

Westbury STW



Plant Description:

- Constructed within one main treatment structure
- Design, built and operational within 9 months
- Major element of £6m works upgrade project
- High quality discharge parameters

Effluent Quality

BOD ₅	5
Suspended Solids	5
NH ₃ -N	5
Total-P	1.5

Current Status:	Plant operational, May 2002
Client:	Wessex Water
Brief Description:	New membrane treatment plant to extend and enhance existing STW to treat increased domestic flows and the effluent produced by a new dairy facility to comply with new Environment Agency discharge consent.

MBR Atıksu Arıtma Sistemleri Ltd.

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

Tel: +(90)216 4141034- 4146035 Fax: 0216 4141344

e-mail: asistan@tr-mbr.com

web: www.mbraritma.com.tr

Westbury STW

Process Description:

The plant, receives pumped flows from a business Park via a new rising main, in addition to a proportion of the existing works flow.

The influent enters a new packaged inlet works providing 3mm screening and fats, oil and grease (FOG) removal. The hydraulic design of the plant then allows gravity flow through the MBR plant to the main outfall without the need for interstage pumping.

The MBR unit is located alongside the existing domestic sewage treatment plant, and effectively doubles the treatment capacity of the existing works.

To maximize the higher treatment capability of the new MBR plant, the control system is able to take account of all the incoming flow streams and forward the maximum possible flow through the MBR plant.

The four main treatment tanks are constructed as one rectangular reinforced concrete structure 64m long, 10m wide and 6m high with a central distribution and collection chamber.

Following treatment in the MBR plant, the permeate is either discharged direct to the watercourse or used on site for washwater applications, to reduce potable water demand.

Design data

Peak Flow	5,008 m ³ /d
Average Flow	3,536 m ³ /d
BOD load	3,436 kg/d
Nitrogen load	238 kg/d
Phosphoros load	53 kg/d

Plant data

Aeration/Bioreactor tank dimensions	64x10x6m
No of membrane units	48 x J200
Membrane surface area	7,680 m ²
Membrane flux rate Peak	0.65 m ³ /m ² /d
Membrane flux rate Avg.	0.46 m ³ /m ² /d

MBR Atıksu Arıtma Sistemleri Ltd.

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

Tel: +(90)216 4141034- 4146035 Fax: 0216 4141344

e-mail: asistan@tr-mbr.com

web: www.mbraritma.com.tr