



#### PROJECT SUMMARY:



#### CLIENT

University of Cambridge

#### PROJECT

District Heating

#### TIMESCALE:

November 2014 to Present

#### CONTRACT VALUE:

£4.7m

#### THE BENEFITS:

- > Strong multi contractor relationships
- > Extremely low tolerance installation
- > 2.35km district heating installation
- > Flexible programme delivery

## OVERVIEW

The University of Cambridge is undertaking its largest single capital project in its 800 year-history in the North West Cambridge Development.

Outline planning permission was granted for the 150 hectare site in 2013 for 3000 homes, 2000 student bed spaces, 100,000 sq m research accommodation, as well as the community facilities and public realm to support this new district of Cambridge. The first phase of the

project will create 700 homes for university staff, 325 post-graduate student rooms in addition to 450 market homes, a primary school, community centre, doctor's surgery, and supermarket.

In keeping with the University's wish to create a highly sustainable development, the project will be powered by a state of the art CHP powered energy centre, with a closed circuit district heating network.

## VITAL'S SOLUTION

The main contract, worth £2.98 million, involved the supply and installation of the main spine of the district heating network for the first phase of the development, which stretches over 2.35km, extending from a central energy centre.

### *Building relationships with stakeholders to ensure effective delivery*

The site, which is split into Lots means that we are working with nine separate contractors on a large and often congested site. This means it

would be essential for us to stay on schedule as other contractors would be sharing our trenches and any delays could create a knock on effect.

Our initial strategy was to build relationships with consultants and other contractors to ensure that we can not only meet our own deadlines, but ensure our work didn't impact the contractors' overall programme. This meant regular attendance at project meetings, where we demonstrated a high standard of transparency and information sharing.

▶ The Installation utilised the use of 300mm diameter twin pipe branches and 300mm single pipe



“The district heating network for the development is a major investment in the infrastructure for the site and an essential part of the energy strategy. The network aims to reduce the energy wastage, helping us to achieve the Code for Sustainable Homes Level 5 and the broader site-wide project ambitions to be an exemplar of sustainable living. The award to Vital Energi for the network is an important part of achieving these aims.”

GAVIN HEAPHY, CONSTRUCTION DIRECTOR FOR THE NORTH WEST CAMBRIDGE DEVELOPMENT

Also, it was necessary for us to exercise flexibility around our partners' progress and requirements. This was achieved by focusing on relationship building and fostering a “whole picture” mentality within both our team and other contractors on site.

#### **Implementing district heating pipe to tight tolerances**

The “spine” of the district heating network is Logstor 300mm Single Pipe with 150mm twin pipe branches and due to the close proximity of other utilities all sections of pipework were installed to a 50mm tolerance.

Our in house-team of district heating specialists means that we have the resources to deliver to schedule, despite repeated changes to the programme due to other contractor works. This allowed us to deploy up to two excavation teams, one back fill team and a team of welders when necessary.

#### **Utilising our previous experience and knowledge to**

#### **cope against adverse weather**

The importance of this wealth of resources was illustrated when the project, which began in December, suffered terrible adverse weather for the first few weeks, slowing the progress, but by the fourth week the programme was back ahead of schedule, with all major milestones being met.

Vital Energi was then successful at winning further “contractor lots” which will eventually tie into the main spine and are currently being delivered by our Network Infrastructure Team.

The size and scale of the North West Cambridge Development, combined with a multi-contractor relationship and a restricted and congested site could have proven problematic, but by creating a team/ partnership approach and having the resources to deploy extra specialists as needed, Vital Energi was regarded as an asset to the project and praised by both consultants and employers.

The district heating installation is now in place and will deliver low carbon heat and hot water to the development and make a significant contribution to all homes on site achieving Level 5 of the Code for Sustainable homes.

Since undertaking the main works, we have worked closely with a number of key clients on the scheme in order to undertake a selection of primary and secondary pre-insulated district heating installations, as well as the supply and installation of numerous large plate heat exchanger skids and a considerable number of HIUs.

We have looked to maintain the high level of quality associated with our initial main installation throughout the site to give the client peace of mind that the works being installed will last the duration of their expected life span.