

# ESSITY



ESSITY produce toilet tissue, facial tissue and paper towels for the UK market at their paper mill in Oakenholt. The mill dates back to 1875 and benefits from an on-site effluent treatment plant treating all trade effluent before discharge into the River Dee estuary in accordance with NRW consent conditions. The plant required a significant renovation which incorporated the use of an MBBR plant to replace the existing biological treatment plant. Since the mill is in operation 24/7 with few shutdowns the installation was carried out in parallel with the current process and carefully managed to ensure effluent discharge quality was maintained.

**CLIENT:** ESSITY UK LTD  
**LOCATION:** CHESHIRE  
**PROJECT VALUE:** CONFIDENTIAL  
**DURATION:** 6 MONTHS  
**SERVICES PROVIDED:** TURNKEY  
 SUPPLY & INSTALLATION OF  
 PROCESS M&E EQUIPMENT



## FLI CAP Technology Role:

FLI CAP Technology undertook the project on a turnkey basis including the design, supply and installation of the new biological treatment process.

It was decided that a MBBR plant would be used for the biological degradation of the soluble organic impurities in the effluent. This technology consists of mobile pieces of media contained in an aeration tank on which biomass grows. The selected media has a protected surface area of 800 m<sup>2</sup>/m<sup>3</sup>. The soluble organic pollutants contained in the effluent are digested by the biological growth on the media. Surplus biomass will

leave the MBBR vessel and be separated from the final effluent by a DAF clarifier.

The biological capacity of the biological treatment plant can process 1,500 kg COD per day (2,000 m<sup>3</sup>/day at 750 mg/l). The guaranteed treated effluent quality was 50 mg/l BOD, 30 mg/l TSS & 16 mg/l NH<sub>4</sub><sup>+</sup>.

The MBBR plant was completed with close planning between FLI CAP and the client project team to ensure that the process did not impact factory operations. The plant is able to fully meet the agreed performance targets.