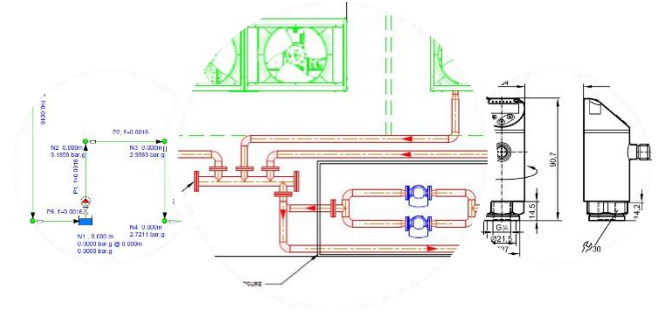


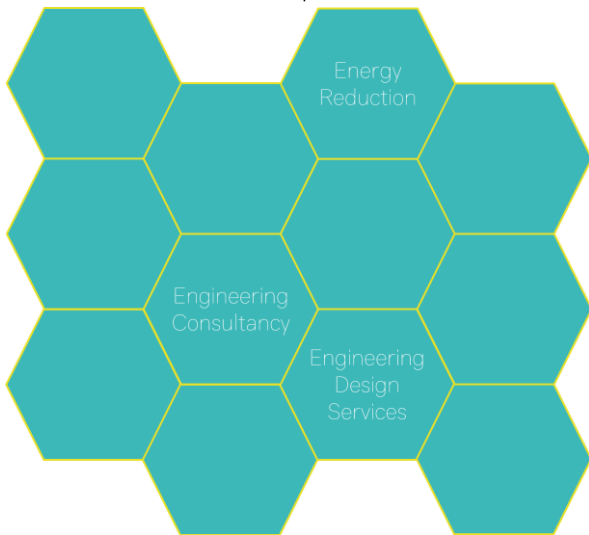
Client: Terra NRG  
 Sector: Leisure Centres  
 Project: Air Source Heat Pump Design  
 Project Value: £N/A  
 Date: Nov 2022 to Mar 2024



## Our Client's Need

Terra NRG engaged with their client to provide engineering design work to support projects for the decarbonisation of Leisure Centres in the UK. They needed to complete the mechanical design works for 11 Leisure Centres which included development of 2D CAD drawings, Pipework calculations, modelling pipework pressure drop and equipment schedules. They engaged with Grationeer Ltd to provide the mechanical design works.

## Services provided



## Benefits Delivered

- Grationeer Ltd were able to provide a Chartered Engineer to complete the mechanical design.
- Grationeer Ltd have several years of experience working on energy reduction project which helped the development of this ASHP project.
- Software capabilities within Grationeer Ltd ensured accuracy of the 2D drawings and pipework design.
- Our understanding of the RIBA stages allowed the design to be progressed with a well-managed approach, reducing any time lost in design rework.

## Works Completed

Grationeer Ltd started works on this project during the concept stages for each of the 11 leisure centres. A standard approach was used for each leisure centre which involved completing a desktop study, carrying out a survey to firm up the draft designs, updating the design, performing calculations/analysis and specifying all equipment.

Every leisure centre was different and whilst the same approach to complete the design work was taken, the specifics of each site required Grationeer Ltd to draw on their experience and expertise. During the initial design stages, Grationeer Ltd would be involved in the design meetings and complete actions to ensure that the project remains on track. Grationeer Ltd would obtain design sign off from Terra NRG and their client, before proceeding with further design work. In our experience this is a key step to reduce/eliminate design rework which costs time and effort.

Following sign off of the draft design, Grationeer Ltd developed the final P&ID drawings and worked on sizing calculations for all equipment and ancillaries. Due to the variety of parameters for each leisure centre, each design package required special care and attention. Many leisure centres had different requirements which were considered for each design. It was also an opportunity for Grationeer Ltd to research and recommend equipment to suit the specific needs of the leisure centre.

Whilst most of the upgrade works were located within enclosed plantroom, some schemes required plant to be located external, either on the roof or on the grounds. This required additional drawing work for planning and Grationeer Ltd assisted with this process by producing 2D general arrangement drawings.

With all pipework sized based on engineering calculations and the layout of the scheme signed off, Grationeer Ltd performed pipework pressure drop analysis using modelling software. This confirmed the pump sizing and enabled all equipment and ancillaries to be specified.

Grationeer Ltd delivered a standard mechanical design package which included 2D drawings in AutoCAD, an engineering calculation sheet, a pressure drop analysis using modelling software, the mechanical schedule of equipment and all datasheets.

Grationeer Ltd and Terra NRG have built a professional, trusting working relationship and continue to work together on delivering engineering design packages.