



Storm Water Management at Buddh International Circuit (Formula One F1 Grand Prix)



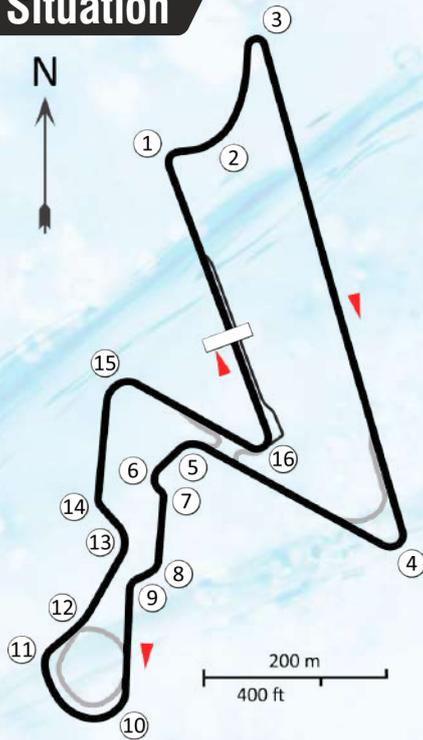
Jaypee Sports International Ltd.(**JPSI**), a subsidiary of Jaiprakash Associates Limited (JAL); has constructed India's premier motorsports destination – the Buddh International Race Circuit – which has hosted India's first ever F1 Grand Prix on 30th October, 2011. The **5.14km** JPSI circuit has been designed by renowned **German Architect Hermann Tilke & German Consultants M/s. SANELAC**; (who have earlier designed World-class racing circuits in Malaysia, Bahrain, China, Turkey, Indonesia, the UAE, South Africa, South Korea & the US).

The Internationally loved Buddh International Circuit has successfully hosted **two F1 races** in the year **2011** and 2012 & a **Super Bike moto sport** in March 2013.

It is a part of massive Jaypee **Sports City**, Premium Residential Township spread over **2,500 acres**, comprising of a **Cricket stadium** ultimately having a seating capacity of **100,000 people**; a **Hockey Arena**, a **Sports Training Academy** and infrastructure for other sports.



Situation



Buddh International Race Circuit is located near Greater Noida having a vary flat terrain & an Annual Average of 170 cm to 84 cm. Given the concentration of most of this rainfall in the 4 months of Monsoon period, excess rain **can lead to floods & would pose a serious problem to such a World class township spread over 2500 acres...!**

Why 2nd generation of Submersible Non-Clog pumps?

The 1st generation submersible non clog pumps used in India were designed for European conditions - however the operating conditions in Buddh International Circuit (or at most place in India) are drastically different (*much harsher on pumps*), hence their performance in India was below the mark.

Condition	Effect of Pump	Result
Higher content of sand, silt & ash in sewage	accelerated erosive wear of impeller Leakage Clearance	Drop of pressure & efficiency
Poor Electrical Supply	Motor Insulation Stressing	Premature motor burnout
Higher Ambient Temperature		
Poor or defunct Solid Screening leading to high concentration of solids, especially fibrous ones.	Dangerous cocktail of large solids & fibrous waste plait up & choke conventional non clog impellers leading to motor stall	Immediate Motor Insulation burnout
Poor liquid level sensing & operation by often unskilled staff leading to frequent Dry Running	Excessive heating leading to motor insulation burn out, bearings grease leakage & possibly seizure; mechanical seal overheating	Immediate motor, bearing & mechanical seal failure

Aqua's engineers were amongst the first to realize this mismatch between design & operating conditions - hence the concept of ANS was born.

Challenges to pumps

- Flood water often contains solids and large amounts of fibrous materials, like branches, leaves, weeds, trash, dirt and sediments such as sand, silt, mud and soil.
- Inflow to the station will vary significantly between dry seasons and flood events.

Hence, the most reliable pumps should be used together with a sound station design to ensure secure operation.

Solution

Jaypee Sports International Ltd. (JPSI), has designed Storm Water Management System to Dry out F1 Race track & other sports area in **2500 Acres** Area through **7 different Pumping Stations**. JPSI awarded Order to AQUA with milestone to complete the work within 12 weeks including Design, Approval, Manufacturing, Supply. Installation, Testing & Commissioning of Submersible Pumpsets with associated Electrical & Mechanical Equipments.

