HEALTHCARE

For all your mechanical and electrical consultancy needs

The Christie Acute Assessment Unit

S.I.SEALY

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Introduction

S I Sealy was founded in 1949 and has since grown into one of the foremost building services engineering consultancies in the North of England. We now have one of the largest single resources of MEP design engineers, Building & energy modellers & digital engineers in the Region with over 40 staff. The business is committed to helping clients achieve net zero carbon emissions, demonstrated by the fact that we are PAS2060 vertified net zero carbon business.

Our clients value this and our general approach, demonstrated by the fact that over 90% of our work comes through repeat business from an extensive client list.

We have significant knowledge and experience across all market sectors, with particular strength within the healthcare sector. The strength of our experience is demonstrated by being one of the few M&E consultants on the NHS SBS Healthcare Planning, Construction Consultancy & Ancillary Services (HPCCAS) framework running until 2027.

Our flexible consultative approach allows us to exceed our clients' expectations. Our clients trust us to bring creativity and skill to delivering projects on time and to budget with the lowest achievable embodied andoperating carbon emission.

Dedicated teams, dependable planning and close monitoring of costs, excellent quality control and outstanding project management are all part of the S I Sealy approach. At the heart of all of this is the fact that we recognise the importance of good communication.

Ultimately we are passionate about building services and we are an approachable, friendly group of people who look to develop long-term relationships with clients.

Our clients include:

Ashford & St. Peter's Hospitals
NHS Foundation Trust

Barnsley Hospital
NHS Foundation Trust

Bolton
NHS Foundation Trust

Bradford Teaching Hospitals
NHS Foundation Trust

Bury
Clinical Commissioning Group

Cheshire & Wirral Partnership
NHS Foundation Trust

Countess of Chester Hospital
NHS Foundation Trust

East Cheshire
NHS Trust

East Kent Hospitals University
NHS Foundation Trust

East Lancashire Hospitals
NHS Trust, A University Teaching Trust

Greater Manchester Mental Health
NHS Foundation Trust

Hampshire Hospitals
NHS Foundation Trust

Kent & Medway
Clinical Commissioning Group

Kent & Medway
NHS and Social Care Partnership Trust

Kingston Hospital
NHS Foundation Trust

Lancashire & South Cumbria
NHS Foundation Trust

Liverpool Heart and Chest
NHS Foundation Trust

Liverpool University Hospitals
NHS Foundation Trust

Manchester
Clinical Commissioning Group

Manchester University
NHS Foundation Trust

Mersey Care
NHS Foundation Trust

Mid Cheshire Hospitals
NHS Foundation Trust

Midlands Partnership
NHS Foundation Trust
A Keele University Teaching Trust

North Staffordshire Combined Healthcare
NHS Trust

North West Ambulance Service
NHS Trust

Northern Care Alliance
NHS Group

Northern Lincolnshire and Goole
NHS Foundation Trust

Southport and Ormskirk Hospital
NHS Trust

St George's University Hospitals
NHS Foundation Trust

Stockport
NHS Foundation Trust

Tameside and Glossop Intergrated Care
NHS Foundation Trust

The Christie
NHS Foundation Trust

The Royal Wolverhampton
NHS Trust

University Hospitals Bristol
NHS Foundation Trust

University Hospitals of Morecambe Bay
NHS Foundation Trust

University Hospitals of North Midlands
NHS Trust

Wirral University Teaching Hospital
NHS Foundation Trust

Wrightington, Wigan and Leigh
NHS Foundation Trust

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S I Sealy has a wide range of experience in all sectors and types of buildings.
This document provides a sample of our UK Healthcare work.

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The Royal Oldham Hospital Expansion Project

Sector: Healthcare
Client: Northern Care Alliance & IHP (JV between SRM & VINCI)
Architect: Day Architectural
Budget: £23m

- BREEAM 'Excellent'
- Daylight sensors
- CHP plant
- Plate exhangers
- 12.8% CO2 Reduction

For this development S I Sealy provided detailed RIBA stage 4 MEP designs in Revit for the new four-storey building, comprising 7400 m2 including a rooftop plant, connecting the main hospital building at all levels and an open central courtyard. The building consists of two new 24-bed ward accommodations on two floors with the top floor accommodating a shell and core area with riser and ceiling void space provision for future services for the floor.

