

Mental health

Designing *for the mind*



wsp



Designing world-class facilities for mental health

Mental health services play a vital role in society – one that is only becoming more important as disorders such as anxiety and depression increase, and greater longevity brings an accompanying rise in cases of degenerative brain disease.

Service providers face many challenges. They must expand capacity as the baby-boomer generation approaches old age and provide a growing range of specialist services to support patients with diverse needs. Many existing facilities are in need of modernization to improve accommodation and meet new standards of care. And as hospitals and treatment centres become more society-facing – both to improve awareness of mental health issues and to raise funding for vital patient care and research – safety and security remain key priorities for patients, families, staff and communities.

WSP is a specialist in mental health buildings, and our teams have designed and delivered many different facilities around the world, including small hotel-style clinics, tertiary and acute assessment and treatment facilities, major behavioural health campuses, community outreach centres and high-security forensic hospitals.

We are supporting clients across the globe in their common vision to create healing environments that are welcoming, relaxing and safe for patients, staff and visitors. Examples such as the UK high-security psychiatric hospital at Broadmoor, the Vitos clinic for forensic patients in Hadamar, Germany, and the Werribee Mercy mental health expansion in Melbourne, Australia, demonstrate how we have helped to transform facilities, allowing the most advanced treatment methods to be delivered in state-of-the-art, secure, yet home-like surroundings. In Toronto, meanwhile, we have been delivering services for Canada's largest mental health and addiction teaching hospital since 2002, in line with its vision to destigmatize mental health. The 27-acre regeneration scheme for the Centre for Addiction and Mental Health hosts clinical facilities alongside shops, businesses, parks and housing to help patients re-engage with the community.

We provide innovative, efficient and sensitive solutions, carefully aligned to our clients' therapeutic visions and models of care.



“We create environments that foster healing and well-being, allowing mental health patients to focus on their recovery.”

Kevin Cassidy, Global Healthcare Lead, WSP in Canada

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What makes a world-class mental health facility?

Clean, safe environments

Hygiene and patient safety are major considerations for healthcare and psychiatric staff. We help to put their minds at rest by creating robust fit-outs that require minimal maintenance, and by making 'safety by design' our guiding principle – in both the smallest details and the most fundamental design decisions.

We build natural surveillance into structures and layouts, and unobtrusive but effective alarm, security and communications systems. We specify anti-ligature, vandal-resistant building systems to prevent self-harm, ensure fixtures and surfaces can be easily cleaned, and avoid creating crevices or joints where grime can collect. We sensitively combine the most appropriate measures in each unique set of circumstances – from features that reduce the risk of falls, to fire and life safety systems that allow the smooth evacuation of patients with learning disabilities or severe mental disorders.

Positive experiences

The prospect of being admitted to a mental health facility can be a terrifying one for patients and their families. As healthcare providers strive to address outdated perceptions of mental illness and treatment, we support them with welcoming, friendly environments where people feel able to relax. We consult extensively with physicians, healthcare staff, patients and their families, and draw on the latest thinking on therapeutic design for our projects. Today's mental health centres and hospitals are very different from typical institutional environments, with structural and acoustic strategies to optimize privacy and dignity, circulation spaces that offer areas for socializing or solitude, and plenty of natural light, fresh air and access to nature – all combined with carefully chosen colour schemes and subtle visual clues to aid wayfinding.



Efficient buildings

As mental health service providers rise to the challenge of increasing demand, hospitals and treatment centres must play a crucial supporting role. We work with clients to design buildings around lean workflows, to maximize the effectiveness of treatment, shorten travel distances for healthcare staff and provide pleasant working environments that always function as they should. We apply best practice and the latest proven technologies to reduce energy and water consumption, and keep an eye on the future with flexible designs that can adapt as needs or treatments evolve, and that will remain cost-effective to run and safe for occupiers as the climate changes.

A coordinated, holistic approach to design is vital to efficiency. Our strength lies in the range of specialist services we can offer, from strategic planning and owner's representative project management to structural and mechanical engineering, as well as specialisms such as lighting, fire and life safety, security, IT and communications, and environmentally sustainable design.