Head	Discharge	Qty.	HP
9m	1800 m³/hr	31	90hp
9m	720 m³/hr	5	40hp

Consultant :  **SANELAC CONSULTANTS PVT LTD**

AQUA has commissioned Submersible Storm Water Pumping Station. In January 2012 & running till date without any breakdown.



Unique Advantages of Aqua's ANS

ANS Pumps are specially designed (as an upgrade over the 1st generation of submersible non clog pumps) **to withstand the harsh operation conditions** (encountered in sewage pumping) **in developing countries.**

- Tolerates wide Electrical supply fluctuations.
- Pumps factory tested on Full Scale Test Bed equipped with VFD up to 1180kW.
- Wide range of Hydraulic designs allow Clogless handling of sewage at optimal efficiency.



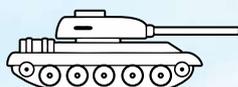
Tolerates Wide Voltage Variation



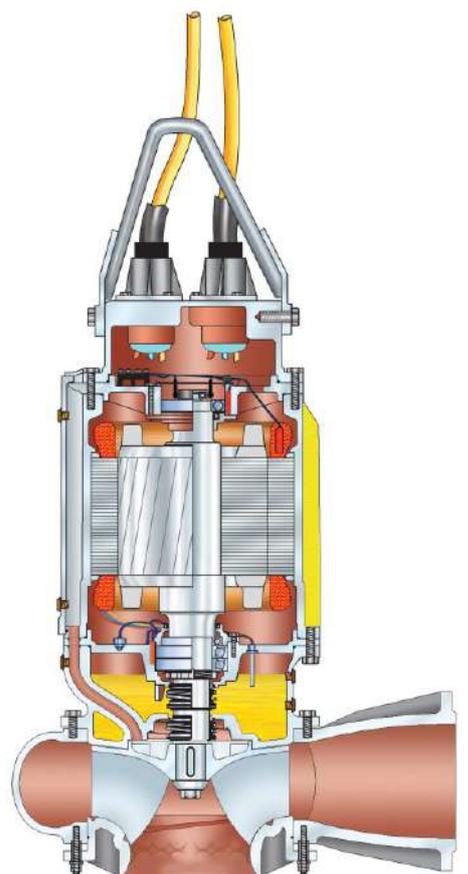
Thanks to generous Reserve Margins & Optimized Design; Aqua's Motors keep coolly working even in scorching summers



tolerates upto 55°C ambient temperature



Robust Tank like Build





TO WHOMSOEVER IT MAY CONCERN

- Nature of Work : Supply, Installation, Testing & Commissioning of "AQUA" make Submersible Pumps (500 LPS/90 HP : 31 nos. and 200 LPS/40 HP : 5 nos.) with related accessories within SDZ, Sector-25, Yamuna Expressway, Distt. G.B. Nagar, Dankaur, (U.P.)
- Work Order No. : JPSI/Pumps/AQUA/1082-11 & JPSI/Pumps/AQUA/1094-11 both dated 10/05/2011
- Agency : M/s Aqua Machineries Pvt. Ltd., Plot No. 3821, Phase-IV, GIDC, Vatva, Ahmedabad (Gujarat)
- Value of Work : ₹ 490 Lac and ₹ 25 Lac respectively

This is to certify that M/s. Aqua Machineries Pvt. Ltd. has completed the Supply, Installation & Commissioning of Submersible Pumps with all related accessories likes panels, cabling, cable tray fixing, earthing, MR 200 controller with panel fixing, fitments of bar screens successfully in time as per contracted schedule.

The performance of pumps with automation have been found satisfactory.

We congratulate M/s Aqua Machineries Pvt. Ltd. for a job well-done.

Maj. Gen. (Retd.) BL Khanna
Vice President

Place: Dankaur
Date : 18th January, 2012



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Regd. Office: Sector 128, Noida-201304 (U.P.) Ph: +91-120-4609000, 2470800 Fax: +91-120-4609464, 4609496



Low Life Cycle Costs (LCC)



Robust & Reliable



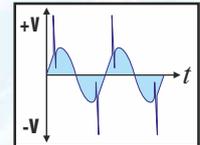
Zero Maintenance



Reliability



Quality



Tolerates Power Spikes & Surges

Aqua Machineries Private Limited

www.aquapumps.com

Registered Office & Manufacturing Plant

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