Our team produced enabling works packages to allow the site to be made safe to allow for future works to commence. Along with surveying the existing infrastructure and establishing the works that were needed to demolish existing buildings and accommodate the new facility.

The building is to be constructed to BREEAM 2014 'Excellent' with the design stage BRUKL calculations undertaken to indicate the building design to achieve at least 5 BREEEAM 2014 credits, along with Thermal Modelling being in line with HTM03-01 and CIBSE guide. All external lighting is to be controlled via daylight sensors and all the lighting is in line with SLL and CIBSE LG 2 and CIBSE LG 7 for computer working areas.

The project will receive 100% of heating and domestic water energy use of the building from on-site renewable technology. This is to be provided by utilising a Combined Heat and Power plant installed in the main hospital boiler room with an emergency steam back up system. The CHP will also serve other plate exchangers in the hospital in addition to providing 100% of the heating.

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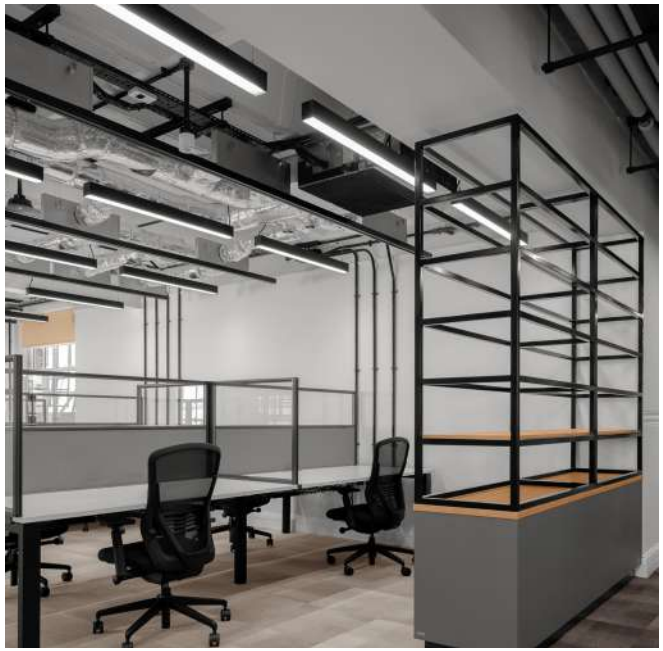
Cobbett House MFT Trust HQ, Manchester

Sector: Healthcare/ Commercial
Client: Manchester NHS Foundation Trust
Architect: Day Architectural
Budget: £1.6m

- Grade II English Heritage Listed Building
- Bespoke lighting
- Smary energy-efficient daylight dimming
- Low Carbon heating and cooling

We are providing detailed MEP engineering design and construction phase monitoring for the refurbishment of Manchester NHS Foundation Trust's Headquarters building, Cobbett House. This current phase involves the total refurbishment of the third floor within the four-storey Grade II English Heritage listed building. Works also included the refurbishment of the lifts together with the ground floor toilets and teleconference facilities on the upper floors of the building. The MEP designs utilised bespoke lighting and smart energy-efficient daylight dimming along with air source heat pumps to provide low carbon heating and cooling. Due to the Grade II Listing and age of the building, we had to work closely with the architects and structural architects to ensure adequate ventilation, heating and cooling were provided without any external plant being visible.

We created a "Mock-up" room at an early stage of the design to ensure all services were coordinated and met the client's needs, whilst verifying the quality of the installation. The works formed part of essential Covid clinical planning to relocate admin staff from areas within the MRI that are now delivering clinical services.The project was the second phase of an overall masterplan to refurbish the whole building. Phase 1 was the refurbishment of the first floor of the building to accommodate the Trust's payroll / HR operations and the department remained fully operational during the subsequent refurbishment of third floor office space. We have developed detailed MEP strategies for the overall refurbishment of the building following 3D surveys of the entire building and basements, which include designing new heating plant and distribution pipework together with forming new MEP risers to serve future phases.



