



When three Archimedes screw pumps at the inlet of Severn Trent Water's Mansfield Sewage Treatment Works required replacement, NMCNomenca contacted ECS Engineering Services to source and install new pumps. As the exclusive UK service agent for Landustrie Archimedes screw pumps, ECS was able to replace the screws to bolster the water treatment infrastructure at the site.

## Archimedes Screw Pumps boost local water infrastructure

Mansfield Sewage Treatment Works lies adjacent to the River Maun, processing the majority of effluent water from farms and homes in the surrounding area. The three original screw pumps at the inlet station had been operational since the 1970s, and were displaying a drop in efficiency due to overall wear.



## Case Study 044 Archimedes Screw Pumps boost local water infrastructure



As the pumps were beyond refurbishment, the Tier 1 contractor for Severn Trent Water, NMCNomenca, called on the services of ECS to deliver a solution. ECS was selected due to a proven track record, having previously installed similar systems at the Warmsworth and Melton Mowbray.

ECS Engineering Services proposed the installation of three Landustrie screw pumps, each offering a maximum pumping capacity of 800 litres per second. Market leaders in the screw pump industry, Dutch manufacturers Landustrie deliver 100 years of industry experience to its range of pumps. Each of the 14 ton Mansfield screw pumps is expected to last 30 years in operation, providing one of the most efficient methods for moving effluent water over a short distance.

Each pump needed to be replaced individually,

in order to ensure the Mansfield works could still service operational demands during the project. The timeframe for replacing each 13.5 metre long pump was around 8 weeks. Initially, the original screw pumps were removed by crane, so that they could be transported off site for recycling. Bearings and drives were then replaced, with the new screw craned into the trough to be installed subsequently.

Next, the hand re-screeding process could take place. This involves rotating the screw at reduced speed and adding screed. Eventually, the trough is created with an optimum gap of 6 mm between it and the screw flights, which provides maximum pumping efficiency.

Dave Bennion, Project Manager at ECS said: "Our Midlands location allows us to service projects such as this across the country, from as far south as Taunton to the central belt of

Scotland. Our dedicated teams bring great experience in Archimedean Screw Pumps to every job, which is an offering that is unique to ECS. Our close working relationship with Landustrie ensures a reduced lead time on orders, while our fabrications division has the flexibility to deliver almost any requirement."

Furthermore, ECS offers a full maintenance framework to support existing installations, with screw renovations, trough repair and bearing replacement all available to end users. Such attention can greatly increase the efficiency benefits of screw pumps, reducing downtime for operators. No screw pump installation is the same, so this integrated support framework offers operators a one-stop-shop for all their screw pump requirements, no matter the variation in system.

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