



PROJECT SUMMARY:



CLIENT

Vastint UK

PROJECT

Sugar House Island

TIMESCALE:

September 2017 - Present

PROJECT OVERVIEW

Sugar House Island is situated at Three Mills, adjacent to the Queen Elizabeth Olympic Park in Stratford, east London. The 26-acre site will see the regeneration and renovation of a former industrial area to provide a mixed-use development consisting of 1,200 homes, 58,000m² of commercial office space and restaurants, cafés and retail units, as well as a 350-bed hotel and planning permission for a 2-form entry primary school.

Vastint UK specialises in unlocking the potential of large urban sites to create truly mixed-use

regeneration schemes. The company is part of Vastint, an international real estate developer with over 25 years' experience and schemes across Europe.

Vital designed and built the energy solution for the development, creating a binary approach flexible plan to enable the client to undertake negotiations with a third party energy provider whilst being assured of a fully viable back-up plan. Our design was also created to be capable of evolving as phases of the development built out and energy needs changed over time.

VITAL'S SOLUTION

We had to adopt a flexible design approach for the project, due to the client's wish to futureproof the site with a connection from the development to the neighbouring Olympic Park Energy Centre, whilst also having the potential to develop into an independent

CHP-led energy centre, should it be necessary in the future.

Our scope has been to provide the design for the entire 26-acre development, as well as to implement the build for the first phase connecting two residential blocks.

THE BENEFITS:

- > Flexible design to accommodate futureproofing of the site
- > Deliver within budget
- > Phased implementation to suit development progress
- > Enabling the client to meet carbon emissions targets
- > 3D modelling to ensure additional confidence in design and minimise delays in construction

▶ Our solution had to have the flexibility to adapt to change and have the capacity to cater for future connections.



“ We’ve adopted a flexible approach to create a solution that is tailored to the project and our client’s requirements, and allows for phased implementation to align with the development’s construction. We provided modelling and sizing services to ensure reliability in our design to provide the best solution with greatest efficiency. ”

ROB CALLAGHAN, REGIONAL DIRECTOR FOR LONDON AND THE SOUTH, VITAL ENERGI

Value engineering to reduce capital costs

We were originally on a RIBA Stage 3 design contract to provide the solution for the development. At this stage, the client desired an on-site CHP led energy centre, which we designed to reside under a residential block. Our design consisted of two 502kWe CHPs, five 2MWe boilers, a 90m³ thermal store, a 5m³ buffer vessel, three 3MWe plate heat exchangers, and one district heating pump skid. The implementation was planned to be in phases to suit the phased nature of the development.

Utilising 3D modelling software to provide additional confidence in the design

We provided pipework modelling and sizing, along with thermal expansion

reviews and heat loss calculations to maximise the benefits of the scheme. Additionally, we used 3D modelling software to coordinate the installation of the buried district heating pipe and to assist the site team with their delivery by ensuring a design free from clashes with existing underground services and building foundations. We completed clash detection workshops with the client’s project team to perfect the design, providing added confidence that the system will be faultlessly installed.

Implementing the build in phases to suit the project development

The programme was planned to be implemented in phases to provide the ability to change course at later stages. We have planned this phased delivery so that

it aligns with the growth of the development to allow for simultaneous progress.

We planned for a sequence of sectional delivery as opposed to constant installation due to other civils infrastructure works taking place on the site. This proved challenging due to the start/stop nature of the construction, however we have stayed in control of the install to tightly manage and monitor the different sections to maintain a timely delivery for the client.