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The Christie Main Entrance, Manchester

Sector: Healthcare
Client: The Christie NHS Foundation Trust
Architect: IBI Group
Budget: £2.5m

- Consulting Suites
- Treatment and Utility Accommodation
- Security Hub

In the ever increasing search for the cure for Cancer, The Christie are improving and expanding the clinical trials department and expanding the Trials unit to increase its testing on patients. It is considered that in providing increased results this will increase the speed at which assessments can be developed and researched. The Centre consists of 26 Patients Clinical Trial Seating Bays, 6 consulting suites with Treatment and Utility Accommodation. The Centre now forms Part of the Oak road Centre.

Due to the large improvements to The Christie site, it was considered appropriate to open up the Main Entrance to the Hospital with a New Information Centre – Cancer Information Facilities, catering and a more welcoming waiting area. The area consists of a new reception centre, charity shop and additional retail shops together with a security hub, interview and relaxation areas, in addition to the open plan seating spaces.

Due to the introduction of the Proton Beam Facility, the Outpatients Department was relocated and expanded to cater for the increase in demand on the hospital. The existing Outpatients Department has also received a complete overall, so support the demand for more examination rooms together with Venepuncture, X-ray and Utility Facilities.

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The Christie Acute Assessment Unit, Manchester

Sector: Healthcare
Client: The Christie NHS Foundation Trust & IHP (JV between SRM & VINCI)
Architect: Gilling Dod Architects
Budget: £4m

- HTM Compliant
- 7 month programme completed in 16 weeks due to Covid-19

The Christie NHS Foundation Trust is a specialist cancer care, research, and education facility in Manchester. The Christie were reviewing the option of converting a blank floor space in the four-storey Proton Beam Facility located on the Christie site, into a new 26-bed Acute Assessment Unit.

S I Sealy were first asked to create a stage 2 report to identify and assess feasibility options and budget costs for the MEP services associated with the proposed development and identify any key risk areas regarding MEP services.

S I Sealy were then approached to join forces with their P22 Contractor IHP (Vinci & Sir Robert McAlpine) to carry out the full design and installation of the project in 16 weeks. This project involved fitting out an existing shelled fourth-floor space within the proton beam building to form a new acute assessment unit (AAU). The new development is a 1850m2 area and consists of the ward and bedded areas as well as staff facilities and office space. The new AAU utilises existing mechanical and electrical infrastructure to provide HTM compliant services to the new areas with additions as required.

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Basingstoke & North Hampshire Hospital, Candover Clinic

Sector: Healthcare
Client: ESS Modular
Architect: Paul Murphy Architects
Budget: £2m

- Heat Recovery Units
- VRF Air-to-Air Heat Pump System
- AHU Ventilation System

We were appointed to provide the detailed MEP design and construction phase duties for the new consultants' facility at the Basingstoke & North Hampshire Hospital. The project delivered a stylish new private patients' facility, incorporating 12 Consulting rooms, each with a Secretary's office. The facility has an X-Ray department, treatment rooms and support staff offices.

The specification was enhanced to provide a comfortable & calming ambience, which included a coffee bar and a large atrium style waiting area. The rooms were provided with a mixture of natural ventilation and mechanical ventilation via local ducted heat recovery units located in the ceiling void. Heating and cooling was provided via an electric VRF air-to-air heat pump system, which significantly reduced the carbon emissions. The X-Ray facility was provided with a separate supply and extract AHU ventilation system mounted on the roof.

As part of the Consultants' Facility, an enabling works package had to be delivered to ensure the building had sufficient power, gas and water. A full feasibility study was undertaken, and RIBA Stage 3 & 4 reports were produced with complete budget costs to establish how the hospital could provide this service.

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Basingstoke & North Hampshire Hospital, Radiotherapy Clinic

Sector: Healthcare
Client: ESS Modular
Architect: Paul Murphy Architects
Budget: £4.5m

We were appointed to provide the detailed MEP design and construction phase duties for the new Radiotherapy Clinic with state-of-the-art cancer diagnostic & treatment equipment. The facility consists of a CT room, X-ray room, MRI room, ancillary rooms and a new LINAC laser machine. The LINAC laser machine was installed within a purpose-built concrete bunker which offers protection from the radiation emitted from the machine.

We attended several user group meetings and technical meetings with the manufacturer of the equipment and bunkers to deliver a co-ordinated and suitable MEP solution to heat, cool, power and ventilate and light the facility.

