Building Services Design

Concertus®
Part of the Vertas Group

Places. Property. People.

Working across numerous specialisms, we are a passionate multi-disciplinary design and property consultancy.

Our team of property specialists and designers provide innovative solutions to make places, properties, and people be the best they can be.

Our Building Design Consultants work collaboratively to achieve a solution that is sustainable, inspirational, and empowers current and future generations. Being considerate and client-focused, we explore the benefits above and beyond your original requirements, delivering your projects to an exceptional standard.

By utilising our knowledge and diverse experience in Building Services Design we create effective solutions for our clients.

Our Engineers work closely with clients, consultants, and contractors to design the mechanical, electrical, and sustainable systems required for the complete operation of buildings. The integration of building services – covering heating and ventilation, lighting and acoustics, plumbing, power supply, and building management systems – allows buildings to be used efficiently.

The Building Services Design Team can deliver stand-alone projects or work as part of a wider, multi-disciplined team. We provide a full service that ranges from consultancy and feasibility assessments, to design commissions and full project delivery.

We have a proven track record for delivering Building Services Design projects that are both capital efficient and energy efficient. Our approach is focused on tackling carbon emissions and minimising energy for a more sustainably built environment for the future.

OUR BUILDING CONSULTANCY SERVICES INCLUDE:

- Carbon + Energy Design Management
- Concultancy
- Feasibility Asessments
- Mechanical + Electrical Service Design

Mildenhall Hub

Key Information

Location:
Mildenhall, Suffolk

Sector:
Education, Health, Leisure + Community

Value:
£40 million

Concertus Disciplines:
Architecture
Interior Architecture
Landscape Architecture
Mechanical + Electrical Engineering
Quantity Surveying + Cost Consultancy
Structural + Civil Engineering

SCOPE

This project required a multi disciplinary approach across our in house professional teams. Originating with the master planning, the project required involvement from our Architecture, Landscaping, Interior Architecture, Quantity Surveying, Structural + Civil Engineering, and Building Services Teams.

In order to first explore the possibility of creating the hub, we developed a robust business case to allow partners and stakeholders to conduct due diligence on the proposed community facility. We engaged and consulted with a large number of stakeholders, consolidating all their ideas and requirements. We also carried out land surveys and architectural design proposals. Each option was fully costed to include the build, capital receipts and any land purchase. We produced all background and supporting information, and gave a 25 year lifecycle cost.

We produced detailed designs for the build, including massing and site analysis drawings, layout plans and plans for the use of the buildings and surrounding spaces. This resulted in a smooth process for gaining approvals throughout planning and building control stages. Our designs were also used to secure funding to progress the project. The facilities included within the design are a high school, leisure centre, job centre, medical centre, police, local authority, library, café, pre-school, children's centre and office spaces.

Our team of architects took many factors into consideration when designing the community facility. For instance, there were multiple stakeholders and end users involved on this project, which presents a more complex task of ensuring all their needs are met. However, through frequent client engagement sessions, the team were able to develop and understand their briefs, gaining a thorough understanding of how best to suit their needs.

RESULT

The client and end users are extremely pleased with the finished project, which is an example of what can be achieved by working collaboratively with multiple stakeholders.

The completed hub is a national exemplar, and the first of its kind in the UK to have as many community services brought together under one roof to achieve its aim in reducing overheads and creating better cost and environmental efficiencies. The design of this building, both internally and externally, meets the client's brief and requirements, as well as providing a practical and aesthetically pleasing community hub.

Sybil Andrews Academy

SCOPE

Phase 2 of the scheme was the construction of the Sports Building, which is clearly identified as having a different usage on the site. Externally across the whole site, paved areas follow a form and pattern to delineate the spaces and guide the users. There is a strong relationship with the outdoor environment through the views from stairwells, curtain glazing (glass walls) and doorways.

As the building was placed into several distinct phases, the logistics of construction had to be carefully considered and agreed with the academy provider to ensure the education facilities were maintained during each of the subsequent construction phases.

With there was a variety of end users and stakeholders, a robust engagement process had to be implemented to make sure due consideration was given to sometimes conflicting needs and agreement was reached on the priorities of the works. Budgetary constraints led to a detailed value engineering process being undertaken to make certain the best value was achieved, whilst maintaining the quality of the facilities required by all interested parties.

