

B.S.D.T'S AYURVED MAHAVIDYALAYA WAGHOLI, PUNE – 412207

115 MLD Dr Naidu sewage treatment plant visit report

Date: 10/03/2023

The department of swasthavritta of BSDT's Ayurved Mahavidyalaya, Wagholi organized two days educational visit to Sewage Treatment Plant Pune on 10/03/2022 for Miss Khushbu Kumari - 3rd year BAMS (2017) student.

The Visit was mandatory to fulfil the curriculum requirement of M.U.H.S for 3rd year BAMS students under the subject of Swasthavritta.

The site Visit was organized with the prior permission of senior engineer, Pune Municipal Corporation. Mr. Dhiraj Zhende, plant in charge – Dr Naidu STP. Mr Suresh Valsal & Miss Khangagale accompanied student and guided her throughout the visit.

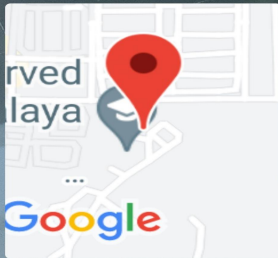
The plant is managed by E L Vishwaraj environment Pvt Ltd. The capacity of Sewage treatment plant is 115 MLD. It receives sewage from some areas of Pune like Kasaba & Tofkhana area of Pune city.



**B.S.D.T'S AYURVED MAHAVIDYALAYA
WAGHOLI, PUNE – 412207**



📍 GPS Map Camera



Pune, Maharashtra, India
Dr Naidu Sewage treatment plant
Lat 18.582529°
Long 74.00284°
10/03/23 09:53 AM GMT +05:30

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The units involved in the process of sewage treatment sequentially are as follows:

1. Inlet Chamber

This unit receives sewage from some areas of Pune like Deccan, Shivaji nagar etc.

2. Screen Channel

The function of the bar screen is to prevent entry of solid particles/ articles above a certain size; such as plastic cups, paper dishes, polythene bags, condoms and sanitary napkins into the STP. (If these items are allowed to enter the STP, they clog and damage the STP pumps, and cause stoppage of the plant.) The screening is achieved by placing a screen made out of vertical bars, placed across the sewage flow.

3. Grit Chamber (Mechanically), 4. Grit Chamber (Manual)

Grit chambers are basin to remove the inorganic particles to prevent damage to the pumps, and to prevent their accumulation in sludge digesters. There are two types of Grit chambers: mechanically cleaned and manually cleaned. In *mechanically cleaned* grit chamber, scraper blades collect the grit settled on the floor of the grit chamber

4. Preliminary Treatment

Preliminary treatment to screen out, grind up, or separate debris is the first step in wastewater treatment. Treatment equipment such as bar screens and grit chambers are used as the wastewater first enters a treatment plant. The collected debris is usually disposed of in a landfill.

5. Primary Treatment

Primary treatment is the second step in treatment and separates suspended solids and greases from wastewater. Waste-water is held in a quiet tank for several hours allowing the particles to settle to the bottom and the greases to float to the top. The solids drawn off the bottom and skimmed off the top receive further treatment as sludge. The clarified wastewater flows on to the next stage of wastewater treatment.

6. Aeration tank

The Aeration tank (together with the settling tank/ clarifier that follows) is at the heart of the treatment systems. The bulk of the treatment is provided here, employing microbes/bacteria for the process.

The main function of the Aeration tank we observe there is to maintain a high population level of microbes.

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7. Secondary Clarifier (Treatment)

Secondary treatment is a biological treatment process to remove dissolved organic matter from wastewater. Sewage microorganisms are cultivated and added to the wastewater. The microorganisms absorb organic matter from sewage as their food supply.

8. Chlorine Contact Tank

This is used to disinfect the treated sewage and also separate sludge from it.

9. Sludge Thickener

When the **thickening** of **sludge** is inadequate, the filtrate from **dewatering** will have large amounts of suspended solids returning to the **STP** and affect the water quality. Hence, excess **sludge** is increasingly being mechanically thickened using centrifugal **thickening** machines or floatation **thickeners**.

10. Sludge Digester

The goal is to reduce the amount of sludge that needs to be disposed. The most widely employed method for sludge treatment is anaerobic digestion. In this process, a large fraction of the organic matter (cells) is broken down into carbon dioxide (CO₂) and methane (CH₄), and this is accomplished in the absence of oxygen. About half of the amount is then converted into gases, while the remainder is dried and becomes a residual soil-like material.

Final Treatment

Final treatment focuses on removal of disease-causing organisms from wastewater. Treated wastewater can be disinfected by adding chlorine or by using ultraviolet light. High levels of chlorine may be harmful to aquatic life in receiving streams. Treatment systems often add a chlorine-neutralizing chemical to the treated wastewater before stream discharge.

Overall it was a good visit.

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