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PMT Waste Water Treatment Plant

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***Abstract*: In general, the sanitation field seems to live the life of an orphan in many Pacific Island Countries. In many cases this important sector of public health has been left alone when major upgrading projects improved the water supply systems in many countries and provinces. This basically ignored the downstream effect of improved water supply, that of increased discharges into rivers or aquifers. Two reasons appear to be the major cause for that: firstly, wastewater collection and treatment is costly and their benefit often hard to show; and secondly, even if low-cost solutions are being implemented many projects fail to deliver the expected outcome. Without pretending to reflect the complexity of sanitation projects three principal reasons may be held accountable for the non-delivery problems. The technology was not appropriate. The beneficiary was not involved and consulted sufficiently, and the responsibilities within government were not resolved to ensure the necessary support. During the last years many rural areas were provided with some kind of water supply system. The availability of water leads to wider spread use of flush toilet systems. These systems mainly use simple toilets to discard the waste water either directly into the porous underground or into simple holes. At the same time many villages still supplement their water supply from shallow wells which are often located in the direct neighbourhood of the toilets. Even if landowners consider the possible contamination of their well through their own toilet and locate them far apart they cannot avoid the location of their neighbour's toilet close to their well. A similar risk of water body contamination occurs where villages situated on the banks of a small estuary/lagoon discharge their wastewater without treatment. It is expected that Small Scale Waste Water Treatment Plants (SSWTP), under certain circumstances.**

***Keywords*: Waste water treatment plant.**

1. Introduction

Pravara Institute of Medical Sciences University is located in Ahmednagar, Maharashtra, India. The parent trust Pravara Medical Trust was founded by Vithal rao Vikhe Patil in 1972 and The deemed university founded by Dr. Balasaheb Vikhe Patil. The UGC granted Deemed University status in 2003.

The deemed University has following constituent units under its ambit.

- Rural Medical College.
- Rural Dental College.
- Dr. APJ Abdul Kalam College of Physiotherapy.
- College of Nursing.
- Centre for Biotechnology.
- Centre for Social Medicine.

Pravara Institute of Medical Sciences University	
Established	2003
Chancellor	Dr.Vijay Kelkar
President	Dr.Rajendra Vikhe Patil
Administrative staff	1100
Undergraduates	2000
Postgraduates	500
Location	Ahmednagar, Maharashtra, India

A. MKW Bio-Systems

Established in the year 1996, we, MKW Bio-Systems are an organized firm engaged in Manufacturer, Supplier, Trader and Service Provider of Water and Waste Water Treatment Plant, Filtration System, Membrane Base Separation System, Air Pollution Control System, Water and Waste Water Treatment Component, Industrial Chemical, Operation and Maintenance Service, Environmental Clearance Service, Pollution Control Board Consultancy and Annual Maintenance Contract. All our products and Services are manufactured under the strict guidance of our Mr. M.H. Mujawar who is our CEO. With his active guidance, we are able to earn a name and fame all over the world.

He is highly qualified and experienced in the field of water treatment solutions. The directions from our leader and our hard core initiatives have resulted in earning a turnover of Rs. 50 Lakh - 1 Crore. With such a boosting turnover, we are able to become the most promising name in the field of water treatment all over the world.

2. Methodology

Step 1: Screening and Pumping

The incoming wastewater passes through screening equipment where objects such as rags, wood fragments, plastics, and grease are removed. The material removed is

washed and pressed and disposed of in a landfill. The screened wastewater is then pumped to the next step gritre moval.

Step 2: Grit Removal

In this step, heavy but fine material such as sand and gravel is removed from the wastewater. This material is also disposed of in a landfill.

Step 3: Primary Settling

The material, which will settle, but at a slower rate than step two, is taken out using large circular tanks called clarifiers. The settled material, called primary sludge, is pumped off the bottom and the wastewater exits the tank from the top. Floating debris such as grease is skimmed off the top and sent with the settled material to digesters. In this step, chemicals are also added to remove phosphorus.

Step 4: Aeration/Activated Sludge

In this step, the wastewater receives most of its treatment. Through biological degradation, the pollutants are consumed by microorganisms and transformed into cell tissue, water, and nitrogen. The biological activity occurring in this step is very similar to what occurs at the bottom of lakes and rivers, but in these areas the degradation takes years to accomplish.

Step 5: Secondary Settling

Large circular tanks called secondary clarifiers allow the treated wastewater to separate from the biology from the aeration tanks at this step, yielding an effluent, which is now over 90% treated. The biology (activated sludge) is continuously pumped from the bottom of the clarifiers and returned to the aeration tanks in step four.

Step 6: Filtration

The clarified effluent is polished in this step by filtering through 10-micron polyester media. The material captured on the surface of the disc filters is periodically backwashed and returned to the head of the plant for treatment.

Step 7: Disinfection

To assure the treated wastewater is virtually free of bacteria; ultraviolet disinfection is used after the filtration step. The ultraviolet treatment process kills remaining bacteria to levels within our discharge permit.

Step 8: Oxygen Uptake

The treated water, now in a much stabilized high quality state, is aerated if necessary to bring the dissolved oxygen up to permit level. After this step, the treated water passes through the effluent outfall where it joins the Oconomowoc River. The water discharged to the river must meet stringent requirements set by the DNR. Pollutant removal is maintained at 98% or greater.

3. Conclusion

The quality of water should not be compromised because of concern over the potential long term effects of disinfectants. The risk of illness resulting from exposure of pathogens. Hence the quality of the water is checked by and tested by the authorities of mkw bio systems. The PMT's Sewage Treatment Plant has the capacity of 800M³/Day.

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