

Fobney WTW

Drinking Water | Case Study

The Client

Thames Water Utilities is the largest water and wastewater company in the UK. It owns and operates 448 treatment plants located in the south-East of England, covering the area of London and its suburb.

Fobney is located near Reading in Berkshire and supplies over 300,000 people in the greater South-West London area.

Pilot Trials

In order to provide confidence to the potential Client, Veolia Water Solutions & Technologies installed and operated a total of 16 weeks of pilot plant trials in 2004 and 2005 at the sites of Fobney and Hornsey WTW, treating up to 100 m³/hr. The pilot plant provided data for Actiflo[®] performance and subsequent sand filtration. Based on these results Thames Water recognised the ability of Actiflo to cope effectively with the flashy water characteristics of the river Kennet.

The Client's Needs

Veolia Water Solutions & Technologies provided the process design, construction, installation, testing and commissioning of 2 Actiflo[®] High Rate Clarifiers. The project included the sand storage, transfer and recovery system, polymer make up and dosing system, coagulation and pH correction system, MCC and software for the process.

The purpose of the project is to increase the treatment capacity of the works while reducing the turbidity loading on the primary filtration stream.



The Solution

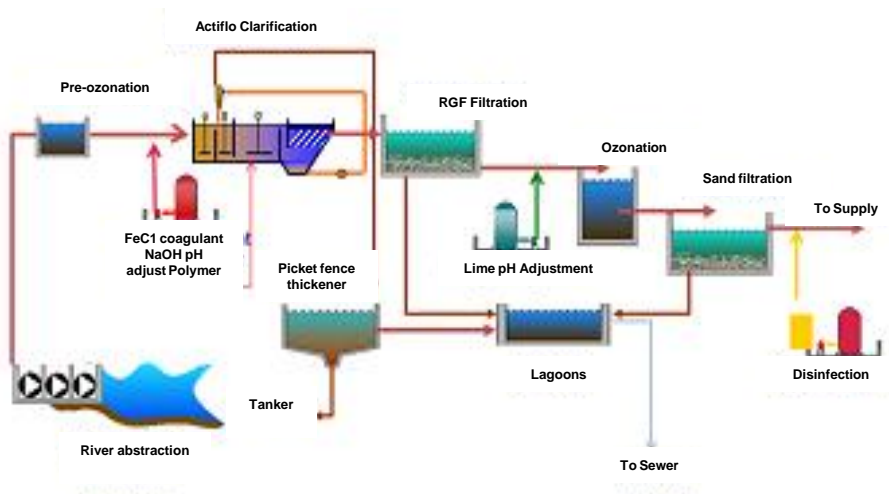
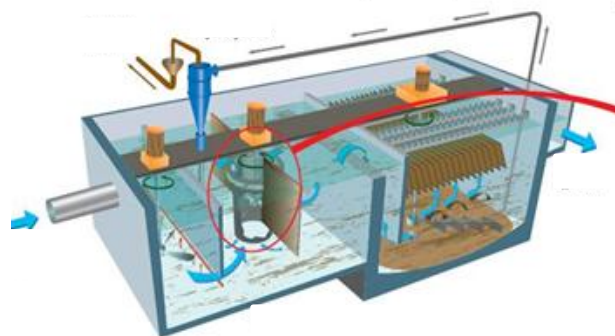
Actiflo[®] is a very compact process that utilises microsand as a seed for floc formation. The microsand provides surface area that enhances flocculation and also acts as a ballast or weight.

The resulting microsand ballasted floc display unique settling characteristics, which allow for clarifier designs with high overflow rates and short retention times. These designs result in system footprints that are between 5 times smaller than classic lamella clarifier or dissolved air flotation and up to 20 times smaller than conventional clarification systems of similar capacity, with an ability to start up from a “standby” mode of operation to a steady state operating mode within minutes.

Project Description

Thames Water Utilities awarded the construction contract to Gleeson. The Actiflo® clarification was awarded to Veolia Water Solutions & Technologies as part of an upgrade of the solids removal facility at Fobney WTW.

All two Actiflo® streams are nominally in operation at the same time but one can handle the peak flow to treatment of 57.75 ML/d.



Key Data

Programme: 74 weeks
 Completion: Sept. 2007

FLOW DATA

Minimum flow: 28,800 m³/d
 Average flow: 56,500 m³/d
 Maximum flow: 77,000 m³/d

ACTIFLO® CLARIFIER CHARACTERISTICS

Number stream 2
 Lamella surface area per stream 51 m²
 Max rise rate 48 m/h

Influent	Min	Ave	Max
Turbidity NTU	1	10	150
T Colour mg/l pt/co	1	8	45

Effluent 95% spot samples	Min
Turbidity NTU	<2