly helps in reducing water scarcity around the campus.
2. It can be used for creating or enhancing wetlands.
3. During this process, electricity and soil amendments are generated.
4. The recycled water can be mainly applied to agricultural and domestic purposes etc.
5. It reduces waste water discharges by reducing and preventing pollution of water.

5. Maintenance of Water bodies and Distribution system in the campus:

The water bodies are maintained regularly so as to provide sustainable, consistent, economic safe and adequate water to the campus. The main objective of the maintenance is to provide diseases free environment. In the campus, the process of Chlorination will be carried out to kill bacteria, viruses and other microbes present in water. Mainly it is carried out to prevent the spread of water borne diseases like cholera, dysentery and typhoid etc.

The distribution of water is done through well equipped system of pipes. By the process of Ozonisation and Reverse Osmosis, the water is purified as drinking water and supplied through a separate type of distribution system and other set of distribution pipes are used for all other activities.

By using Low flow plumbing fixtures, the wastage of water is highly reduced. All the collaborator of the college are educated and motivated about the importance and the usage of water in the campus.

Scheduled Inspection of machineries is done in daily, weekly, monthly and annual basis in the campus. In order to avoid leakages and to prevent wastage of water, overall distribution system in the campus is well maintained and supervised by Maintenance Department of the college.




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Distribution system



Distribution system




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