As part of the Radiotherapy Clinic for Basingstoke & North Hampshire hospital, an enabling works package had to be delivered to ensure the building had sufficient power, gas and water. A full feasibility study was undertaken, and RIBA Stage 3 & 4 reports were produced with detailed MEP budget costs to assist in the project planning & financing.

Awards

- 2014 Considerate Constructors Scheme
- National Site Award - Bronze Award (Winner)
- 2014 LABC Building Excellence Award - Best Public Service Building (Shortlisted)
- 2015 Building Better Healthcare Award - Best Acute Hospital Development (Winner)

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Ashford & St Peter's Hospital, Chertsey

Sector: Healthcare/ Off-site Construction/ Public Sector
Client: ESS Modular
Architect: Paul Murphy Architects
Budget: £2.5m

- BREEAM 'Very Good'

The requirement from Ashford & St Peter's Trust was to provide a two-storey temporary office block at the hospital, with a BREEAM 'Very Good' Rating, whilst ensuring services within the complex were unaffected.

We worked with Extraspace Solutions on the resulting 2339 m2, a two-storey modular office building with a third-floor plant room. Each floor consists of a core area with toilet, staff changing area, staff kitchen and lift.

The office accommodation is arranged in a mix of open plan and cellular spaces, with half-glazed office partitions. The meeting rooms are located at ground floor level with a movable partition system subdividing the two smaller rooms.

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Fairfield Hospital, Rooftop Expansion

Sector: Healthcare
Client: MTX Contracts

We were appointed by MTX Contracts to provide the MEP RIBA Stage 4 detailed design for a new modular roof top extension. The rooftop extension was located on a building containing acute accommodation and general wards which all remained fully operational throughout the construction period. We undertook complex phasing of the engineering services to minimise disruption to the clinicians and patients. The new extension comprises additional welfare accommodation, including staff offices, interview rooms, changing rooms and toilets.

The modular extension unit utilises hybrid ventilation consisting of high-efficiency heat recovery units, extract fans and natural ventilation. Heating and cooling are provided by air source heat pumps supplied with electricity from new distribution boards. Low energy LED lighting is arranged throughout complete with sensors and scene-setting controllers. The domestic services connect locally into the hospital's main domestic water services infrastructure. Drainage to the new modular unit was achieved by the installation of new drainage stacks mounted on the exterior façade of the hospital which connect to below-ground drainage in the courtyard below.

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Fairfield Hospital, Theaters 7 & 8

Sector: Healthcare
Client: Northern Care Alliance

- Ultra-clean Theatre System
- Fully HTM Compliant

We were commissioned by Northern Care Alliance to produce a RIBA stage 1 report and a complete M&E design for the refurbishment of Theatre 7 and to create a new theatre in the adjacent store area to form Theatre 8. The new area provides the theatres with a waiting and recovery area, large sterile store, changing facilities and office space.

The design involves new plant located at ground level within the courtyard with two new air handling units. The air handling units provide HTM03-01 air change rates and the correct pressure regimes to provide fully HTM compliant ventilated air to the theatres. An ECO-flow UCV canopy is used, creating 48 air changes per hour, resulting in an ultra-clean theatre system.

The medical gas system was provided to the new modular theatre from the existing medical gas infrastructure, which included new AVSU, Oxygen, Vacuum and 4Bar Medical Air supply to each side of the bed heads.

The new modular theatre is connected to the existing mechanical, electrical, and gas infrastructure to provide HTM compliant services and medical gas supply to the new areas. Both theatres benefit from LED lighting, improving the lighting levels and saving on energy consumption.

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Trafford General Hospital, Elm Ward

Sector: Healthcare
Client: Manhester University NHS Foundation Trust
Architect: DAY Architects
Budget: £3m

- HTM-03 Compliant Air Handling Units

Our team provided the feasibility study, detailed MEP RIBA Stage 4 design and construction phase site supervision for the remodelling of wards 15 & 16 at Trafford General Hospital. The refurbished 30-bed ward provides acute care and support to elderly in-patients across Greater Manchester. It includes meeting rooms, shared offices, an ADL kitchen, a dining room, a rehabilitation gymnasium, a hub room, and single and 4-bed bays with en-suite facilities.