“We create environments that are both home-like and secure; where patients don't feel as if they are under observation even though installations are designed to prevent risks associated with mental health conditions”

Andreas Helgesson, department manager,
WSP in the Nordics



Innovative design

Modern mental health facilities are continually evolving, thanks to new technology and a deeper understanding of the provision of care. In addition to facilitating treatment, buildings today may fulfil many other roles, from enabling groundbreaking research to helping patients to reintegrate into society and challenging attitudes to mental health.

We work closely with our clients to set new standards, combining world-class therapeutic design with innovation in materials, technologies and construction techniques. Our designs for the Centre for Addiction and Mental Health in Toronto fulfil our client's requirement for a forensic services facility where patients have a sense of control over their environment, through a combination of pioneering architecture and building systems.

“At a time when outdated mental health dormitories are being replaced with single en-suite rooms, we have the opportunity to really listen and involve service users in the design of their own spaces. By creating an internal and external home-life environment that is safe yet healing and therapeutic, there is the potential to reduce the lengths of stay and the likelihood of re-hospitalisation whilst also promoting staff retention.”

Anisha Mayor, Head of Healthcare, WSP in the UK

For the first adolescent psychiatric intensive care unit in the UK city of Nottingham, our structural designs supported the delivery of a facility that is caring and compassionate while complying with strict safety requirements for patients and staff. Internal walls are robust, and the structure is configured to provide unobtrusive sightlines throughout, with column-free, open spaces that encourage socializing and relaxing.

Our use of advanced modelling tools really comes into its own on designs such as this. All consultants worked on shared 3D models to assist in clash detection and make sure that the complex structures were accurately coordinated.



Centre for Addiction and Mental Health

Breaking down barriers to eliminate stigma

Location: Toronto, Canada

Client: PMB and Montgomery Sisam (Phase 1C),
HOK (Phase 1D).

Architect: KPMB and Montgomery Sisam Architects

Services: Multidisciplinary engineering design,
technical advisory, master planning services

Project status: Completed in 2020

The Centre for Addiction and Mental Health is Canada's largest mental health and addiction teaching hospital and a world-leading research centre in this field. CAMH was formed in 1998, merging a number of mental health facilities that had been operating in Toronto since 1850, when the first mental health institution, known as the Provincial Lunatic Asylum, was opened. In 2002 the CAMH redevelopment project was announced, with the vision to transform mental healthcare and change attitudes by breaking down barriers to eliminate stigma. The project's aim was to provide quality, integrated mental and addiction care by incorporating new cutting-edge CAMH facilities with shops, residences, businesses, parks and through-streets to create an inclusive, healing neighbourhood.

We have provided multidisciplinary engineering design, technical advisory and master planning services from the start of the redevelopment, which began with the construction of three residential buildings and an outpatient clinic. The second phase starting in 2010 saw the realization of CAMH's vision for an integrated, inclusive community with new streets, sidewalks and boulevards, and the construction of three new CAMH facilities and the first non-CAMH building, a mix of residential and retail units. The third phase, completed in 2020, included a Crisis & Critical Care Building and a Complex Care & Recovery

Building to incorporate a new state of the art Emergency Department.

WSP is currently supporting CAMH in the fourth phase of the redevelopment with our full range of engineering design services.

Fire safety is another challenge, due to the potential public safety issues associated with a forensic mental health facility. Our solution involves the creation of evacuation zones and areas of refuge within the facility, where staff can safely cater for patients' needs during the emergency.

Many patients travel long distances for care at CAMH, risking isolation from their families, friends and the community. Our sensitive approach to safety and security, combined with modern communications technologies, ensures that patients can remain connected with their support networks.

We are also providing sustainability advice, not only in terms of building performance and comfort, but also starting to work with CAMH on the development of a net zero strategy.

Having been involved in all phases of the redevelopment project, delivered through a variety of P3 contracts, we are able to advise CAMH both from a construction perspective and also with a view to reducing risk by managing the interfaces between the various buildings to avoid adversely impacting on the contracts already in place. This is just one example of how, with our experience and the deep understanding we have gained over 20 years' involvement in the project to addressing CAMH's issues and problems, we are able to add value in the delivery of high quality technical solutions that support the aim of creating dignified spaces for patients that promote healing and recovery.





