

## SRES'S SHREE RAMCHANDRA COLLEGE OF ENGINEERING

Lonikand, Pune – 412216

Date: 16/06/2022

#### REPORT OF SEWAGE TREATMENT PLANT

\* TITLE: Sewage Treatment Plant

\* NAME OF INSTITUTE: Shree Ramchandra college of Engineering Lonikand, Pune

❖ NAME OF SUPPLIER: Panshul Engineering & Chemicals Pvt. Ltd.

**QUOTATION REF:** 155/PECPL/STP/21/03

**Date:** 21-03-2022, R-2

**❖ NATURE OF WASTE WATER:** Sewage

\* CAPACITY: 30 KLD

Technology: Moving Bed Biofilm Reactor (MBBR)

**♦ Cost of Design supply & Installation commissioning of sewage treatment plant**= RS 5.75000.00

\* Cost of Civil work (Construction & Material Cost of Wastewater Tank):

Rs 214000.00 + Rs 3,55000.00 = Rs 5,69000.00

Contact Person of Civil work: More Contractor (+91 9096698901)

Contact Person of Panshul Engineering & Chemical Pvt. Ltd. Appaso Jangam (+91 9923918207)

#### Objective:

- 1. To treat the Wastewater and make it safe for human and environmental contact. Physical processes treat the wastewater by solid-liquid separation or biological functions like aerobic digestion.
- 2. To protect the environment from water pollution by removing contaminants such as bacteria, nutrients, chemicals and particulates, which are harmful.
- 3. Eco friendly green development
- 4. Sewage Treatment & recycle.

#### Processes involved are under:

<b>Primary Treatment</b>	Secondary Treatment	Tertiary Treatment	
Bar screen chamber	Aeration tank	filtration	
Oil and grease chamber	Secondary Clarifier	Disinfection	
Neutralization	Intermediate storage Tank	Sludge Treatment	
Equalization tank		Sludge Holding Tank	
Primary Clarifier		Sludge Drying Bed	

#### **Assumptions:**

- 1. The plant is designed to operate at +/- 10 % variation in raw wastewater parameter.
- 2. No other parameters other than mentioned above is present in the raw waste water which is beyond Pollution Control Norms and hazardous to microorganisms.
- 3. Treated water quality will be achieved if the inlet raw water quality is as per the raw water quality mentioned as well as no other pollutant than the mentioned, is present or exceeds the limits or which is hazardous in nature, which otherwise max affect the biological treatment process.



### SRES's SHREE RAMCHANDRA COLLEGE OFENGINEERING

Lonikand, Pune - 412216

Sewage Treatment Plant Construction Photo





Geotag Photo



Local 12:04:28 PM GMT 06:34:28 AM

Altitude 596.1 meters Thursday, 16-06-2022

Note : Shree Ramchandra College Of Engineering

18.6023566666666665° 74.02166833333334°

Local 12:03:16 PM GMT 06:33:16 AM

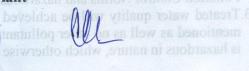
Altitude 598 meters Thursday, 16-06-2022

Note: Shree Ramchandra College Of Engineering

Sewage Preatment Plant was bas amov loung I not the

ater quality is as per the raw water quality







# SRES's SHREE RAMCHANDRA COLLEGE OFENGINEERING

Lonikand, Pune – 412216

A) Raw domestic sewage from (Academic/admin buildings, hostels etc) Toilet Flow has following ingredients:

Sr. No.	Raw Sewage Parameter (At the inlet of Collection tank / Septic tank)	Range Of Parameter	
1	рН	6-7	
2	COD	400-500 mg/lit	
3	BOD (5 days @ 200C)	250-350 mg/lit	
4	Suspended Solids	400 mg/lit	
5	Oil & Grease	10-30 mg/lit	

B) Treated sewage water parameter at the exit of sewage treatment plant flow has following ingredients:

Sr. No.	Treated Sewage Water Parameter	Range Of Parameter	Maximum Allowable Limit ( as per CPCB )	Remark
1	рН	6.0 - 8.5	5.5 – 9.0	Accepted
2	COD	≤ 250 mg/lit	≤ 250 mg/lit	Accepted
3	BOD (5 days @ 20°C)	≤ 100 mg/lit	≤ 100 mg/lit	Accepted
4	Suspended Solids	≤ 100 mg/lit	≤ 100 mg/lit	Accepted
5	Oil & Grease	≤ 10 mg/lit	≤ 10 mg/lit	Accepted

Note: Comparing tables 'A' & 'B' above the treated water quality is within acceptable range.

#### **Advantages of STP:**

- 1. This plant will produce the treated water which is recycled.
- 2. This plant is based on biological principle hence no need use of any excessive hazardous chemicals for the main degradation process.
- 3.Being an attached growth process there is no need of Return sludge recycling.
- 4. Due to media technology, foot print area required for the plant is very less.
- 5. Due to smaller unit sizes, civil construction cost & overall project cost is very less.
- 6. Due to efficient aeration system, electrical power requirement is very low.
- 7. Due to user friendly equipment, plant maintenance is very less.
- 8. Due to inbuilt automation, plant machinery life is high & ensures trouble free operation.
- 9.All process rotating electromechanical equipment is provided with standby equipment to ensure the uninterrupted operation.

Prepared By. Prof. Pawar S. P. Pund Solies & Sullas

Checked by.

Principal

Prof. Dr. Avinash Desai