Key Information

Location:
Bury St Edmunds, Suffolk

Sector:
Education

Value:
£25 million

Concertus Disciplines:
Architecture
Building Services Design
Estates + Development Management
Landscape Architecture
Interior Architecture
Project Management and Quantity Surveying + Cost Consultancy

RESULT

Construction was completed mid-November and the children moved into the new school on Monday 5th December 2016. Divided into three key buildings; Heart Building, Teaching Block 1, and the Sports Building, the academy provides a stimulating educational environment. Opportunities have been maximised for community use outside the academic day, through consideration of access, service zoning, and security needs.

The 3rd phase of the project is to take it from a 600 place school to a 900 place in the 1st phase by providing Teaching Block 2. The 2nd phase will take it up to a 1200 place school by provision of Teaching Block 3. We are currently on site building Teaching Block 3.

Blue Light Collaboration

Key Information

Location:
Woodbridge, Suffolk

Sector:
Emergency

Value:
£6 million approximately

Concertus Disciplines:
Architecture
Building Services Design
Interior Architecture
Landscape Architecture
Project Management
Structural + Civil Engineering
Quantity Surveying + Cost Consultancy

SCOPE

Our team has been involved in the initiative from its very early stages. We were called upon to work with multiple stakeholders to give consultancy advice, before moving on to provide design and project management services, as required, for each of the individual projects.

One of the projects completed was Woodbridge Community Fire Station where we were initially selected as the preferred consultant to undertake a feasibility study. We were appointed to assess and lay out the options that would make the vision of a shared property a reality. Our multi-disciplinary team included Architectural, Mechanical, Electrical, Structural, Quantity Surveyors, Landscape Designers, Project Managers, and Estates Surveyors. Within the team, we considered issues relating to design planning, land ownership and lease arrangements.

To date, we have been involved in 9 shared community fire and police facilities in Suffolk, undertaking a variety of roles.

RESULT

The Government has praised the result achieved from the joined-up approach by Suffolk, with talks of the Home Office using the county as a case study for 'blue light collaboration' success. Accomplishments so far have highlighted how benefits can be achieved through bringing together blue light services in Suffolk. These results have also moved the public sector in Suffolk a step closer to the objective of creating single public sector estates or hubs, sited centrally, that bring together services that support the local community.

The Bridge School

SCOPE

In 2019, when the Council decided to progress the development of the secondary school, the original plans had to be reassessed in line with new budgetary requirements. As a result, a complete redesign was needed so that the project would meet the client's new budget while still adhering to their key requirements and the existing planning permissions. This was done carefully, involving collaboration between many of Concertus' in-house teams, the Contractor, the end-users, the Planning Authority and the client. We ensured the re-design followed the original ethos of the project while still adhering to the agreed key programme dates.

Further design considerations were taken in relation to the varying levels on site. Our Structural and Civil Engineers explored various options to provide a suitable solution for the water discharge on site, as well as working closely with the architecture team to ensure the design was sympathetic to the space available for the new school. Value engineering options, including cut and fill comparisons, resulted in the ability to level the floor plan, removing staircases from the design improving both the cost efficiency of the design and the ease of movement around the school for the students.

The Structural Engineering team took full consideration of the site requirements when opting to use a timber Structurally Insulated Panel System (SIPS) for the school's structure. This Modern Method of Construction (MMC) was chosen due to the proximity of the new building to the existing school and the restricted access to the site. As SIPS are predominantly manufactured off-site, the construction time on-site was significantly shorter, minimising noise and disruption on the occupied school site.Our project manager led engagement sessions with end users early in the project to ensure all the needs and requirements for the future of the school were taken into consideration.

Key Information

Location:
Ipswich, Suffolk

Sector:
Education

Value:
£9.2 million

Concertus Disciplines:
Architecture,
Building Services Design
Interior Architecture
Landscape Architecture
Project Management
Quantity Surveying + Cost Consultancy
Structural + Civil Engineering

RESULT

The transformation of this site, into a state-of-the-art SEND school, has been a much-needed project for Suffolk County Council and the local community in Ipswich. The excellent working relationship between Suffolk County Council, Concertus, Morgan Sindall, and the Academy end user allowed for a seamless transition to deliver this specialist school, which has surpassed expectations through creative design solutions and co-operative working practices. The excellent management of this project and collaboration between all involved resulted in the new school being completed on-time and in budget, despite the impact of the Covid-19 pandemic. The Headteacher is thrilled with the completed school and the creation of a space which provides excellent educational benefits for current and future pupils and has described it as a beacon of excellence.