As the wards are located on the first floor of a three-storey occupied building, the project's design and strategy had to allow for minimal disruption to the rest of the building, which utilised shared plant and services. The heating system that serviced the first floor of the building was removed and replaced with new radiant panels, and HTM-03 compliant air handling units served from existing steam plate exchangers.

A temporary ventilation plant was installed to maintain the services whilst the air handling units were replaced on-site to maintain supplies to occupied areas of the building. As the existing redundant heating distribution pipes and other services were routed through the occupied ground floor ceiling void, the strip-out was coordinated and completed out of hours, with ceiling sections removed and reinstated. All new mechanical and electrical services in the new wards, including medical gas, alarms, emergency lighting, CCTV and nurse calls, were replaced.

The site and services were strategically planned and coordinated with the Hospital's Estates Department to ensure minimal disruption within the hospital throughout the project.

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The Royal Oldham Hospital, Critical Care Expansion Unit

Sector: Healthcare
Client: Northern Care Alliance
Budget: £450k

- HTM-03 Compliant Air Handling Unit
- Fast tracked Ward to adapt to COVID-19 requirements

Our team worked with Northern Care Alliance NHS Group on the refurbishment and expansion of the Critical Care Unit at The Royal Oldham Hospital. The project comprised of an additional six critical care beds, along with the creation of a conference room, three storerooms, a visitor room and two interview rooms. Increasing the number of beds required phasing on the live CCU as the hospital and CCU needed to remain fully operational.

Our team began by surveying the site to establish the existing services available and to establish what enhancements were needed to provide fully HTM compliant services to the CCU. As part of the works a new HTM03-01 compliant air handling unit was installed on the roof of the hospital. New ductwork was installed connecting to the unit and extending along the roof and into the CCU department, with the ventilation system providing the high levels of air changes within a CCU whilst maintaining the correct temperature and pressure control.

The medical gas system was provided which included new AVSU, Oxygen, Vacuum and 4Bar Medical Air supply to each side of the bedheads within the CCU. The HTM-02 medical gas system utilised was based on Dual Circuits with double the number of terminal units on each side of the bed.

We provided an electrical installation that was fully compliant with HTM 06 and BS7671. Additional electrical infrastructure was installed and integrated into the existing installation, providing isolated power supplies to the socket outlets at bedheads. The existing fire alarm system was extended into the new development and designed to meet the requirements of an L1 system as described in BS 5839 and HTM 05. The new ventilation system was equipped with a set of fire smoke dampers maintaining fire integrity and new smoke damper panel with fire man override switch.

During the commissioning stage, we were approached by the clinical team to make pressure changes within the ward to adapt to COVID-19 requirements. The new ventilation system serves COVID-19 critical care patients, allowing for a sufficient amount of air changes and negative pressure within the CCU.

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Kent & Canterbury Hospital, Modular Orthopaedic Theartes

Sector: Healthcare
Client: MTX Contracts

- HTM/HBN Compliant
- Dedicated Top Floor Plant Room
- Five Air Handling Units

East Kent Hospitals University NHS Foundation Trust needed to expand its operating services at the Kent and Canterbury Hospital site to cater for an increased patient intake. Working alongside MTX, we were appointed to provide the fully detailed MEP design to RIBA Stage 4 in Revit for four new state of the art Orthopaedic operating theatres together with a new office block and waiting area.

The new theatres were constructed using off-site modular building systems and comprise a single-story facility that houses four orthopaedic operating theatres, a reception and waiting area, 8 bed recovery bay, a theatre store and all necessary ancillaries. The new facility links directly into the hospital's current ward department close to the refurbished day care surgery department.

As the construction of the new modular operating theatre block was sited adjacent to the 24/7 patient ward, our engineers needed to carry out detailed site surveys of the infrastructure to determine where the new modular building services could connect to without causing interruption to the existing services. A new dedicated top floor plant room was provided to support the new scheme.

The design incorporated five new air handling units, one for each theatre and one for the recovery and ancillary area. The air handling units provide HTM03-01 compliant air change rates and pressure regimes required for operating theatre ventilation. Each theatre utilises 3m MAT ultra-clean canopies with integrated multi-movement pendants.

