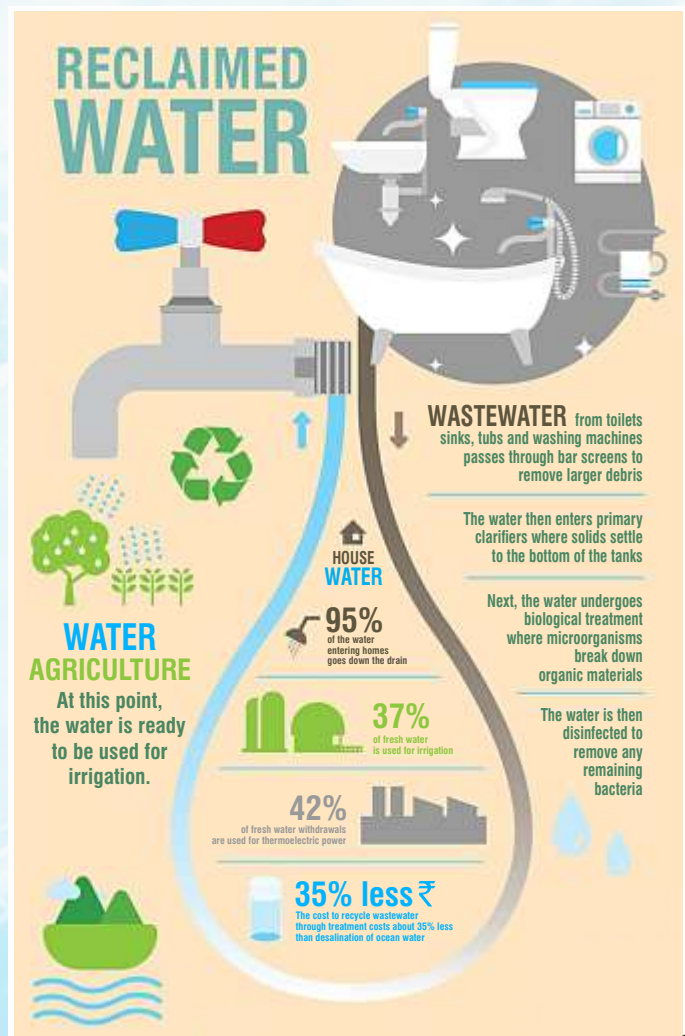




Robust, Energy Efficient & Ultra Low LCC, Aqua Submerged CF pumps help keep Chandigarh's Water Footprint Low while keeping it Green; Water & Energy Lean



Chandigarh is an epitome of Urban Transformation Model and acts as one of the crucial case studies for the Urban Planners and Architects across the world. It is also one of the first planned cities of India and also enjoys the tag of "Green City" – naturally it requires a lot of water & energy to keep it green!





Situation

The city of Chandigarh has a well planned underground sewer network of pipes aggregating to 890km & is designed by taking into account the natural slope of the city, which is from north to south mostly flowing under gravity in various pipes of different diameter ranging from 6” to 18” S.W.Pipes and 24”x36” to 66” dia circular Brick sewer.

The sewage is carried to a site in the south of the city where it is to the Sewage Treatment Plant, spread over an area of 48 acres, is located at Sector 66 of S.A.S. Nagar

What is Tertiary Treatment ?

Primary Treatment:

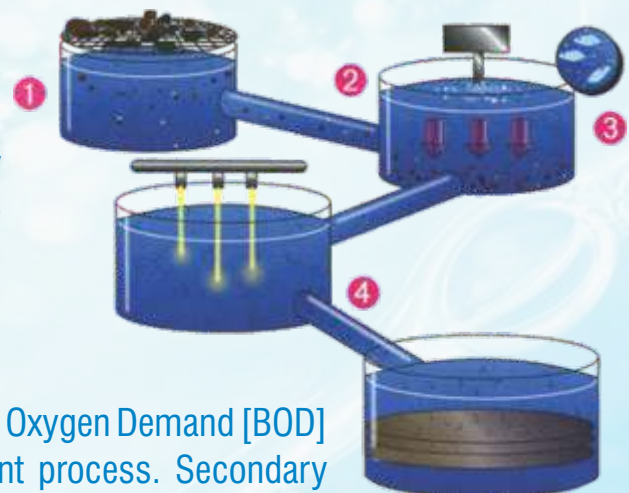
Treatment involving sedimentation (Sometimes preceded by screening and grit removal) to remove gross and settle able solids. The remaining settled solids, referred to as sludge, are removed and treated separately.

