East Sussex National Golf Resort & Spa

Bio-Bubble Advanced Aeration Wastewater & Sludge

Bio-Bubble Advanced Aeration was selected as the preffered system for the faciliation of wastewater treatment at the East Sussex National Golf Resort & Spa.

- **104** Bedrooms
- **2** Restaurants
- **6** Bars
- **9** Conference Suites (main suite capacity of **200** people)
- **300** Seat Banqueting Hall
- Health & Spa Club
- **2** Championship Golf Course
- **1,100** acres of Golf Course

BASIS OF DESIGN					
Hydraulic Load	76.6	m^3/d	BOD	10	mg/l
Organic Load	44.5	kg BOD d	SS	15	mg/l
Hydraulic Population	383	PE	Amm.N	2	mg/l
Organic Population	741	PE	Consent Compliance	95	%ile

Bio-Bubble Advanced Aeration utilises the latest SBR technology in waste water treatment.

All the waste effluent is received from the resort and following treatment is discharged into a lagoon,. The treated effluent is of such a high quality that it can be used for irrigation. The Bio-Bubble system has the ability to maintain this high quality discharge even throughout periods of severe variations to the incoming loads arising from either sudden onsets to peak seasonal tourism or fluctuations from major golfing events.

All the raw sewage, including the swimming pool back-wash, flows from the complex and is then screened through a series of agitated mesh screens which catch all the inorganics prior to entering the Balance Tank where it is retained and mixed to prevent it going septic and further to minimise settlement and alleviate variations in the incoming influent strength.

At set periods the screened sewage is transferred to the Reactor for secondary treatment. The Advanced Aeration process will then be undertaken to produce a final effluent quality that meets or surpasses the required discharge consent.

ADVANCED AERATION PROCESS FOR COMMERCIAL SOLUTIONS

The Bio-Bubble Advanced Aeration Treatment Plant installed comprises of the following treatment stages.

(i) Preliminary Treatment – The removal of Inorganic screenings, utilising the Bio-Bubble biologically Inlet Screening System.

(ii) Secondary Treatment – The wastewater received from the Hotel and Golf Course will be treated using the Bio-Bubble Advanced Aeration Wastewater Treatment process.

(iii) Final Effluent Flow Measurement – The flow rate of the treated final effluent being pumped from the SBR process will be measured and recorded by a MCERT calibrated flowmeter.

BIO-BUBBLE ADVANCED AERATION KIOST AND TANKS FOR COMMERCIAL SOLUTIONS

Raw sewage will undergo preliminary screening at the new inlet treatment works installed upstream of the Bio-Bubble Advanced Aeration process. The inlet works comprises of 3 of 12mm diameter sacks that will retain the gross inorganics. Once the sacks are full screenings will be collected and placed in a wheelie bin on site to dry out prior to collection and disposal. Membrane diffusers are situated within the inlet works chamber keeping the sacks agitated to wash the screenings, in an attempt to eliminate sack blinding.

Once the gross solids have been removed, the wastewater enters the Bio-Bubble Balance Tank where the wastewater is then retained ready for transfer to the Bio-Bubble Advanced Aeration. Membrane diffusers within the balance tank will mix the screened sewage to minimise settlement and alleviate variations in the incoming influent strength.

1 DWF screened sewage flows will be transferred from the balance tank by duty / standby pumps through 50 DN pipework to the Reactor on demand. Secondary Treatment of the screened wastewater to the required final effluent consent limits will then be undertaken.

Following secondary treatment, final effluent will be decanted from the Reactor and conveyed through 50 DN ductile to the outfall via a sample chamber and flow measurement chamber. During discharge the flowrate will be monitored utilising a calibrated Magflo meter, these flow rates can be observed by the flowmeter monitor housed within an enclosure situated on a pedestal adjacent to the final effluent chamber.

The Bio-Bubble Advanced Aeration process can be monitored and controlled by a Human-Machine Interface (HMI) installed as part of the main control panel housed within the Control Kiosk on site. The HMI allows the operator to identify what stage of treatment the process is undergoing and indicates any alarm fault conditions the plant may have. Remote access, monitoring and optimising is carried out by Bio-Bubble under contract.

ADVANCED AERATION

UVDB UTILITIES PREQUALIFICATION SCHEME Supplier Number: 77131

Achilles

The National Energy Efficiency Awards

Hampshire and Isle of Wight Sustainable Business Awards 2007

UK CEED UK Centre for Economic & Environmental Development

SAFEcontractor APPROVED

sales@bio-bubble.com | Tel: +44 (0)2392 200669 | Fax: +44 (0)2392 387460
Unit L | Fishers Grove | Farlington | Portsmouth | PO6 1RN UK
www.bio-bubble.com