

## Istanbul Hilton Hotel Grey Water Re-Use Project



Hilton Hotel Grey Water Re-Use Project;

### Description:

- First grey water re-use project with submersible type membrane in 5 stars hotel in Turkey.
- Effluent water returns to toilet reservoirs and irrigation of green area.
- Effluent quality achieved meets the most stringent reuse requirements.
- The MBR contract agreement provided for the process design, specification and supply of flat sheet membrane units.
- Additional services provided were M&E design assistance, inspections during installation, assistance to start-up, commissioning and membrane maintenance advice plus operator and management training.

### **MBR Atıksu Arıtma Sistemleri Ltd.**

Bağdat Cad. No: 7, Kat: 4 Kızıltoprak – İstanbul

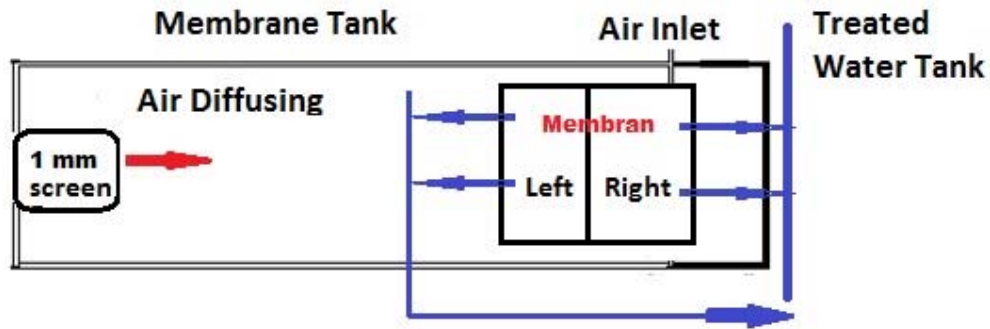
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## Istanbul Hilton Hotel Grey Water Re-Use Project

<b>Status</b>	Under Operation
<b>Client</b>	Istanbul Hilton Hotel
<b>Commissioned</b>	May 2011
<b>Discharge Consent</b>	BOD < 5 mg/l, SS < 5 mg/l , zero parasite
<b>Performance</b>	Operation Start-up and 1 month Operation BOD <10mg/l, TKN < 7 mg/l, SS < 5 mg/l
<b>Bried description:</b>	Re-use of grey water with flat sheet membranes



### Proses Description:

Tanks are fabricated of steel and polypropylene material. All tanks installed and fixed to the foundation.

Grey water from the hotel flows to the concrete pit tank feeding to the balancing tank.

Balance tank feeds membrane tank via 1mm fine screen.

Membrane bioreactor tank is aerated by coarse bubble type diffusers and biological treatment occurs in membrane tank.

Treated water is transferred to treated water tank by pump.

Plant designed to operate automatically with minimal supervision.

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### Design Requirements

#### Influent average loadings:

BOD	200 mg/l
COD	400 mg/l
SS	70 mg/l

#### Discharge Parameters:

BOD	5 mg/l
T- N	5 mg/l
T- P	1 mg/l
SS	5 mg/l

### Plant Data

Maximum daily Flow	100 m <sup>3</sup> /d
Average Daily Flow	80 m <sup>3</sup> /d
Peak Flow	3,75 m <sup>3</sup> /h
MLSS in aeration tank	12,000 mg/l
Membrane units	1 x 100 m <sup>3</sup>
Membrane surface Area	200 m <sup>2</sup>
Sludge Age	7 days
Sludge Discharge	2 m <sup>3</sup> /g

### Current performance

BOD	<10 mg/l
SS	<5 mg/l



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