

Re-using groundwater for dust suppression

Leeds Victoria Gate

**Sir Robert
McALPINE**

Our project team on the Leeds Victoria Gate project have successfully reduced the volume of mains water used for dust suppression during the demolition phase of the works. Mains water use was reduced by approximately 900,000 litres by utilising waste groundwater that wouldn't have otherwise been used.

During construction of the 220 rotary bored piles, the water table was encountered resulting in water rising up through the rotary pile bores. Whilst ordinarily this waste water would have been disposed of by discharging via a settlement tank into the mixed sewer, the project team along with Simplex West Pile, recognised an opportunity to use the groundwater for dust suppression and reduce the requirement for mains water.

Groundwater arising from the piling was pumped into a settlement tank in order for any solid particles to settle before the water was passed through to a storage tank. Once the water stored was analysed (e.g. for legionnaires), it was used by two 'Dust Busters' (water cannons) on site to control and suppress airborne dust arising from demolition activities.

By utilising the groundwater that would have otherwise been discharged, the project team reduced demand for mains water, saving money, carbon and improving air quality.

Business Benefit

- Helping to contribute to meeting the target set for water consumption during construction.
- Saved money.
- Demonstrated our commitment to reducing potable water consumption and efficient use of resources.
- Provided a best practice case study which could be applied on similar projects.



Project Benefit

- Reducing mains water use on site, saving money and resources.
- Helped alleviate pressure on mains water usage.
- Improved air quality by reducing particles generated by demolition and excavation works.

900,000
litres

the reduction
in mains
water use

1
tonne

of CO₂ saved

£650

overall saving