



SDA

Services
Design
Associates

Healthcare Practice Profile

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Who We Are

SDA is a well-established, independent, Sheffield based building services engineering practice. SDA operates from a purpose built office block within Acres Hill Business Park, Sheffield. The practice was formed in 1988 to provide a design and advisory service to both the private and public sectors.

Our experience in the private sector of the industry has resulted in a keen commercial awareness, which enables us to design and administer projects within tight financial constraints. SDA typically designs and administers building services projects with a total building services value of approximately £50 million per annum (around £137 million overall build cost).

The practice employs a team of well-qualified and enthusiastic engineers whose joint experience covers all areas of building services. This currently comprises technically and professionally qualified engineering staff, together with trainees and support staff providing drafting, sales, administration and cost control back up. All members of the design team pride themselves in the specification and design of practical, sustainable and economic buildings.

The practice is quality assured in accordance with ISO 9001 and holds an ISO 14001 certificate for Environmental Management. The practice is registered with CIBSE, ACE, BSI, Constructionline and is CHAS Accredited with regard to Health & Safety.

Our Philosophy

SDA considers that design should be carried out in a practical and common sense manner in order to achieve a rational solution specific to the client's needs. Whilst active in the field of renewable energy we strive to provide detailed cost advice in order that our clients may reliably assess the costs and benefits of such technology.

SDA takes great pride in the amount of repeat business received from our clients. All members of SDA's team strive to ensure customer satisfaction, as we strongly believe this is the most effective way to secure our place in the market.

SDA's team strives to achieve client satisfaction on all projects, thereby ensuring a continued relationship. In short, we provide a long term, stable environment in which our employees can flourish. Our staff turnover is extremely low, with most principal and senior staff remaining in post for over 10 years.

The practice invests heavily in up-to-date technology and other facilities to aid the design process, thereby enabling us to react quickly to our client's needs and to provide a competitive fees structure.

SDA cores services are detailed on the next pages but in addition to these services

SDA can carry out other works for Clients including:-

- Strategic planning for future projects.
- Security assessments.
- Negotiation of energy contracts.
- Assessment surveys to establish the condition of services and the need for remedial works.
- Preparation of maintenance schedules and contracts.
- Assessment surveys to determine the condition of services prior to purchase.
- The detailed design of specialist electronic services, such as audio visual conferencing presentation equipment and specialist security installations to Home Office Standards.



Mechanical

At SDA we devise innovative healthcare services designs that create environments to suit the needs of processes and building users. Our designs are focussed to meet the needs of our Clients and incorporate life cycle costing's, energy efficiency and sustainability.

At SDA we have a sound working knowledge of current healthcare legislation such as HTM's where ventilation, heating, cooling, medical gases and domestic services are key to user comfort and functionality.

SDA also have the ability to undertake dynamic thermal models which involve daylight modelling, heat gain and heat loss calculations, overheating analysis, natural ventilation simulation, internal pollutant (AM10) analysis and Level 5 Part L Compliance.



Electrical

Our experience with power systems covers both low voltage and high voltage distribution. We focus upon designs using sound engineering principles to provide safe and robust solutions. All of our designs consider energy efficiency and sustainability.

At SDA we specialise in complex engineering challenges and have many years of experience working in healthcare environments with Essential & Non-essential services, IT medical locations, standby power systems and HV infrastructure.

SDA has over 25 years experience in the healthcare sector and has extensive knowledge of power distribution, lighting, data, alarms and monitoring systems, call systems, sound and audio systems.



Energy



NHS Trust's energy usage has been rising year on year for the past decade, which is a trend that is set to continue beyond 2020 and puts added pressure on to budgets and effects frontline services, so there has never been a more important time to explore methods in reducing energy usage and costs.

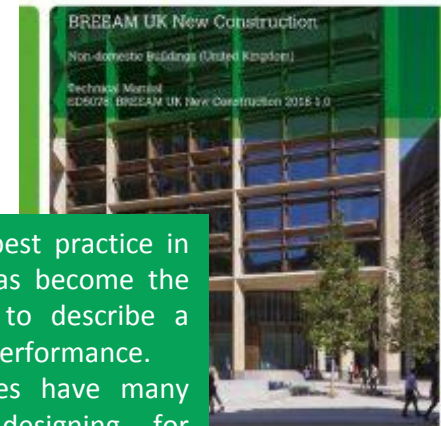
Services Design Associates are accredited Level 5 energy assessors and with our dedicated independent energy team we are able to explore and give unbiased and realistic advice on the use of renewable technologies and methods of lowering energy usage.

