

# COWDENBEATH SPS

RSE employed both their design and construction experience to challenge the consultant design as it was difficult to build, did not take into consideration maintaining the existing plant and was going to undermine the existing MCC building during the storm tank construction.

## Project Overview:

To maintain a live wastewater infrastructure site while completing a capital upgrade. The existing site was a former Wastewater Treatment Works which had been converted in to a network pumping station. The inlet racked screens had been retained but was failing constantly, the Primary, Secondary and Humus Tanks were being used as on-line storage and the final effluent pump station had failed with temporary pumps in place.

RSE revised design proposal and construction sequence was:

- To retain the foundations of the existing Humus tank and build the new CSO and In-line screens off these foundations.
- Install a grout curtain to stabilise mine workings and keep it within 1.0m of the caisson sunk 4.0m diameter wet well chamber
- Utilise the existing duct chambers and ducts around the perimeter of the works thus reducing the amount of new ducts and the new to installing temporary ducts as part of the construction sequence.
- Build and commission the new CSO screens, In-line screens, SPS and Washwater Pump set parallel to the existing works;
- Install the new MCC within the existing MCC building;
- Demonstrating through 14 days reliability that the plant was without defects and we could decommission the existing works; and
- Changing the storm tank design so we could utilise three of the four primary and secondary tanks walls as trench supports which minimised the sheet piling from 120metres down to just 25metres.



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## Project status:

All of the works were built within the existing site which had a restricted footprint and existing coal mine workings.

“ Scottish Water Operations were highly complementary of the fantastic works RSE undertook from design through to commissioning.

“The site is unrecognisable and the reliability of the plant has resulted in a significant OPEX savings through reduced alarm call-outs.”

ALAN McHALE  
CSD, Team Leader

“Fantastic job. It really emphasises the tremendous transformation of the site and I am grateful for your efforts and quality of the work you and your colleagues have delivered.”

PETE BERESFORD  
Scottish Water Solutions 2, Project Manager

## Scope Summary

- Grit Sump Chamber;
- Combined Sewer Overflow Chamber with a 1800l/s Huber Rokl Storm Screen;
- in-line 6mm Screening Chamber with 200l/s Duty/Standby Longwood Band Screens and Duty/Standby Compactors;
- 10l/s Duty/Standby Washwater Pump Set;
- 180l/s Duty/Assist/Standby Sewerage Pump Station (SPS) with Auto-deragging function;
- 1800cum Weholite Storm Tank with actuated return; and
- MCC and telemetry.



Cowdenbeath - Before Photo (March 2011)



Cowdenbeath - After Photo (March 2012)