INDUS ECOWATER
Innovative & Affordable Sewage Solutions

CHECKLIST FOR SEWAGE TREATMENT PLANT (STP)

Are you planning for a sewage treatment plant? Consider the following issues carefully to get best out of your STP

Sewage comprises of liquid and solids. The treatment plan must include proper treatment for both liquid and solids. Proper disposal mechanism for treated solids and liquid is just as essential. Most vendors skimp on cost and do not plan for solids treatment and disposal. This includes big established organizations.

Treatment Plant Capacity

#	Description	Yes	No	Remarks
1	Is the sewage generation calculated at 150 lts per head per day?			150 Lts per capita will be considered by PCB for arriving at plant capacity.
2	Is the planned STP capacity matching the generation?			Ensure that STP capacity is plus or minus 10% of above capacity.
3	Can the plant handle from 30% to 100% capacity?			Opt for plant designs that can works well even at 30% capacity as initial loads will be just that much

Technology

#	Description	Yes	No	Remarks
1	Are you opting for attached growth process?			MBBR, FAB, SAFF, RBC etc are all attached growth processes each with advantages & disadvantages
2	Is any media being planned in bio reactor?			All attached growth plants will have media
3	Is the volume of the media as per design requirement?			Check for correct media volume. Lower volume will not give desired output water quality
4	Does the media float in water			Fixed media are outdated and has more disadvantages- avoid them at all costs

Collection Tank

#	Description	Yes	No	Remarks
1	Is the collection tank volume sufficient?			Collection tank volume should a minimum 33% of STP capacity (in KLD)
2	Is aeration grid planned for collection tank			If aeration is not provided, it will give foul odour

3	Does the collection tank have access manholes?			
4	Are rungs (steps) provided to get into the tank?			Required for maintenance in future
5	Are the rungs where provided are made of non-corrosive materials?			
6	Does the collection tank have a pump sump?			Required for de-watering completely
7	Have you considered periodic cleaning of collection tank?			Tank must be cleaned once every 2 years

Aeration Tank / Bio-reactor

#	Description	Yes	No	Remarks
1	Is the aeration tank volume sufficient?			Depending on process, 25% to 50% of STP capacity is required for aeration tank
2	Is aeration grid planned to diffuse required quantity of air into the bio-reactor?			
3	Does the aeration tank have access manholes?			
4	Are rungs (steps) provided to get into the tank?			
5	Are the rungs where provided are made of non-corrosive materials?			
6	Is there any possibility of solids settling in aeration tank?			Settling of solids will give foul smell in tank
7	Have you considered periodic cleaning of aeration tank?			
8	Is an outlet launder provided in the aeration tank?			If not, solids will carry into the settling tank
9	Is there any arrangement to prevent media going into settling tank?			Media must remain in aeration tank & shouldn't get into settling tank

Settling Tank

#	Description	Yes	No	Remarks
1	Is the settling tank designed as tube settler?			Tube settler is more efficient- but design is critical for success & needs more maintenance
2	Is chemical dosing pump provided?			Poly / alum dosing must be provided
3	Does the settling tank have hopper shaped bottom?			
4	Is the water column depth below 2.5 Mts in ST?			If the depth is more, water may become septic
5	Is a dedicated sludge transfer pump provided?			2 Sludge transfer pump(s) are a must

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Sludge Holding Tank (SHT)

#	Description	Yes	No	Remarks
1	Is a dedicated sludge holding tank provided?			SHT is required for all STPs in closed areas. Not needed if sludge dry beds are provided.
2	Is the sludge holding tank volume at least 15% of STP capacity?			This is critical to ensure proper sludge digestion. Un-digested sludge generates foul odour.
3	Is the sludge holding tank provided with diffused aeration grid?			Required for sludge digestion. DO NOT plan for anaerobic digestion as generates foul smell
4	Is 30% blower air pumped into holding tank?			Ensure that blower is of required capacity
5	Is a sludge transfer pump provided?			
6	Have you considered periodic cleaning of sludge tank?			Must design every tank for periodic cleaning

Sludge de-watering

#	Description	Yes	No	Remarks
1	Are you aware that water has to be removed from sludge before disposal?			Water has to be removed from sludge so that only solids can be disposed off
2	Are you aware that there is NO method of disposing sludge as it is?			DO NOT plan for tankers as they are not permitted
3	Do you know that only digested sludge will de-water easily?			Un-digested sludge is very sticky and a nuisance to handle with filter press
4	Do you have space for sludge drying beds?			This is the easiest & most economical option if you have open spaces
5	Do you wish to spend for filter press or centrifuge?			Filter press is expensive & energy intensive
6	Do you know that semi solid sludge cake has to be removed manually even in a hydraulic filter press?			Sludge has to be scrapped off from the filter cloth manually
7	Have you seen a filter press in operation?			Check out on You Tube for better idea of how it works. It's operation is messy – choose other options as we may not get operators to work on them in future

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Treated Water Tank

#	Description	Yes	No	Remarks
1	Are you planning to re-use treated water?			If there is no re-use of treated water, there is no need for treated water tank.
2	Do you want to re-use water for toilet flushing?			Take maximum care to provide best quality treated water as water stored in flush tanks has foul smell and residents will complain
3	Did you plan for additional treatment of treated sewage before using in toilet flushing?			Advanced filtration methods like UF will improve water quality to re-use level. Always plan for this if you are planning for toilet flush / car wash etc
4	Is a separate UF treated water tank planned?			This is a must when you wish to re-use treated water for toilet flushing etc
5	Is aeration provided in treated water tank?			Even a small volume aeration will help avoid foul smell in toilets and resultant complaints

Electrical Panel / Automation

#	Description	Yes	No	Remarks
1	Is the STP panel manual?			Manual panels are designed for 24 X 7 operation only
2	Does it need manpower 3 shifts a day?			All manual panels need operators in three shifts
3	Is the panel designed to protect pumps / motors against voltage fluctuations?			Ensure that panel has provision for single phase prevention & overload
4	Is the panel designed to reduce power consumption?			Automatic panels are programmable & power consumption will be directly proportionate to the sewage volume
5	Can automatic panel work for lesser load?			Manual panels can't operate for lesser sewage loads.
6	Do you wish to get operational data from STP?			Only Indus micro-processor panels record all operational data.

We at INDUS always educate our clients about their exact requirement. Our offers are comprehensive and cover all the issues raised above.

Our plants are 100% automatic with operator presence for just one hour every day.

Call on us TODAY for a trouble free & happy STP use.