Marigold House Care Home

Key Information

Location:
Leighton Buzzard, Bedfordshire

Sector:
Health, Community + Residential

Value:
£13 million

Concertus Disciplines:
Architecture
Landscape Architecture
Interior Architecture
Mechanical & Electrical Engineering
Civil + Structural Engineering
Quantity Surveying
Contract Administrator

SCOPE

The design for the new Marigold House Care Home provides a 3-storey 63-bed care home facility incorporating a community hub for use by residents and the wider community. The facility needed to be designed to Passivhaus standards and to have a low impact on the environment. Building Information Modelling (BIM) was to be used throughout the design, to deliver an innovative and accurate design.

Throughout the design there were various aspects which had to be considered to ensure a fit-for-purpose facility could be provided. This included considering the needs of the future residents such as dementia patients, as well as the requirement to ensure the building is wheelchair accessible internally and externally. All rooms provided within the care home will have accessible ensuite bathrooms.

We were also responsible for the design of the external areas associated with the build. The plans include an extensive landscaped area which will wrap around the building to encourage residents to engage and have access to outside areas, which will support their health and wellbeing needs. The extensive detail achieved using BIM shows that the focus has been made on opportunities to develop an 'Outside/Inside' strategy. This is where external spaces become an extension of the internal spaces, alongside bringing external features inside, through elements such as planting and materials. Included in the design are terraces and balconies on the upper two levels. The design looks to create a feeling of home while balancing the needs of the residents.

The building is set to become Passivhaus certified, one of the earliest in the UK and the first for Central Bedfordshire. Passive design focuses on the use of thicker walls, reduced air-leakage and other techniques to reduce heat demand. This new building could act as a benchmark for government-commissioned projects going forward. CBC has also used a combination of air source heat pumps, ground source heat pumps and solar thermal systems for all the heating and hot water requirements of the building, to improve efficiency.

RESULT

This is the result section for the above project. Could we change to: The client is pleased with our quality of work and service. Our innovative designs have been very well received, and this state-of-the-art facility is set to provide much-needed care facilities to Leighton Buzzard.

Harrington Junior School

SCOPE

When first appointed to the project, the client's main priority was to ensure the pupils of Harrington Junior School had school accommodation available in time for the start of the school term in September 2020. Our team oversaw the successful provision of a temporary two storey modular school building located on the playground. The temporary building was arranged, delivered, and installed within 6 weeks of our appointment to ensure the staff and pupils had appropriate accommodation in time for the start of the school term, as well as for the remainder of the project. We were also made responsible for making the fire damaged school safe by arranging for the area to be fenced off to prevent pupils or members of the public from accessing the damaged buildings. We then carried out full structural assessments to ascertain whether any of the school could be retained.

It was quickly established that the main school building could not be retained, and we assisted the client in developing the planning submission to allow for the building to be demolished and a new school to be built in its place. We were also responsible for managing the procurement process on behalf of the client to procure the contractor for the demolition and construction of the new school. A 20-year-old brick detached building remained on site which had not been damaged by the fire. Therefore, we were required to modernise the building and arrange for it to be fully reserviced as the original connections had been cut off by the fire, this included electric, gas, water, and telecommunications. To further improve the school's provision and make the new building compliant with modern standards, a full sprinkler system was implemented as well as full mechanical and electrical systems. This included radiant panels for heating, a gas fired heating system, mechanical ventilation system, external lighting systems, and PV panels on the roof.

Key Information

Location:
Long Eaton, Derbyshire

Sector:
Education

Value:
£4 million

Concertus Disciplines:
Architecture
Client Design Advisor
Contract Administration
Employers Agent
Landscape Architecture
Mechanical + Electrical Engineering
Principal Designer
Quantity Surveying + Cost Consultancy
Structural + Civil Engineering

RESULT

The new building has been designed to adhere to modern standards and guidelines, while remaining on the same footprint of the original 1970's building. This has included various improvements to the facilities and systems in place, as well as enhanced security for the school site. The new school will provide a modern, functional, and safe learning environment for the pupils and staff of Harrington Junior School.

