

Stadia & Leisure



Introductions

Hannan Associates was established in 1983 by Bill Hannan as an engineering consultancy to provide Building Services Design solutions to the construction industry.

We focus on providing **Building Services Engineering, Sustainability and Utilities Infrastructure Consultancy**, tailored around the unique requirements of each of our clients.



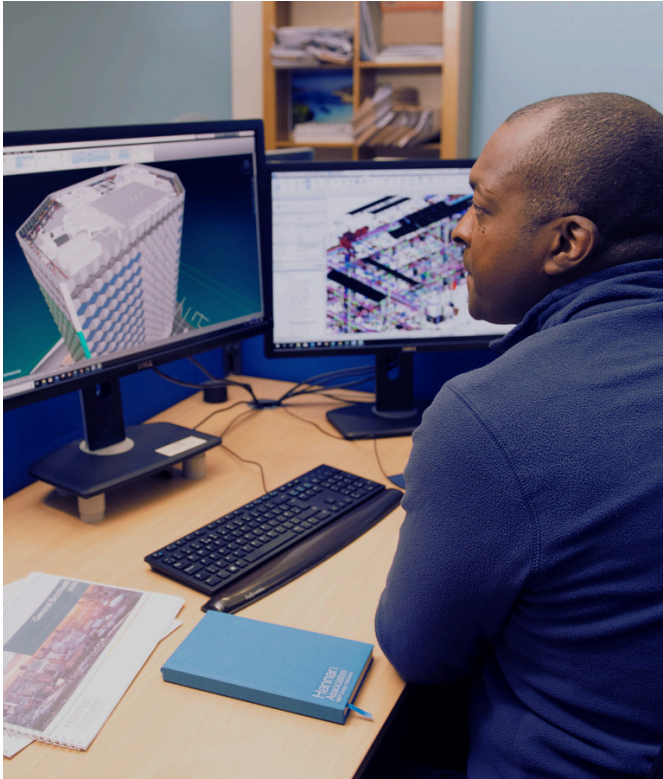
What do we stand for?



Our Mission is To develop building services engineering solutions that help create happy, healthy, safe places to live, work and play that don't 'cost the earth!'

Our vision is to be known as the go to, independent MEP consultancy for innovative and dependable advice regarding high performance, low energy building services systems.

Our Expertise



The services we provide are constantly evolving to meet new legislation and changing market needs. We continue to focus on Building Services Engineering Design though today most projects have a Sustainability strategy and considered path towards Net Zero Carbon. We have in-house Sustainability and Energy Modelling teams and provide a wide range of sustainability related advice to our clients. We are at the forefront of change in relation to the way buildings are modelled to meet the demands of evolving Building Regulations and industry guidance.

Infrastructure

- Masterplanning Support
- Infrastructure planning & design
- Construction Inspection & Supervision
- Value Engineering Reviews

Building Services Design

- Electrical Building Services Design
- Mechanical Building Services Design
- Part L Compliance
- Acoustics
- AV Systems
- EPC Certification
- Fire Engineering
- Internal Environment Modelling
- IT Systems Design
- Planning Reports
- Public Health Building Services Design
- Dynamic Simulation Modelling
- Vertical Transportation Design
- Water Conservation & Compliance Audits
- Value Engineering Reviews

Sustainability & Building Performance

- BREEAM
- LEED
- NABERS
- BREEAM Communities
- CEEQUAL / BREEAM Infrastructure
- Planning - Energy & Sustainability Reports
- Sustainability Strategy (Building and/or portfolio level)
- Net Zero Carbon Pathways
- Embodied Carbon Life Cycle Assessments
- Low Zero Carbon Renewables
- Life Cycle Costing
- Operational Energy Modelling
- Passive Design Analysis
- Dynamic Simulation Modelling
- Building Health Checks
- EPC - (Energy Performance Certificates)
- Acoustics

Surveys, Reports & Monitoring

- Condition Surveys
- Energy Audits
- Feasibility Studies
- Construction Inspection & Supervision

Our Experience

Hannan Associates have been involved in the design of stadia and training grounds, both new build and existing for 30 years.

Our stadia team possesses a wide range of skills and experience gained from working on internationally known stadia to smaller non-league developments and all levels between. This wide range of experience has provided a wealth of skills to draw upon in selecting the correct solution and providing the client with a scheme which meets the technical requirements and needs while being economical and commercially viable.

Designs for building services have to be visionary yet tried and tested with complex safety systems and technologies and with multifunctional flexible usage of rooms.



PROJECT:

Lancashire County Cricket Club – Red Rose Grandstand and Hotel

> **Client:** Lancashire County Cricket Club

> **Project Duration:** 2021 - ongoing

> **Architect:** B.D.P.



We are very pleased to be a part of the team delivering the next phase of redevelopment at Emirates Old Trafford cricket ground for Lancashire County Cricket Club.

