

CASE STUDY

EXTENSION OF BYKER WALL DISTRICT HEATING MAIN TO FEED BYKER SWIMMING POOL

BESPOKE DESIGN

ESP projects are designed to meet specific client requirements with full computer simulation used to prove all designs.

ENERGY EFFICIENCY

As approved Carbon Trust Consultants, we will ensure that the system energy performance is optimised to produce lower operational costs.

PROJECT CDM AND MANAGEMENT

Our engineers and consultants will ensure that all aspects of the design and installation are fully compliant and all relevant permissions and safety requirements are fully adhered to.

MCS ACCREDITED

ESP is an accredited installer, approved under the Government's Micro-generation Certification Scheme.

CARBON TRUST

ESP are approved Carbon Trust Energy and Biomass Consultants.



- Full survey and hydraulic modelling of existing 4km district heating main.
- Design to extend the main to the Byker swimming pool facility.
- Flow rate and pressure modelling to enable the existing pumps to be reused.
- Reduced maintenance
- Improved load diversity

The Newcastle City Council district heating scheme at the Byker Wall feeds over 3000 homes from a central energy centre with MTHW being distributed around a 4km main via 13 local pump stations.



The Byker swimming pool which is also operated by Newcastle City Council is located within 50m of the main but is heated using its own gas fired plant. ESP were engaged to undertake full IES modelling of the existing main to determine the suitability for extension particularly in relation to the index path and the subsequent effect on the main circulating pumps.



The model data has shown that the additional volume can be provided within the existing pump curve and that an extension would provide significant operational and maintenance savings as well as increasing the base load position of the central plant.



In addition the modelling has been used to assess to benefit of installing variable speed drives on the 3No 50kW main circulating pumps and calculations have shown significant financial benefit.



The model data is now available to be used for scenario planning, in order to optimise any future changes to the main or to the heat source.



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