



PROJECT SUMMARY:



CLIENT
HE Barnes

PROJECT
Advanced Manufacturing
Research Centre

TIMESCALE:
April 2017 - November
2017

CONTRACT VALUE:
£100,346

PROJECT OVERVIEW

In a joint venture between the university and Boeing in 2001, the Advanced Manufacturing Research Centre (AMRC) was established and is a space for innovation, research and technology, which is designed for industry collaboration and rapid commercialisation.

The centre saw the expansion of three new buildings which were completed in 2017: the Sheffield Royce Translational Centre (RTC), the Laboratory for Verification and Validation (LVV), and the Integrated

Civil Infrastructure Research Centre (iCAIR). These buildings would be a place of research into new technologies which can be translated into industry-ready applications, and would be utilised by large businesses, and small and medium-sized enterprises.

Vital Energi were contracted to design, supply, and install the district heating mains to the new site, connecting the three buildings in preparation for a future larger heat network.

VITAL'S SOLUTION

The work was the first instalment of a potentially larger scheme, so we had to ensure the pipe was future-proofed for further development, and for connection to the proposed energy centre. The pipe would therefore be capped at each end of the mains to allow for any eventuality with the developments.

Collaborating with specialists consultants to devise best solution
We worked closely with consultants HE Barnes, who specialise in providing mechanical and electrical solutions, to develop a scheme and a design that would be the starting point for a potentially larger heat network, and provide the ability to connect the buildings to a future energy centre.

THE BENEFITS:

- > Flexible working area and primed site contributing to efficiency of installation
- > Collaborating with consultants to design a future-proofed solution
- > Developing groundworks for reduction in energy costs and carbon emissions
- > Adjusting to client's installation requirements to align with building development

▶ The installation utilised the use of 250mm and 65mm diameter pre-insulated steel pipework.



‘ They collaborated well with both ourselves and the consultants to ensure we delivered a future-proofed scheme for the needs of the University. The drawings were all detailed and concise, and the workmanship has been very good and professional. They worked well and managed the site well, and the team were flexible and proactive and I only have praise for them. They liaised well with us and had good communications, and some of the works were completed ahead of programme. The project went really well, Vital made it an easy straight forward contract. ’

ANDY ROBINSON, HE BARNES

We worked from the consultants’ drawings to develop the design and add our layouts. HE Barnes were impressed with our efficiency in completing the design work and with the quality of the design, which enabled us to begin work quickly to help the project develop. The design consisted of the installation of 147m of flow and 147m of return in 250mm pre-insulated series 2 Logstor pipework, with 32m of flow and 32m of return pipework in 65mm.

A prepared site assisting with smooth operations

The excavations of the trenches had been completed prior to our involvement on site, resulting in a primed work area. As these excavations were dug to an extremely high standard, and in line with the recommendations laid out in our Civil Specification, there was no requirement for further preparation.

Our scope was to then load out the pipework from the pipe

storage area into the trenches in preparation for the start of the installation and the welding process.

This resulted in us having the ability to begin with the installation of the pipe immediately, which had a dramatic decrease on the time scale of the project.

Large site and unrestricted access improved project progression

The available working area was rather large which further assisted with the ease of the project as it provided a more than suitable area to easily off-load the pipe. As district heating pipe can be as large as 12m in length, and due to its inflexible nature, the usual spatial challenges of delivering the equipment was avoided.

Likewise, we had the ability to open up large sections of the trench to further ease the installation. These factors significantly aided the smoothness of the overall installation, along with playing

pivotal roles in the shortening of project timescales.

Installation duration expectations halved

Benefitting from well-constructed, safe and accessible trenches, combined with a large clear working area, was fundamental in the efficient execution of the installation process. The advantages of these factors were seen through the reduction of programme durations from an initially planned 4-6 weeks, to only 2-3 weeks.

Adapting to change to benefit client

Due to one of the three buildings still being completed towards the end of the district heating pipe installation, we returned to site briefly later in the year to complete the final part of the project. This suited the client well as it allowed them to progress with their construction undisturbed, without hindering the completion of the piping installation.