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Trafford General Hospital, Theatres 10 & 11

Sector: Healthcare
Client: Manchester University NHS Foundation Trust
Architect: IBI
Budget: £4m

- Ultraclean ECO-flow UCV Canopy

Our team was appointed to deliver the feasibility study, detailed 3D MEP design in Revit, and the commissioning of services for two new theatres and recovery areas within Trafford General Hospital.

The project involved fully refurbishing an old, dilapidated ICU building at the hospital into two new, entirely repurposed dual operating theatres and a recovery department fully compliant with current HTM and HBN standards.

Dedicated plant was designed for the roof of the theatres with a modular enclosure that houses three air handling units, two of which supply each theatre to allow them to operate independently and a third to supply the recovery and ancillary areas. Each air handling unit provides HTM03-01 air change rates and the correct pressure regimes to provide ultraclean ventilation for the theatres.

Both theatres benefit from an Ultraclean ECO-flow UCV Canopy, anti-bacterial medical trunking, essential duel supply electrical distribution , medical gas systems, and LED lighting, which improves the theatres' lighting levels whilst saving on energy consumption.

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MFT NHS, Low Carbon Skills Fund

Sector: Healthcare
Client: Manchester University NHS Foundation Trust
Carbon Reduction: Up to 85%

- Carbon Reduction of 187 Tonners per year

S I Sealy was commissioned by Manchester University NHS Foundation Trust to undertake in-depth carbon reduction studies for 9 buildings via the low carbon skills fund to support them in their application for the Public Sector Decarbonisation Scheme. The surveys incorporated both building fabric and services surveys to identify the most feasible decarbonisation solutions for a range of building types such as a mental health clinic, administrative building, undergraduate teaching classrooms, security lodge and hydrotherapy pool.

Each survey was tailored to suit each building and its applicable LZC technologies. This resulted in a wide range of different LZC technologies being proposed, with solutions including Air Source Heat Pumps (ASHP), Ground Source Heat Pumps (GSHP), mechanical ventilation, heat recovery, fabric improvements, glazing replacements, roof installations, LED systems, smart controls, building management systems, control monitor systems, water provision with heat pumps and solar photovoltaic panels.

The proposed solutions reduce energy use and carbon emissions from 30% - 70% based on site constraints. If all measures were incorporated, this would provide an annual carbon reduction for all buildings of 187 Tonnes per year.

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North Manchester General Hospital, Regeneration Project

Sector: Healthcare
Client: Manchester University NHS Foundation Trust
Budget: £500m

S I Sealy was appointed to assist the University of Manchester NHS Foundation Trust in the £500million re-development of the North Manchester General Hospital estate, which includes significant refurbishments and new builds across the whole hospital site.

The transformed development will become a focal point for the community, integrating health and social care facilities, high-quality new homes, and access to better education and training alongside more inviting public open spaces. The development will include a new acute hospital, modern mental health hospital, wellbeing hub, education hub, a new residential community, commercial space, and a village green.

We undertook a virtual and physical survey across the whole NMGH site to establish the existing services and understand the existing distribution and spare capacity, logistic issues and gap issues that may impact future site-wide works. From this survey we produced a comprehensive constraints and opportunities report, which advised the Trust on how best to progress the masterplan, identified the risks associated with the Stage 1 report and produced a programme of surveys. A complete gap analysis report was produced to identify any additional information required to support the development of the master zoning and design.

To support the future re-development of the site, we developed a feasibility study, which covered assessing the whole new and existing infrastructure providers of water, power and IT services, the relocation of the main site security centre, utility providers, private HV network (sub stations and back up generator provision), the gas/steam infrastructure, LV distribution, data infrastructure, CCTV network, fire hydrant methodology and the vacuum insulated evaporator plant.

Other works also included the site-wide telephone exchange, which involved diverting and managing the main telephone switchboard whilst being relocated and advising decanting locations and reviewing the design proposal for the new five-storey office modular North Manchester House, which will house office staff whilst on-site work progress.

Once the development strategy was agreed upon for the master plan, our team began to design new and diverted services from the main infrastructure works to facilitate the site's development. These enabling works assess the existing problems with the site infrastructure and the mechanical and electrical services, provide essential power to sections of the new site, and remove old services to prepare for new facilities.

