

CLIENT

Higgins Construction

PROJECT

Grove Farm

ARCHITECT

RPS Architects

VALUE

£11m

WORK SCOPE

Construction of 104 New Build Residential Units and a Commercial Block



Grove Farm is a mixed use development by East Thames Housing Group, comprising of 104 residential units within 6 blocks ranging from 4 - 5 storeys. In addition to the residential blocks the development also includes a commercial block designed to suit multiple business needs. Energy efficiency and sustainability are at the heart of the schemes.

Brief

Appointed by Higgins Construction and RPS Architects, our brief was to provide mechanical, electrical and public health services, providing advice on Code for Sustainable Homes (CfSH) energy requirements for CO₂ emission reductions and energy efficiency. As part of our hidden value principles, NLG Associates carried out full SAP calculations for all apartments in each block using IES VE interfaced JPA Software.

Approach

As part of the quality assurance process and coordination, a dedicated project coordinator was appointed within NLG Associates overseeing and setting project priorities whilst maintaining close communication and point of contact for the client and other design team members. This successfully demonstrated NLG Associates proactive approach to assist and maintain project delivery inline with the client's project plan.



Following a pre-planning energy report, a strategy was devised to comply with CfSH Level 4. 25% of CO₂ emissions and reductions from calculated baseline emissions was achieved by utilising a central boiler plant with the introduction of a wood chip boiler to meet planning requirements.

A three dimensional thermal model was created to ascertain the details of each block and typical flats. This also serviced the basis for designing and coordinating other building services. Results from the calculations suggested modern district heating strategy combined with the 100kw biomass boiler was the most appropriate option to demonstrate code compliance and provide more than 20% onsite renewable energy source.



Further to discussions with the design team, client and developer, NLG Associates were able to omit the basement level plant room and locate all plant and fuel store at ground floor level.

Internal communal corridors were kept cool by using multi layer pipework and good quality insulation to avoid corridor overheating. This aspect of our design was very important to the end user.

The electrical services included lighting, small power, fire safety and security systems, emergency lighting, telephone systems, plant power and control Sky Plus. Safety systems including fire alarm, automatic smoke ventilation systems and lightning protection. Externally, secure security including CCTV, private and adopted road lighting, plant room, amenity and landlord services lighting.



Water and electricity supplies to the apartments were designed to provide easy access for metering / billing purposes and in compliance with Utility services.