Hopewood Campus

A reassuring environment for hope and recovery

Location: Nottinghamshire, UK

Client: Nottinghamshire Healthcare NHS Foundation Trust / Kier Construction

Architect: Gilling Dod Architects

Services: Structural engineering

Project status: Completed in 2018

The Hopewood Campus in Nottingham is a place of hope and recovery for adolescents, expectant mothers and women with children under one year old who are experiencing mental health difficulties. It includes the first dedicated inpatient service for eating disorders and the first psychiatric intensive care unit for young people in the region. The facility comprises a 32-bed adolescent unit, an eight-bed perinatal unit and an education centre.

The buildings are light and bright, and set in an attractive and calming environment of parklands, gardens and woodland trails. The campus design prioritizes the wellbeing of the service users, encouraging recovery in a positive, uplifting setting without the traditional institutional feel of a mental health facility.

WSP provided structural engineering on the project, working closely with the architect, Gilling Dod, to create a facility that is caring and compassionate while complying with safety requirements for patients and staff. For example, for the

adolescent unit, we designed internal walls for maximum robustness and ensured that there were no rough construction edges. The structural solution allows for unobstructed sightlines from the nurses' offices along corridors and into courtyards, enabling staff to monitor patients discreetly. We also included large, column-free areas to provide plenty of open space where the young patients can get together and relax.

Throughout the project, we worked closely with the design team and the contractor, Kier Construction, to deliver efficiencies. Retaining walls were set out to minimize the need for excavation and removal of materials on the severely sloping site; and standard reinforced-concrete retaining walls were replaced with cavity-fill masonry, which also incorporated the building foundations, thereby reducing the use of concrete. We used 3D analysis and CAD for all steel frames, which both sped up delivery and cut the amount of steel needed. And we devised an optimized drainage solution through the back-to-back arrangement of en-suite rooms.

All consultants worked with shared 3D models to assist in clash detection and accurately coordinate complex roof structures and facades. The models were shared on a weekly basis to capture changes efficiently and allow checks to be performed quickly.

Hafan y Coed Mental Health Unit

A flexible, low-energy facility fit for 21st-century care

Location: Llandough, Wales, UK

Client: Cardiff & Vale University Health Board

Architect: Powell Dobson

Services: Mechanical, electrical and plumbing, fire engineering, green building design, building acoustics, noise and vibration, public health design

Project status: Completed in 2016

With Cardiff's crumbling Whitchurch Hospital no longer fit for purpose, hospital leaders seized the opportunity to build a more integrated mental health service for the community, housed in a state-of-the-art facility. The new adult mental health unit at University Hospital Llandough brings adult and specialist services previously provided across two sites into one energy-efficient building. Located as near as possible to the hospital's other facilities, the 19,800m² unit offers easy access to neighbouring clinics and reflects the guiding principle that mental health services should complement – and be integrated with – wider hospital care.

The 135-bed inpatient facility provides modern, flexible space for a range of functions, including crisis assessment, psychiatric intensive care and addiction support, alongside recreational, relaxation and therapy areas. A neuropsychiatry inpatient unit cares for patients with acquired brain injuries. The centre's ten wards each have between ten and 15 beds, with private rooms for all patients.

Flexible boundaries within wards allow for adaptable facilities while maintaining essential privacy and security. The largely two-storey structure also takes advantage of the sloping site to create additional space above and below the main floors. Patients and staff were consulted on the design, which sees increasing levels of privacy as users progress away from the public entrance and through the building.

WSP delivered a range of services, including mechanical, electrical and public health design, as well as sustainability solutions. The client wanted to create an efficient, low-energy building that would achieve a BREEAM Excellent rating, without jeopardizing the security of energy supply necessary to this kind of 24-hour facility. Built on an old car park to reduce its environmental impact on the surrounding area, the unit is designed for minimal energy consumption, with efficient, presence-detecting lighting and maximized daylight. Natural ventilation is used where possible and an array of solar photovoltaic panels is mounted on the roof.

