

Kea Island Tourist Village Treatment Works



Site is situated on a small tourist island 1 ½ hours from Athens (Greece)

Plant Description:

- Visible from beach & road; so container unit used.
- Discharge conditions to meet EU Bathing Beach Standard.
- No odour, low noise and low visible impact.
- The contract agreement provided for the process design, supply of membranes and commissioning support.
- Huge variance in flows summer to winter >10:1
- Large number of restaurants operating in summer
- 2/3 days/year of peak flow at 2xADF

Current Status:	Plant in operation since 2007
Discharge Consent:	<5mg/l BOD; <1mg/l Ammonia; <1mg/l TSS; 0 parasites
Brief Description:	Membrane bioreactor system used to produce high quality discharge Extended aeration biological treatment with long sludge age

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Process Description:

Fully containerised treatment plant.

Container is mild steel construction, green epoxy painted.

Underground balance tank feeds process via fine 3mm bi-directional screen.

The single stream treatment process has an aeration tank and two membrane tanks.

Treated effluent flows by gravity to the clean water storage tank for reuse.

Screenings and inlet areas odour controlled.

Plant designed to operate automatically with minimal supervision.

Design Requirements

Influent average loadings:

BOD	500 mg/l
COD.	900 mg/l
TKN	40 mg/l
NH ₃ – N	35 mg/l
SS	300 mg/l
TDS	400 mg/l

Effluent standards

BOD	5 mg/l
Total N	10 mg/l
Total P	1 mg/l
NH ₃ – N	1 mg/l
SS	5 mg/l

Plant Data

Maximum daily volume	400m ³ /d
Average Daily flow	220m ³ /d
Peak flow	4.6 l/sec
MLSS membrane tank	10,000 mg/l
Membrane units	4 x FS125
Membrane surface area	500m ²
Sludge age	>30days

Current performance

BOD	<5 mg/l
COD	<70 mg/l
Ammonia	<1 mg/l
TKN	<7 mg/l

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