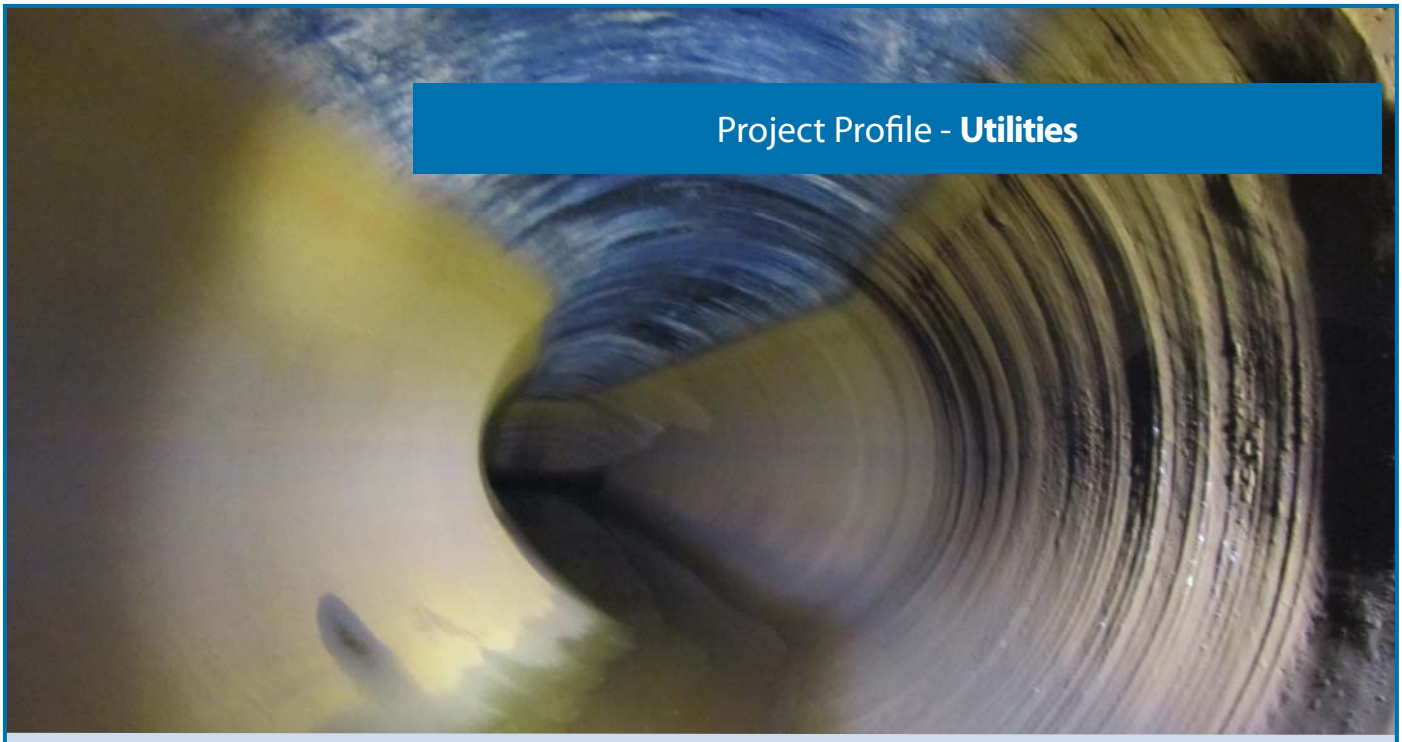

Project Profile - **Utilities**

PROJECT

Haweswater Aqueduct, Cumbria

SUMMARY

Internal repairs to concrete lined tunnels

PRODUCTS

Fastfill

CLIENT

United Utilities

CONTRACTOR

Ram Services

BACKGROUND ▶

Haweswater Aqueduct supplies drinking water to around two million homes across South Cumbria, Central Lancashire and Greater Manchester. Comprising one of the UK's largest and most important water pipes, the aqueduct is 110km long and hundreds of feet below ground level in parts. Considered an example of engineering heritage, it allows 570 million litres of water to flow from Haweswater Reservoir in Cumbria to Heaton Park Reservoir in Manchester every single day.

Following 10 years' planning and an investment of £22 million by the regional water company United Utilities, structural surveys were carried out inside the tunnels for the first time in the aqueduct's 60-year history by 100 men and women 'aquanauts' specially trained to move safely in tight, cramped conditions. To help the project, 16 specialist Vehicle Access Systems, known as VAS's and designed and built in Canada, were flown over to help transport equipment and supplies in the aqueduct. Internal repairs were required to the concrete sections of the tunnels.

THE SOLUTION ▶

Fastfill, an engineering quality, Portland cement-based structural mortar, was specified for this prestigious project as it is extremely rapid setting, well proven in demanding environments and is backed by a number of independent certifications. It is CE marked in accordance with the demands of BS EN 1504, approved by the British Board of Agrément (BBA) and is authorised under Regulation 31 of the Water Supply (Water Quality) Regulations 2000 for use in contact with drinking water.

Specially designed for the durable repair of concrete which cannot be taken out of service for long periods, **Fastfill's** Portland cement base ensures the cured material is similar to that of base concrete and provides a monolithic repair. Non-toxic when cured, **Fastfill** is supplied as a single component product only requiring the addition of clean water on-site and rapidly develops its strength, even at very low temperatures. **Fastfill** can be applied up to 100mm in a single application, or even up to 300mm when bulked out with sand or aggregate. Its dense matrix resists 10 bar water pressure and it develops very high diffusion resistance to acid gases and chloride ions.

FM 41091 Quality
EMS 597350 Environmental
OHS 597351 Health & Safety

Flexcrete Technologies Limited
Tomlinson Road ● Leyland
Lancashire ● United Kingdom
PR25 2DY

Tel: +44 (0) 845 260 7005 ● **Fax:** +44 (0) 845 260 7006
Email: web@flexcrete.com ● **Web:** www.flexcrete.com