The building services design also made use of innovative materials and offsite installation techniques to boost efficiency and reduce construction time, while dual-fuel boilers and generators ensure resilience. Building information modelling was invaluable for making sure that all services were fully coordinated before construction began.





Efficiency and performance

Mental health services are under pressure. Changing demographics and better understanding of mental illness are creating greater need, while expectations of care, and the facilities themselves, are becoming much higher.

Meeting demand means managing resources effectively – financial, natural and, most importantly, the time and energy of healthcare staff. Our design teams help providers to do this in buildings that are meticulously tailored to their requirements, with systems that perform faultlessly in high-pressure situations – all while being cost-effective to construct, operate and maintain.

As specialists not only in the mental health sector but in environmentally sustainable design, we have delivered some of the world's most efficient buildings. We understand how to minimize energy and water consumption and maximize fresh air and natural light without compromising safety – as at Cardiff's new Hafan y Coed adult mental health unit, where an array of photovoltaic panels is backed up by dual-fuel boilers and generators to ensure security of supply.

Our teams also understand that patient wellbeing and sustainable design go hand in hand. At Werribee Mercy Hospital in Victoria, our advice focused on dovetailing mental healthcare requirements with state building guidelines on carbon emissions, energy use and waste.

“When we are designing mental health facilities, the key is striking the balance between allowing patients to have control over their environment and treatment, and ensuring safety and security”

Kevin Cassidy, global healthcare lead,
WSP in Canada



Werribee Mercy Hospital mental health expansion

A calming atmosphere to promote healing of the mind

Location: Victoria, Australia

Client: Mercy Health in partnership with the Victorian Department of Health and Services

Architect: Lyons Architects

Services: Sustainability consultancy

Project status: Completed in 2018

The Werribee Mercy Hospital mental health expansion replaced an existing inpatient unit with a new 54-bed mental health facility. Situated in a rapidly growing suburb of Melbourne, the world-class AUS\$34.7m redevelopment includes a four-bed psychiatric assessment and planning unit, a ten-bed high-dependency unit and a 40-bed low-dependency unit.

WSP provided sustainability consultancy for the project, with involvement from design phase to the end of construction. Our advice adhered to both the sustainability requirements of the healthcare provider, Mercy Health, and State of Victoria guidelines on carbon emissions, energy and waste. But our focus was always on the needs of mental healthcare, where the priority was to create a welcoming environment that would be conducive to healing while ensuring staff and patient safety.

The facility is a rectangular, two-storey building with courtyards in the centre, providing patients with the therapeutic benefits of access to nature, fresh air and sunlight. We worked with the architects in the very first design stages, conducting simple modelling to ensure that the chosen solution would provide sufficient levels of daylight.

One concern with the courtyard design was that it could impede passive surveillance, due to reflected light obscuring the glazed corridors from across the space. We advised on a solution that targeted shading in this area, keeping sun off the glass.

We also helped to optimize the glazing for daylight and comfort, and worked with the team to develop a cooling and ventilation strategy that would promote healing. The resilient, passive system combines a once-through ventilation system with heat recovery and thermally separated floor slabs for active heating, providing sufficient zoning to achieve comfort without the need for multiple controls. The system is controlled centrally, and the limited maintenance points are located away from patient areas, enhancing safety without compromising energy efficiency.

All of our recommendations were informed by the need to embed the highest levels of security within therapeutic design principles. For example, nurses' stations are made accessible to help to reduce patient anxiety, but have a strategically located exit door for staff safety. Other measures, such as natural finishes, circadian lighting and the provision of both welcoming spaces and areas for privacy, all combine to create a calming atmosphere to promote healing of the mind.



Credit: Dianna Snape and Architecture Media



State-of-the-art care

As our understanding of mental illness continues to improve, and advances are made in treatments and care for a range of disorders, facilities need to reflect these new ideas and approaches. Using its expertise in mental healthcare design, WSP supports healthcare providers to explore new ways of providing services, safe in the knowledge that they can meet the most demanding clinical and security standards.