Our energy team has the ability to produce Energy Performance Certificates together with associated reports suggesting tailored improvements to improve your EPC rating and lower energy costs.



BREEAM

BREEAM[®] UK
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It sets the standard for best practice in sustainable design and has become the de facto measure used to describe a building's environmental performance. Services Design Associates have many years' experience of designing for BREEAM Excellence in many sectors.

The Department of Health have issued guidelines that all NHS capital projects should be subject to BREEAM assessment as a condition of capital business plan funding. All capital developments exceeding £2million must achieve an Excellent BREEAM rating for new build projects and Very Good for refurbishment projects. In addition all projects must achieve the BREEAM TRA 5: Travel Plan credit. Projects with a value less than £2million should be subject to a pre-assessment to determine if BREEAM accreditation is viable.



Sustainability



NHS Trusts are under ever increasing pressure to lower their carbon footprint on society and act on reducing their impact to climate change. The Government and local authorities have set out goals for carbon neutral targets with the NHS Trust having to implement carbon reduction strategies. The NHS is responsible for 5.4% of the UK's total carbon emissions.

At SDA we can help, we have a dedicated energy team who are accredited CIBSE Low Carbon Consultants and can undertake CO₂ emissions analysis and give independent advice on the effective use of sustainable technology.

At SDA our aim is not to just comply with industry standardised certification schemes set out by the Client, but for all our projects we aim to inherit some form of the key UN Sustainable Development Goals which act as the blueprint to achieve a better and more sustainable future for all.



BIM



Most of our designs are developed in the BIM environment and we routinely prepare federated MEP models to PAS1192 - Level 2. We have experience of working in the Common Data Environment (CDE) using both IFC and Revit Models. We regularly integrate the BIM model process with the TAS Dynamic Thermal Modelling. SDA are one of a few practices that have actual experience of preparing COBie drops which provide details of the engineering components utilised within the model. Clash detection is generally undertaken using NavisWorks. All SDA's technical staff have received formal, accredited training in the use of Revit to construct Building Information Models.



Some of Our Clients

Sheffield Health and Social Care
NHS Foundation Trust



Sheffield Children's
NHS Foundation Trust



University Hospitals of Leicester
NHS Trust



South West Yorkshire Partnership
NHS Foundation Trust



Northern Lincolnshire and Goole
NHS Foundation Trust



Sheffield Teaching Hospitals
NHS Foundation Trust



Yorkshire Ambulance Service
NHS Trust



Nottingham University Hospital
NHS Trust



The Rotherham
NHS Foundation Trust



United Lincolnshire Hospitals
NHS Trust



Sherwood Forest Hospitals
NHS Foundation Trust



Manor and Park Group Practice

Nottinghamshire Healthcare
NHS Foundation Trust



Derbyshire Community Health Services
NHS Foundation Trust



Doncaster and Bassetlaw Hospitals
NHS Foundation Trust



Chesterfield Royal Hospital
NHS Foundation Trust



New Regional Cancer Centre for Children

SDA's engineers have worked closely with the Trust and PACT to design the mechanical and electrical services for the new PACT and Westfield Health Oncology and Haematology Centre at Sheffield Children's Hospital.

Within the brief, emphasis was placed on the unit being designed based on input from clinicians, social workers, the PACT team, and parents and patients and has everything families need for their medical and emotional care. Facilities include out-patient facilities, consulting rooms and ancillary areas.

The new unit is self-contained, allowing patients to be separated from the rest of the hospital providing less risk of picking up infections from other hospital patients – which is always a concern for immuno-suppressed cancer patients.

It has 3 times the treatment space of their old clinic including room for day care patients and space for PACT staff, social workers and clinicians.

A decision was made by SDA at the start of the project to donate half of our fee for the M&E design to support the PACT Fund as one of our Directors was a patient at the old unit as a child.



Case Study

Calderdale Hub

SDA were appointed by Interserve Construction under the P21+ framework to carry out the detailed design of mechanical and electrical services for a £5,000,000 new build mental health services outpatient hub to be constructed on an existing Trust site in the centre of Halifax.

SDA were involved in developing the brief for the project with the end users following an initial feasibility exercise carried out by the architectural team. As part of our remit, we have undertaken discussions with many different stakeholders from the Trust and have undertaken workshop exercises to discuss individual stakeholders' requirements and to present proposals to the varying stakeholders.

SDA then progressed the design of the project through the various work stages to achieve a completed design, together with documentation to allow the mechanical and electrical services to be competitively priced in accordance with the NHS P21+ framework requirements.