Proposed plans for the redevelopment of the Red Rose Grandstand include an 86 bedroom, 9 suite hotel extension, which will occupy the upper four floors above a new 1000 seat stand.

The lower two floors will include retail space, a ticket office, museum facilities as well as a members lounge. External works include the realignment of Brian Statham Way with the adjacent public realm areas, which forms part of Trafford Council's Civic Quarter masterplan .

Plans have been approved by Trafford Council and construction is now underway by main contractor Eric Wright.

Hannan Associates are providing Building Services Engineering and Utilities Infrastructure consultancy services for the project and are working alongside Chroma Consulting, BDP Architects, Paul Butler Associates, TowerEight, Marston & Grundy.

PROJECT: MUFC Old Trafford Quadrants Extension



> **Client:** Manchester United Football Club

> **Project Value:** £42M

> **Architect:** Miller Partnership

> **Project Duration:** 2004 – 2008



Hannans have been involved in various projects for Manchester United Football Club for 30 years. Ongoing Duties have included, Detailed Design, Infrastructure Services, Major Services Diversions, Monitoring, Surveys, Maintenance, Energy Performance Certificates and Condition Reports.

The Quadrants Development involved the infill of the North East and North West Quadrants, for which we provided Detailed Design Services. This development provided additional spectator terracing of 7,000 extra seats and 2,300 extra places for corporate dining. The design was complicated by the myriad of existing buried services which needed to be diverted to accommodate the piling required for the structure.

An enabling diversion and investigation works contract was carried out in the closed season before the main contract was awarded. This required very careful and close coordination with the design team and structural engineer to integrate the design of the structure with the services to develop the design of the building and the services together enabling as many services as possible to remain in place around the structure.

To facilitate this Hannans managed the location and excavation trial pits and ground imaging surveys directly with on site staff in a site based design and coordination role.

Hannans managed the specialist sub contract engineers and the infrastructure companies, who carried out the investigation works and succeeded in completing the diversions and design.

The main contract required close scrutiny of the costs on a regular basis with monthly reporting regime ensuring that budgets and timescales were adhered to during this demanding in fill to an existing building. The scheme was value engineered to meet demanding budget targets set by the club.

The build team were finalists in the major project section of the CIOB awards. Old Trafford has subsequently received a Green accreditation for sustainable achievements.

PROJECT:

MUFC Carrington Training Centre – Women and Academy



- > **Client:** Manchester United Football Club
- > **Project Duration:** 2023
- > **Architect:** Fairhursts Design Group
- > **Project Value:** £7M



Our Stadia team produced the MEP performance specification and concept drawings for this new training base for Manchester United Women and Academy, at Carrington.

The new prefabricated building is part of the ongoing improvement work to enhance training facilities at Carrington.

Facilities include a gym, rehabilitation areas, changing facilities, kit and boot rooms, a women's first team restaurant, meeting rooms and a players' lounge.

Our duties on the project included:

- Building Services Engineering consultancy
- Utilities Infrastructure consultancy

We joined Fairhursts Design Group and Curtins on the design team.

PROJECT: MUFC Training Ground Carrington



> **Client:** Manchester United Football Club

> **Project Duration:** 2010 – 2014

> **Architect:** Marshall Kypriandis Associates



Having successfully completed the academy building and full-size indoor pitch at Manchester United's Carrington training complex, Hannans were appointed to design the building services and infrastructure diversions for a series of alterations, extensions and new buildings.

The scheme included:

- Refurbishment alteration and extension of the first team building
- A new sponsors building
- A new parents and spectators building
- Relocation and additions to the side courts
- New car parking surfacing
- Temporary accommodation and lighting
- A new feature linking glazed walkway and water feature with illuminated signage.

The works included an enabling diversions and drainage improvements package and working on a live site environment with the first team, academy teams and team management remaining on site during the works. This required careful planning and phasing of the works to protect all staff but particularly the valuable players and management team while maintaining privacy and completing the project in a short timescale.

PROJECT: MUFC Executive Boxes, Manchester



> **Client:** Manchester United Football Club > **Project Duration:** 2010 – 2012

> **Architect:** Marshall Kypriandis Associates



We provided MEP Detailed Design Services for the East and West stand redevelopment at Old Trafford, which involved building behind and over the existing stands.

This development provided additional spectator terracing of 16,000 extra seats. The design was complicated by the myriad of existing buried services which needed to be diverted or planned around to accommodate the piling required for the structure.

There were a number of buildings demolished and roads diverted. No seats were lost during the development and early handover was achieved by working in partnership with the design and build contractors.

The scheme included new executive boxes, new club offices, disabled facilities, new upper concourses terracing and roof installations.