Creating more home-like environments has become a driving ambition for many of our clients, so we support them with engineering solutions that offer privacy and comfort in a range of attractive spaces, both indoors and out. For Södra Älvsborg

Hospital's new psychiatric quarter in Sweden, we designed the electrical systems to sit unobtrusively within a welcoming environment while providing stringent levels of security. The Vitos Clinic in Hadanar, Germany, is another example of how buildings can be designed to meet the specific needs of patients, carefully balancing safety and freedom, and cultivating a sense of responsibility and society.

We always bring fresh thinking to the challenges our clients face, backed up by the technical expertise that's essential to deliver truly cutting-edge care.

"The systems we design balance the need for home-like, soothing surroundings to promote healing with the high requirements for staff, patient and visitor safety"

Andreas Helgesson, department manager, WSP in the Nordics



Vitos Clinic for Forensic Psychiatry

A fresh start for a cutting-edge clinic – and its patients

Location: Hadamar, Germany

Client: Hessen Ministry of Social Affairs and Integration

Architect: Wörner Traxler Richter

Services: Project management

Project status: Completed in 2016

The Vitos Clinic in the small German town of Hadamar specializes in helping patients to overcome troubled pasts and prepare for new lives free from drugs and crime. Its forensic psychiatry unit treats victims of addiction and mentally ill offenders with diminished responsibility, and strives to help them develop the skills necessary for social reintegration.

Vitos has housed forensic patients in Hadamar for almost 40 years. But in May 2016, it gained a new lease of life when the doors opened to a brand new facility geared to its cutting-edge clinical approach. The €40m rebuild has brought a range of services previously spread between several outdated buildings into a single, state-of-the-art complex.

WSP was project manager on the scheme, which was funded by the state of Hessen as part of a wider hospital renovation programme and has capacity for 162 patients across eight wards. Every aspect of its three interconnected buildings is designed to meet the needs of the specific set of patients treated here, many of whom lack basic social competence as a result of drug abuse or broken family relationships. Carefully balancing security and freedom, the clinic is set up to cultivate a sense of responsibility and society.

Construction was carried out in phases, allowing the clinic to remain in operation at all times. The site was secured by a large safety wall with an advanced distance strip, and was monitored by sophisticated safety technology. The wall was adapted throughout the construction works to ensure the smooth and safe running of the entire hospital operation.

Due to the size of the project and the large number of contributors involved, a high degree of communication and coordination was required between the ministry, builder, architects, planners and audit authorities to ensure that project targets were met.

Where possible, patients are given privacy with single and double rooms, but they are also grouped into small communities, with kitchens and lounges shared between a maximum of seven people. The clinic encourages residents to take control of various aspects of their lives, including cooking, cleaning and laundry, and provides them with an allowance to cover expenses, which they must budget themselves. A cafe, visitors' room, gym and playing fields can be accessed openly within the secure area, while large, bright corridors and warm colours create a welcoming ambience.

The new facility meets the stringent security standards required by a forensic institution, with specially designed gates, extensive video surveillance and a 5m-high wall around the entire complex, among other features. But thanks to the latest in security technology, it is also easy to move around, ensuring a better healing – and working – environment for all.





SÄS Psychiatric Quarter, Södra Älvsborg Hospital

Discreet solutions prioritize safety while respecting privacy

Location: Borås, Sweden

Client: Västfastigheter Borås

Architect: White Arkitekter

Services: Electrical engineering

Project status: Due to complete in 2022

Destigmatizing mental health disorders and care has been central to the creation of a new psychiatric quarter at Södra Älvsborg Hospital (SÄS) in Borås, Sweden. The ambition is to establish the conditions for care in a welcoming and healing environment.

The 26,000m² development is SÄS's largest investment in psychiatric care for many years. It involves the construction of a new building with an 80-bed adult unit and a ten-bed unit for child and adolescent psychiatry, and the renovation of an existing outpatient facility. The two units are linked by a new reception area with a cafe, conference centre and training rooms.

WSP provided electrical design services for the project. Our focus was on balancing the need for a warm, reassuring atmosphere with the measures required to protect patients and staff. We sought to deliver discreet solutions that would prioritize safety without creating an institutional environment in which patients feel they are constantly monitored and supervised.