SDA have subsequently been appointed to advise Interserve on the works by their sub-contractors during the period on site, and to assist with further design development as the scheme progresses through the construction phase. The building has been designed to meet the needs of multiple service users and also to address local authority requirements for renewable energy targets. As part of our works, we have undertaken feasibility works to investigate the potential to connect to a planned local district heating network, although this was not considered viable by the Trust. We also carried out a low carbon energy study to identify the optimum approach to meet the local authority requirements.

SDA have also assisted in negotiations with statutory authorities for removal of services from site, and for provision of new incoming services. This has included negotiation for removal of an existing sub-station within the development.



Case Study

Angiography Suite

The construction of a new Angiography Suite at the Rotherham General Hospital NHS Trust. The project presented unique difficulties including the construction of a new floor within part of the Hospital's electric tug service ramp area for the new Angiography Suite. In addition, the project involved modifications to the existing Cardiology Department and relocation of the Echo Cardiogram facility to facilitate the new Angiography Suite, and the refurbishment of the adjacent Bio Medical Technicians Workshops.

It was necessary to maintain the operation of the Cardiology Department throughout the works.

SDA provided M&E detailed design consultancy services for the scheme and onsite technical adviser role throughout the construction.



Case Study

Operating Theatres Ventilation Plant Upgrade

SDA were commissioned to carry out a feasibility study into upgrading existing plant and its impact on the operation of the theatres. Existing ventilation used a single plant to serve two theatres and the Trust required that each be served separately in line with current practice.

SDA's feasibility exercise identified that the theatres were designed using a concept that no longer complied with guidelines and could not be adapted without changes to ductwork and the theatre itself, and additional works were needed. The scheme was developed and expanded to address the issues and budgets adjusted accordingly.

SDA coordinated with the estates team, theatre management, fire safety advisor, Principal Designer and architect and assumed the lead role in planning, implementation, design and administration. For theatres 1 & 2, SDA were involved in the appointment of the successful contractor and acted as Project Administrator on-site, liaising throughout to ensure effective changeover periods.

Operating time was maximised, with shutdowns coordinated with planned holiday periods to minimise impact while working within and above live operating theatres.

The client benefited from improved and updated theatre controls facilities and greater energy efficiency by recuperation of exhaust air previously discharged to atmosphere.

After completion, SDA carried out the phased replacement of ventilation plant in more theatres in a heavily serviced and crowded plant room, designing services for Theatres 3 & 4. Subsequently, SDA worked with the Trust as part of a team, designing mechanical & electrical services to facilitate the full Theatre Suite upgrade for Theatres 3, 5 & 6.

Case Study

Electrical Infrastructure Upgrade

Services Design Associates were appointed by Doncaster and Bassetlaw Hospitals NHS Foundation Trust to undertake detailed surveys of the electrical infrastructure at their Doncaster Royal Infirmary site. The works were to include detailed schematic drawings of the whole infrastructure, load monitoring of the various substations and development of a condition and electrical load utilisation report.

The resultant report provided by SDA identified that the hospital's electrical infrastructure had reached its ultimate safe maximum capacity. The report also identified that much of the electrical distribution equipment was aged, in poor condition and subject to a number of Suspension of Operational Practice (SOP) notices as published by the Energy Networks Association (ENA).

SDA were further appointed to carry out a feasibility study in to an increased electrical supply capacity to the site. Consequently, SDA were appointed by the Trust's partnered P21+ Contractor to carry out the detailed design in relation to the provision of a new 4.4MVA incoming high voltage supply, an intake substation, the upgrade of the existing substation No.3 and the replacement of the existing high voltage network cabling.

SDA's initial duties for the Trust involved the development of the Client's Works Information and budget costs. SDA's duties under the P21+ process included the detailed design of the works, development of tender documentation, evaluation of sub-contractors and review of tenders received and administration of the works during the construction phase. The detailed design included the following:

- Cable diversions and enabling works
- New intake substation high voltage switchgear and protection
- New intake substation ancillary services
- New intake substation earthing facilities and calculations
- New high voltage cable connections to the existing high voltage ring infrastructure
- Replacement of existing high voltage ring cables
- Upgrade of the existing substation No.3 including replacement of two 11,000/400V transformers and associated high voltage switchgear
- Upgrade of substation ancillary services
- Upgrade of existing earthing facilities
- Replacement of three LV main switchboards
- Replacement of LV distribution services from the new LV switchboards to their first point of utilisation.