

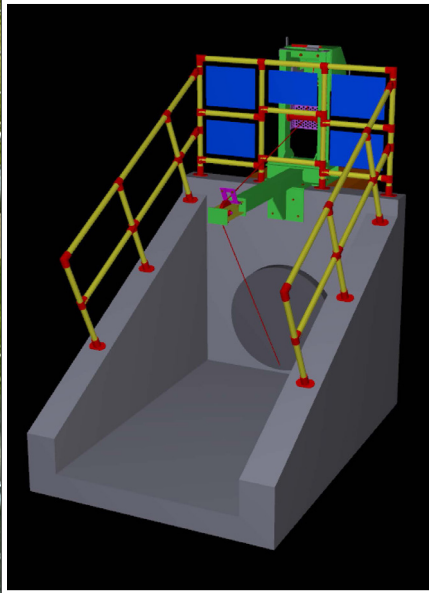


ECS Engineering Services has installed three new winches for opening culvert flap valves or gates at Sawley Bank in Nottinghamshire, part of the Trent Soar Outfall system.

ECS upgrades culvert winches at Trent/Soar outfall

In an area of essentially flat riverside land, the outfalls are essential for maintaining flow control and minimising the risks of flooding. The new winches were installed and commissioned in September 2017 as part of the Environment Agency's drive to eliminate the practise of lifting the heavy flaps manually or by using a winch mounted on the front bumper of an off-road vehicle.

Case Study: 062 ECS upgrades culvert winches at Trent/Soar outfall



The flaps are made of stainless steel so that they have the durability to survive and provide a long working life in a wet, outdoor location. This makes them heavy, and while most can be opened manually by a single person, the health and safety issues this creates – especially for lone workers – are considerable.

ECS has installed three winch systems at Sawley, all to the same design and each with a safe working load of 1000 kg so that they have the capacity to not only lift their associated flap but are also suitable for other duties that may arise. The main element is of course the winch unit, a Huchez VS 1000 model, which is mounted on a steel winch post. Two of the installations have the winch post mounted directly onto an existing

headwall, but the third one, at nearby Clifton Bridge, needed an additional concrete pad laying, onto which the winch post was mounted. The design of the winch system was agreed by the Environment Agency and includes a worm and wheel drive, selected because it practically eliminates back winding under load should the brake fail. Other types of winch, such as spur geared types, do not offer this level of safety. A nylon barrel roller and a stainless steel dee shackle complete the winch system, while hand railing along the headwall and wing walls protects operators from falling into the culvert. The Environment Agency schedules six-monthly maintenance for such culverts, when the flaps

are raised for inspection. Naturally they may be raised at intervening periods too for follow-up work or emergency clearance. ECS selected the Huchez winch because it is sealed so that it will work reliably even after extended periods of non-use.

ECS has over 25 years' experience in maintaining water control structures and regularly works with the Environment Agency on projects both large and small and which can be new build, refurbishment, upgrade or maintenance. Most of its work for such projects is bespoke and designed to deliver high quality, reliable and cost-effective engineering solutions, for water, energy and environmental processing and management.

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