One solution was to design three levels of safety for the technical systems, to be applied according to the use of the space. The highest level would be deployed in patients' rooms, where they are generally alone, while in areas where staff are always present less strict measures are adopted.

The hospital's philosophy was to accept occasional damage to fixtures and fittings rather than detract from the informal atmosphere with heavy-duty, institutional versions. We therefore selected electrical equipment, such as light fittings, that create the feel of a normal living room. The risk of patients self-harming is removed through the installation of ceiling lights and the use of circuit breakers, so if a light fitting or switch is damaged there is no longer the danger of electrocution. If necessary, the electricity in patient rooms can be switched off remotely from the staff station.

Other systems, such as burglar alarms, fire safety equipment, CCTV and access control, are all designed for maximum safety and security, but installed in such a way as to be as unobtrusive as possible and only where needed. In this way, WSP has responded to SÄS's requirement for a home-like, healing space that respects patients' privacy and dignity without endangering patients, staff and visitors.

Fit for the future

However pressing the demands of today, mental healthcare providers can't afford to ignore the future. Demographic trends promise a sharp rise in patients with increasingly complex needs, while climate change will make comfort and safety a moving target as the century progresses.

WSP has worked with many providers to future-proof their buildings, providing strategic advice, masterplanning and an array of specialist services. We support our clients to leverage the greatest value from their existing estates and find the best solutions for their communities, now and for the years to come.

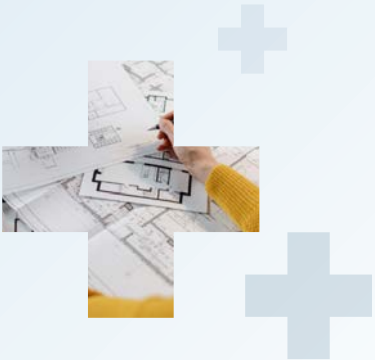
The redevelopment of high-security Broadmoor Hospital in the UK transformed an outdated Victorian institution into a cutting-edge facility fit for 21st-century mental healthcare, with features such as a state-of-the-art energy centre, equipped for future installation of biomass and CHP technology. Where a complete redevelopment is not possible, we apply lateral thinking and new technologies to enable existing buildings to meet modern standards of care.

“By creating stronger ties with their surrounding communities, facilities can become hubs for mental health awareness, helping to destigmatize conversations around mental health and wellbeing”

Kevin Cassidy, global healthcare lead, WSP in Canada

Our teams work closely with clients to ensure that facilities will be able to meet changing needs or can be cost-effectively expanded – with foundations and structures to support the addition of extra floors, for example, or alternative room configurations. Mental health environments will continue to impose tough demands on building systems, especially as sufferers of mental illness are among the most at-risk groups from overheating, often unable to take action when temperatures become dangerously high. At the behavioural health hospital in Elkridge, USA, we introduced chilled-beam cooling as an energy-efficient system to assure the reliable, safe, low-maintenance cooling so critical for patient wellbeing during Maryland's hot and humid summers.

Planning is not only essential for the future – we always plan the work itself carefully, too, using the latest building design tools. That way, we can minimize disruption to operational facilities during refurbishment or neighbouring construction activity, so that vital care can continue unaffected.





Broadmoor Hospital Redevelopment

Transforming lives with a modern layout and cutting-edge facilities

Location: Berkshire, UK

Client: West London Mental Health NHS Trust / Kier Construction

Architect: Gilling Dod Architects

Services: Mechanical, electrical and plumbing, green building design, public health engineering

Project status: Completed in 2019

First built in 1863, Broadmoor Hospital has long provided specialist care for patients with serious mental health illnesses. As one of three high-security psychiatric hospitals in England, it is an important feature of the country's mental health landscape, but the facility's outdated layout and ageing Victorian structures were hampering modernization of its services, making introduction of the most advanced treatment methods increasingly difficult. To address this, West London Mental Health NHS Trust took the bold decision to completely redevelop Broadmoor – and create a facility fit for 21st-century mental healthcare.

