

Project for Sewage Treatment Plant Expansion at Galgotias University

Monitoring the Galgotias University wastewater generated from all the blocks (including hostel) and analysis of treating capacity of STP plant.

1. Brief description

The STP (Sewage Treatment Plant) of Galgotias University has been designed with consideration of previous waste generation that include Block A, B, and C only. Currently, we have started Hostel (Block D) with students capacity (present) of around 700 to 800.

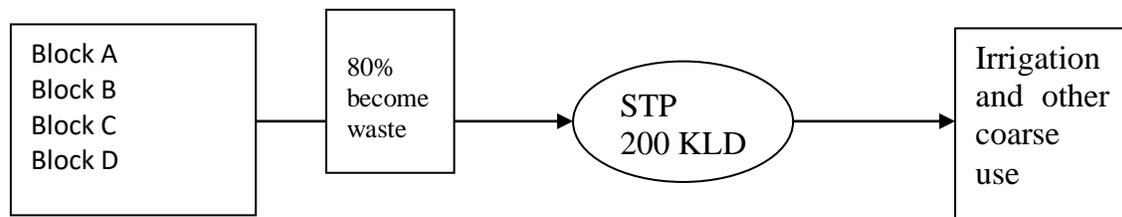


Fig.1. Flow Diagram Showing Wastewater Generation at Galgotias University.

1.1 Block D

The total present capacity of plant is 200 KLD (Kilo Litre per Day). This design was to treat the waste water generated from block A, B, and C. Recently, with inclusion of Hostel (Block D) there has been increase in waste generation, which is about 150 KLD. Theoretically, one student generate wastewater of about 180 litre per day (Hostel). For about 800 students (maximum) the total discharge comes out to be 144 KLD. This is about 150 KLD (being safer side). So, we need to either increase the capacity of plant or we design the whole plant afresh.

1.2 Block A, B, and C

The total waste generation from Block A, B, and C has been found to be always less than 200 KLD. The decision could be either side (fresh plant or up-gradation of plant) but it would be beneficial to make arrangements to use the older STP in addition with some new instalments in order to increase the capacity.

2 Project Description

The goal of the project is to develop a feasibility study and design of a significant expansion for wastewater management for the Galgotias University, Greater Noida, Uttar Pradesh, India. This is a real need for the community. Currently the wastewater is discharged to campus ground after STP from which the water evaporates. Currently, the water quality monitoring has historically been not done. However, as the population of the campus has continued to grow, evaporative processes are no longer keeping pace with wastewater generation. In addition, the water is a valuable resource that is being used for lawn irrigation rather than simply lost. The community needs a short term solution to prevent the discharge of untreated wastewater and a longer term solution for wastewater management as the campus grows.

Some B.Tech final year students have been deployed on the project to help find the desired data requirements for discharge calculation and flow monitoring.

2.1 Objectives

1. Determine a long term solution that can be implemented in Galgotias University, to avoid the discharge of untreated wastewater.
2. Evaluate options for wastewater management. These include (but are not limited to):
 - a) Various discharge options, such as to agricultural fields, groundwater, or surface water.
 - b) Appropriate and sustainable methods to treat the wastewater to achieve water quality that is compatible with the end use.
3. Design the wastewater management facilities. These should be sized to accommodate 10 years of campus growth (with available infrastructure). Plans should be as specific as possible, with specific equipment compared and recommended.
4. Determine a plan by which the new facilities can be constructed while maintaining adequate wastewater handling.

Project Designed and developed by SoME faculty and student.