Basetek

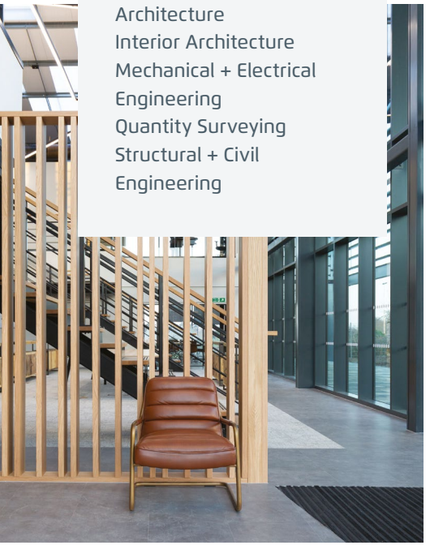
Key Information

Location:
Ipswich, Suffolk

Sector:
Commercial

Value:
£3.5 million

Concertus Disciplines:
Architecture
Interior Architecture
Mechanical + Electrical Engineering
Quantity Surveying
Structural + Civil Engineering



SCOPE

Our design teams were involved with this project from inception to completion, for both the architectural build and the interior architectural design. The team carried out regular client engagement sessions to gain a thorough understanding of the client's brief and requirements. The brief made clear they wanted the building to capture the essence of the company, which is something we took full consideration of throughout our design. We produced several options for the site and office space for the client to review. The final design has an industrial aesthetic representing the client's ethos and branding. The design features a range of interior architectural details, such as a large container housing the boardroom which sits on an open plan balcony overlooking the main office area and warehouse. Black hardware is featured throughout the space and exposed services reflects the company's industrial links. The space also incorporates a breakout area with kitchenette and a variety of seating that use raw materials, such as woods and metals.

The team paid careful attention when coordinating mechanical and electrical (M&E) items with the timber cladding features. This was to ensure the correct allowance was made for numerous lights and grilles to be incorporated within the timber slat modular system. By opting for a timber modular slat system as well as, careful upfront planning and co-ordination. This meant overall installation time on site was reduced, still achieving the desired aesthetic. Due to the nature of the open plan office, the structure of the building played a key part in the interior design. The structural frame and cross bracing to the building embraced honest materialism enhancing the industrial aesthetic. The Client was keen to embrace exposed elements to add to the character of the building. Throughout the project our client, Basetek, played an active role in the design and construction process.

RESULT

Our designs were very well received by the client. The design took full consideration of the client's brief and vision. This office was designed to both reflect the company's brand identity and provide a space for their employees to feel proud of. The finished office allows for the ever-growing company's expansion, giving the user flexibility of several different meeting and working spaces throughout the building.

Sir Bobby Robson SEMH School

SCOPE

In line with the client's brief, we developed a programme of works to deliver a new build 60 place SEMH school for primary and secondary aged children. The school was designed to include 10 general classrooms, 3 specialist classrooms, a multi-purpose hall, kitchen, dining space, soft play, and sensory areas. The mechanical and electrical design for the school was carried out by our inhouse team of building services engineers, as well as the installation of the external car park with electric vehicle charging points. All of which was carried out with careful consideration of all required building regulations and efficiency levels.

As this was a new build, applications had to be submitted to utility companies for the supply of gas, electric, water and data, based on the site investigations and designs carried out by our engineers. This process was complex due to tree surveys finding that only some of the existing trees could be removed for the utilities. One tree, located in the middle of the ideal route, could not be removed due to its size and the distance of the roots. This meant our engineers had to develop an alternative, specifically designed route for the utilities to be connected to site. The site investigations and surveys carried out as part of the detailed design process were essential for identifying the issue early and ensuring a suitable solution was found to prevent any later implications.

The electrical engineers were responsible for the internal and external lighting for the school. This incorporated LED lighting both inside and outside, to enhance the energy efficiency of the school. Motion sensors and absence sensors were installed inside the school, as well as photocells to control the external lighting.

Key Information

Location:
Ipswich, Suffolk

Sector:
Education

Value:
£6 million

Concertus Disciplines:
Architecture
Electrical Engineering
Interior Design
Landscape Architecture
Mechanical Engineering
Project Management
Quantity Surveying
Structural Engineering

RESULT

The previously unused, confined brownfield site has now been transformed. Our collaborative approach allowed for a seamless transition to deliver this specialist school, which has surpassed expectations through creative design solutions. A calming and inspiring environment was created to allow pupils to develop independence and self-confidence. The internal design also considered durability of finishes and health & safety to facilitate safe and functional surroundings, as well as careful consideration of the energy efficient solutions. We are extremely proud to have been a part of this essential project, which has provided Suffolk with its first SEMH school.

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