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Riverside Health Centre

Sector: Healthcare
Client: Castle Gate Projects
Architect: Blue Sky Architects
Budget: £4.5m

- BREEAM "Excellent"

We are providing MEP performance duties for a new build BREEAM "Excellent" medical centre within a large mixed-use three-storey building comprising of ground floor enclosed car parking with retail and pharmacy units, first floor GP practice with six treatment rooms, waiting area and support offices, second floor GP practice with 12 general clinical rooms, staff rooms and waiting areas.

The MEP strategy is designed to be as energy efficient as possible. The seven treatment rooms are provided with localised mechanical ventilation heat recovery (MVHR) providing fresh air. Other areas are provided with natural ventilation or MVHR and have heating and cooling supplied by either ASHPs, electric heating, or passive heating to minimise operating costs carbon emissions.

The medical centre is built on stilts on a floodplain beside the river. It combines multiple GP practices in the Lower Broughton area into a significant, modern, state-of-the-art GP Surgery.

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Marine Lake Health & Wellbeing Centre

Sector: Healthcare
Client: Gilling Dodd
Budget: £8.6m

- HTM/HBN Compliant

We are providing MEP services for RIBA Stages 1-4 for a new build three-storey BREEAM "Excellent" Health & Wellbeing Centre for the residents of West Kirby. This building will provide a new integrated primary and community care centre within an environment that is efficient, fit for purpose and suitable for the future.

Multi-disciplinary stakeholders will occupy the building, including Marine Lake Medical Practice, Wirral Community NHS Foundation Trust Integrated Community Care Team, and other Community Service providers. The core objective is to enable greater partnership between primary, secondary and third sector health and social care providers, allowing them to develop new models of care and wellbeing services to reduce social isolation and encourage physical and mental health resilience in the community.

The building will include 23 GP consulting rooms and a number of clinical spaces, as well as a Community Café and Pharmacy and a training and education facility, providing greater opportunity to maintain and improve clinical skills for all clinicians.

The Centre will act as an Extended Access Hub, providing medical services seven days a week, 8 am – 8 pm, and will provide a base for an Integrated Care Team, including district nurses, community matron, care of the elderly team, community physio, adult social care, SaLT podiatry, dietetics and counselling, as well as an IV Suite.

The Centre will also alleviate pressure in local hospital departments by offering services traditionally delivered in an acute setting, including hospital consultant clinics, minor procedures, ultrasound, diagnostics, and investigations. It will also enable the GPs to provide a hub model for acute paediatrics to reduce the pressure at A&E; enhance cardiology services, including cardio rehab and cardiology clinics; and focus on providing support to geriatric and memory clinics for dementia patients, as well as running community activities to support the older population.

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Liverpool Heart & Chest, Decarbonisation Reports

Sector: Healthcare
Client: Liverpool Heart & Chest NHS Foundation Trust
Carbon Reduction: Up to 92%

- Carbon reduction of 238 tonnes per annum

In line with the Government's decarbonisation plan, the Liverpool Heart and Chest Hospital (LH&C) NHS Foundation Trust (FT) is committed to continually improving its assets' energy efficiency and carbon reduction. Our team were commissioned to deliver a range of energy surveys which explore the most feasible and effective decarbonisation solution for each building whilst considering other key performance targets such as infrastructure, site impact and maintenance requirements.

These surveys aim to provide LH&C NHS Trust with the feasibility calculations, advice, and technology selection that will improve the energy performance for nine buildings, reduce emissions, and assist the Trust in meeting the Government's ambition of Net Zero Carbon emissions by 2050.

Each survey is tailored on a building-to-building basis and results in a range of suitable Low Carbon technologies being proposed, such as Air Source Heat Pumps (ASHP), Water Source Heat Pumps (WSHP), all electrical heating and hot water, Solar PVs, fabric improvements, roof and wall insulation, LED systems, intelligent controls and control monitoring systems, and appliance bay radiant panels.

The carbon emission reduction measures have been proposed based on the Lean, Clean, Green design philosophy, prioritising fabric improvements first, then efficient systems, and then renewable generations. Based on the site, the proposed solutions reduce energy use and carbon emissions from 41% to 92% and showcase ample opportunities to reduce energy use and improve thermal comfort and system design within each building.
Implementing these proposed design solutions has the potential to reduce energy use and carbon emissions from the nine buildings and have an overall potential carbon reduction of 238 tonnes per annum.

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