

South Wraxall Wastewater Treatment Plant



Plant Description:

- South Wraxall is a first time sewerage scheme in a rural location.
- Plant has a relatively small footprint and a proportion is installed underground.
- Environmentally sensitive location.
- Effluent produced will be of a very high quality with no adverse impact on the sensitive receiving streams.
- Modular nature of the plant means that treatment capacity can be reviewed over time, in line with the number of properties connected.

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|---------------------------|---|
| Current Status: | Plant commissioned Spring 2001 |
| Client: | Wessex Water Services Limited |
| Population served: | 300 |
| Consent: | 20:30:10 BOD:SS:Ammonia |
| Performance: | 5:5:5 BOD:SS:Ammonia |
| Brief Description: | Design, supply, installation and commissioning of mechanical and electrical equipment for package |

MBR Atıksu Arıtma Sistemleri Ltd.

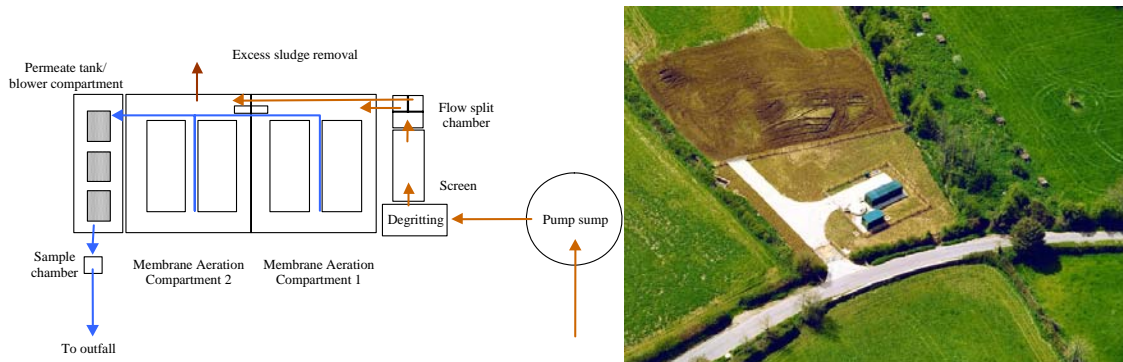
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South Wraxall Wastewater Treatment Plant



Project needs:

To comply with own applications made by West Wiltshire District Council for provisions of rural sewerage under S101A of the water Industry Act 1991.

Process Description:

The membrane bioreactor plant receives raw effluent, into degritting sump, from an inlet pumping station.

Two pipes from the individual pumps located within the pumping station deliver raw effluent to the degritting sump.

The raw effluent gravitates from the degritting sump passing through a 3mm perforated screen to a splitter box, which equalises the flow into the two bioreactor tanks.

Submerged membrane filtration process within the activated sludge in the membrane tanks carries out the compact secondary treatment. The aeration provided serves to oxidise BOD and ammonia and also produces a cross-flow effect across the membrane surfaces to minimise membrane fouling.

The permeate passes through the membranes via a collecting manifold to a permeate / washwater tank.

The final effluent leaves the permeate tank into local ditch via a sampling chamber which houses the flow measuring device.

Surplus sludge is periodically removed from the bioreactor tanks by a tanker which takes away a measured volume of mixed liquor.

Over-flows are provided on the screening unit and within each of the bioreactor tanks, the overflows combing and returning to the pumping station.

Design Data

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|------------------------|----------------------|
| Design horizon | 2018 |
| Population Equivalent | 300 |
| Flow to full treatment | 290m ³ /d |

Plant Data

| | |
|-----------------------|--|
| No. of membrane units | 2(4)xE100 |
| Memb. Surface Area | 160m ² (320m ²) |

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