The £242m redevelopment has transformed the experience of both patients and staff. At its core is a new secure hospital, built next to the existing facility. The 234-bed complex contains 16 wards, as well as a physical health centre, family visiting suite, therapy and education rooms and a multi-faith centre. Its layout has been designed to enable greater levels of patient independence, reducing the need for long periods of

observation and ushering by staff. This in turn allows greater focus on therapeutic activities, providing a boost to patient recovery and wellbeing.

Working closely with the main design and build contractor, Kier Construction, WSP provided civil, structural, building and geo-environmental consultancy services. The wide-ranging project included delivery of a 1.5km access road, landscaped gardens, car park and secure perimeter fencing, as well as eight new buildings and four refurbishments.

The ambitious scheme posed complex challenges for the design team from the start. Most notably, the need to keep the existing hospital operational throughout construction called for a resourceful approach to phasing and security. The site is also located in countryside with Historic Parkland status, meaning ecologically sensitive solutions were essential. Our success in providing these is clear from the project's award-winning enabling works. Sustainable features include a badger tunnel, bat bridge and permeable pavement for the new access road, plus remediation of contaminated land.

A state-of-the-art energy centre, equipped for later installation of biomass and CHP technology, was built to replace the hospital's ageing boiler and provide a sustainable, resilient and cost-effective energy supply for the new hospital.

Sheppard Pratt Baltimore/Washington Campus

Setting the standard for psychiatric and behavioural healthcare

Location: Elkridge, Maryland, USA
Client: Sheppard Pratt
Architect: CannonDesign
Services: Mechanical, electrical and plumbing, fire protection, sustainable energy modelling
Project status: Completed in 2021

In June 2021, mental health services provider Sheppard Pratt opened a new state-of-the-art, behavioural health hospital campus in Elkridge, Maryland. With 85 inpatient beds, the 156,000ft² campus offers a full range of psychiatric and behavioural health services, including outpatient programmes for eating, thought and mood disorders; young adult patient care; and psychiatric urgent care.

The hospital is set in 50 acres of woodland, with naturally-lit rooms looking out onto views of nature. It has five inpatient units with designated spaces for group activities as well as a gym, basketball courts, a yoga/meditation room, outdoor courtyards and a cafe. The hospital's LEED Silver certification demonstrates a commitment to energy efficiency in its design and operations.

WSP provided Mechanical, Electrical and Plumbing, fire protection engineering and sustainable energy modelling for the project. Working closely with the client from the start, we drew on their vast knowledge of mental healthcare as well as our own long experience in the sector to specify systems and equipment that would support an environment that is welcoming rather than institutional, while providing the highest standards of safety, security, durability, reliability and ease of maintenance.

Our designs combine the requirements of code and industry standards with the clinical considerations for creating the best possible environment for treatment. Redundancy and resilience are essential for maintaining a calm and comforting environment to support patients' recovery. Therefore, all primary infrastructure systems have generator-powered emergency back-up to avoid incidents such as accidental fire alarms or lighting malfunctions.

Reliable air conditioning is also critical for patient comfort and wellbeing. The installation of a chilled-beam system supports the facility's comfort and energy-efficiency goals for cooling and heating as well as its safety requirements. With no moving or serviceable parts in patient rooms, the system is quiet and does not attract attention for misuse, nor is there a need for maintenance in these areas.

Low-voltage lighting, meanwhile, addresses both energy-efficiency and safety concerns. Durable, anti-ligature light switches in patient rooms, combined with the low-voltage electricity, minimize the risk of self-harm, while a relay system running above the ceiling allows staff to override and control the lighting from the nurses' stations. Externally, the parking area is lit above code minimum requirements for security reasons, but lighting controls ensure optimal energy saving.

Every aspect of the design focused first and foremost on the experience, safety and wellbeing of patients and staff. We are proud of our role in supporting Sheppard Pratt's vision for improving outcomes for patients and their families through high-quality, compassionate mental healthcare.

“Through our many conversations with healthcare providers, we understand and support their mission to improve the quality of life for individuals and families with facilities designed to enhance the patient experience and encourage healing”

Phil Mackey, vice president, WSP in the USA



Can we trace horizons,
hold true to our ambitions,
and hold ourselves accountable?
What if we can?

