

Description

- ◆ Appointed by Cornwall Council to design the building mechanical and electrical engineering services for the proposed Hayle Marine Renewables Business Park
- ◆ The £6.1m development is on a 1.4 Ha site offering 2,600m² multi-tenancy commercial workspace including offices, workshops, storage units, exhibition space and parking with potential for a further 800m² of space
- ◆ The work supported CDC's ERDF funding bid and developing the M&E strategy to achieve a BREEAM Excellent rating.

Involvement

- ◆ SDS were active participants in design team meetings and sustainability, accessibility, BREEAM, value and risk workshops, assisting in establishing the brief. We communicated the final agreed solutions in a clear and coherent manner within a detailed Stage 0 report
- ◆ Assisted the project team establish the brief for building services, and developed a Stage 0 report for agreement.
- ◆ Detailed the mechanical and electrical systems options for the scheme, estimating the implications on space, time and budget and any associated risks
- ◆ Modelled the proposed energy strategy to ensure the concepts achieved the BREEAM aspirations of the scheme
- ◆ Extensive photovoltaic arrays were put forward in the concept proposals maximising use of the extensive roof
- ◆ Load estimates were prepared and initial discussions held with the Statutory Authorities for new incoming gas, electrical and water supplies to service the site in addition to superfast broadband and surf telecom infrastructure
- ◆ We produced an indicative building engineering scope of works, and discussed impact of services on the architectural design, services infrastructure and energy management strategy.



Business Park with work, office and exhibition space, built to strengthen Cornwall's growing marine renewables sector

Benefits Delivered

- ◆ Load calculations for electricity, gas and water usage by building type, reviewing existing provision and planning infrastructure for the site, commenting on avoidance of future development areas
- ◆ Site wide pre-insulated district heating main from centralised boiler to the tenancy areas
- ◆ Initial energy modelling to ensure achieving mandatory BREEAM credits for energy and advising on likely credit outcome
- ◆ Preparing initial mechanical and electrical proposals for the development discussing likely systems to be utilised by building type
- ◆ Identify mechanical and electrical design and specification issues to assist in achieving a sustainable building and meet BREEAM excellent accreditation
- ◆ Discussion on low and zero carbon technologies that were suitable for adoption on the site
- ◆ Identify the likely Building Control requirements
- ◆ Provide input to the risk register
- ◆ Initial order of mechanical and electrical costs for the overall budget plan, including project specificity and renewable costs (access controls, craned provision, centralised heat source, biomass installation)
- ◆ Recommending daylight modelling was carried out to maximise the available daylighting using roof lights, in conjunction with daylight dimming and zonal control incorporating user and automatic control systems
- ◆ Recommend thermal modelling to enable façade engineering to identify brie solei, solar control and reduced areas significantly lowering construction costs, and necessity for environmental conditioning
- ◆ Designs, specifications and drawings developed to achieve BREEAM credits and assessment.