Secondary Treatment:

Generally, a level of treatment that removes 85% of biological Oxygen Demand [BOD] and suspended solids via biological or chemical treatment process. Secondary treated reclaimed water usually has a BOD of <20 milligrams per liter (mg/L) and suspended solids of <30 mg/L, but this may increase to >100 mg/L due to algal solids in lagoon systems.

Tertiary Treatment:

The treatment of reclaimed water beyond the secondary biological stage. This normally implies the removal of high percentage of suspended solids and/or nutrients, followed by disinfection. It may include processes such as coagulation, flocculation and filtration.





Asthetic Green view - the top slab of Underground Treated Water Reservoir is covered with Grass to maintain minimal intrusion to **Chandigarh's identity as a Green City**

Solution

The sewage received at S.T.P. is subjected to primary, secondary and tertiary treatment. Out of the 48 mgd sewage received at the Sewage Treatment Plant, 35 mgd is treated upto secondary level and out of this 10 mgd is further treated upto tertiary level.

The tertiary treated water is sent to TTWPS pumping station, where it is pumped (recycled back) to the city for irrigation of open spaces/ gardens. The treated sewage is used for the irrigation of open spaces in these institutions helps not only in reducing the burden on the sewerage network of the city but also help in reducing the cost of taking the sewage from the residential and commercial premises to the S. T. P. and thereafter recycling it back to the city after treatment for irrigation of open spaces/ parks.



**PUMPING STATION FOR TERTIARY TREATED WATER
SECTOR 48-A, CHANDIGARH
INAUGURATED
BY
SH. K.K. SHARMA, IAS
ADVISER TO THE ADMINISTRATOR
CHANDIGARH ADMINISTRATION
IN THE PRESENCE OF
SMT. RAJ BALA MALIK, MAYOR
AND
SH. DAVESH MOUDGIL, AREA COUNCILLOR
MUNICIPAL CORPORATION, CHANDIGARH**

TO WHOM IT MAY CONCERN

Sub: Performance of AQUA make pumps installed by M/s Skylark Industries, D 154, Industrial Area, Phase 7, Mohali, for Pumping Tertiary treated water from UGR Sector 29C & 48A for Irrigation of various open spaces, parks & Green Belts in Chandigarh (Ch. To JNNURM Project).

This is to certify that the following submersible pumps manufactured by M/s Aqua Machineries Pvt. Ltd. Ahmedabad were supplied & installed by M/s Skylark Industries, Mohali in 2011 against Order No 6541 dated 26.8.2010 for Rs 128.91 lacs of the work for pumping tertiary water.

Qty.	3 Nos	3 Nos
Discharge	576 cum/hr	720 cum/hr
Head	50 Mt	55 Mt
Motor HP	160 HP	225 HP

The performance of above pumps is satisfactory & pumps are regularly working without any problem since commissioning.

[Signature]
12/9/19
M.C.P.H. Dwa. No. 2,
Chandigarh.

No. 9422
Dated: 12/9/2019

TO WHOMSOEVER IT MAY CONCERN

Sub: Performance of AQUA make pumps installed by M/s Skylark Industries - Mohali, for The work of Conservation of drinking Water by Harvesting of the Tertiary Treated Sewage for Irrigation of Green spaces, in Chandigarh (UGSR sector -29B and 28 B) under JNNURM Project.

This is to certify that the following Submersible Centrifugal pumps manufactured by M/s Aqua Machineries Pvt. Ltd. Ahmedabad, were supplied & installed by M/s Skylark Industries - Mohali in Aug 2012 against our above work for pumping tertiary water.

Qty.	6 Nos.
Model	ARS 2052 DXM 215
Discharge	720cum/hr.
Head	50 Mt
Motor HP	215 HP

The performance of above pumps is satisfactory & pumps are regularly working without any problem since commissioning.

[Signature]
12/9/19
M.C.P.H. Dwa. No. 2,
Chandigarh.

No. 9421
Dated: 12/9/2019



No Maintenance

For almost 9years now; Aqua Submerged Centrifugal pumpsets are working with Nil Maintenance & Very Low ManPower requirement.

- They requires **No Routine Maintenance** (like Oiling, Greasing, Gland Tightening, Gland Rope replacement, Shaft Alignment, Dry Run prevention, etc.)
- They requires **No Consumables** (like Oil, Grease, Gland Ropes, Bush, Pins, Couplings, Sleeves, etc)
- They requires **No Special Pre - Post / Ancillary-Auxillary Operations** (like Suction Priming, Valve Opening-Closing, starting- stopping-monitoring Forced Water Lubrication systems operation, Dewatering Seepage/ Gland Leakage, etc.)



AQUA MACHINERIES PRIVATE LIMITED

www.aquapumps.com

Registered Office & Manufacturing Plant

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