PROJECT:

Stoke City Bet 365 Stadium Expansion & Refurb



> **Client:** Stoke City FC & Bet 365

> **Project Duration:** 2016 – ongoing

> **Architect:** AFL Architects



Hannans have been providing Building Services Engineering consultancy for Stoke City Football Club over the last seven years. Works have included:

Bet 365 Stadium

- Infill of the South East Corner Stand creating additional seating and concourse including diversions and maintaining existing services
- Upgrade of the stadium accessible seating in all stands to comply with Premier league and government guidance
- SE and NW Corner media screens and new NW corner media control suite including diversions
- Alteration of the South stand segregation for away fans to allow flexibility of use
- Refurbishment of the Boardroom, Chairman's Suite, the Players' Lounge, Ricardo's Bar, Concourse washrooms
- Installation of new LED floodlighting and Fire Alarm System

Clayton Wood Training Ground

- Plans for the addition of a Parents' Lounge
- Plans for the addition of new Show Pitch

PROJECT: Wolves FC Molineux Stadium



- > **Client:** Wolverhampton Wanderers FC
- > **Project Value:** £40M
- > **Architect:** AFL Architects
- > **Project Duration:** 2009 – 2011



Hannan Associates were the Building Services Designers for the master planning and redevelopment of Molineux stadium for Wolverhampton Wanderers Football Club.

The first phase of work involved the design and construction of a new North stand, starting with the creation of a masterplan for the phased redevelopment of the ground allowing due consideration for the live stadium and the site wide services.

These services included: IT; public address system; HV infrastructure; turnstile monitoring; essential services; AV systems; CCTV and the replacement of UEFA class 4 Elite standard sports lighting, both temporarily and permanently.

The second phase of work included the development of the new East stand, with other stands to follow.

The scheme development of phase two including undertaking the enabling works and fitting out for the East Stand; executive boxes, lounges and banqueting hall. This work Included designing the MEP services to allow for early occupation of the terrace and lower concourse.

PROJECT: Bristol Sport Ashton Gate Stadium



> **Client:** Bristol Sport

> **Architect:** KKA

> **Project Value:** £40M

> **Project Duration:** 2013 – 2016



We were selected by Bristol Sport together with Capita Project Management and KKA Architects, for the redevelopment of the Ashton Gate Stadium which is the home of Bristol City FC, Bristol RFC and Bristol WFC.

The scheme involved the replacement of the South and West Stands, and the refurbishment of the East Stand, increasing seating capacity to circa 26,500 seats. The stadium is designed to be flexible to allow non-event day use, including exhibitions and conferences. The planning conditions included a requirement for renewable energy production, and the scheme includes bio diesel heating, and a large photovoltaic array on the West stand roof.

We were appointed to provide

- MEP Design
- Acoustics
- IT
- Sports Lighting Fire Engineering Consultancy
- BREEAM Assessment

Construction was phased to allow continued usage of the stadium for football and rugby events during the build and include:

- Enabling works to services
- Phase 1 Demolition and construction of the new South stand with shop, Museum space and bar
- Phase 2 Alterations and refurbishment of the East stand
- Phase 3 Demolition and construction of the new West Stand

The scheme also included

- Maintenance of stadium control room and safety systems through the phases
- Internal and external large screens
- Enhanced finish concourses with LED and signage, both internally and externally for exhibition use.

PROJECT: Newbury Racecourse Redevelopment



> **Client:** Newbury Racecourse

> **Project Value:** £20M

> **Architect:** KKA Architects

> **Project Duration:** 2010 – 2022



Hannan Associates were retained MEP Consultants for Newbury Racecourse over a 12 year period.

We provided Building Services Engineering and Utilities Infrastructure services for each phase of the work during the redevelopment of the racecourse.

The £20 M redevelopment included:

- New East & South Entrance buildings
- New pre-parade ring and saddling stalls
- Refurbished parade ring and new winners enclosure
- New 36-bedroom hotel, The Lodge
- New Owners Club including hospitality space and office space for the Racecourse
- Refurbishment of The Pall Mall and Royal Box
- Refurbishment of the stable block
- New accommodation for the 'stable lads'
- New Rocking Horse Nursery
- Improved access to the racecourse via a new bridge
- Upgraded external lighting, landscaping and car parking.

The Heartspace scheme focused on the redevelopment of the heart of the racecourse, undertaken in phases to ensure racing has been able to continue throughout the works.

The enabling works phase involved refurbishment works to the stables and 'stables' lads accommodation paving the way for construction of The Lodge and Rocking Horse Nursery.

The main Heartspace works were then split across 3 phases, working around the racing calendar. Phase A involved construction of the Owners Club, pre parade ring and saddling stalls. Phase B involved construction of the East Entrance and Phase C completed the refurbishment of the parade ring, construction of a new winners enclosure and South Entrance building.

PROJECT:

Leicester Tigers FC

Welford Road Stadium



> **Client:** Leicester Tigers Football Club

> **Architect:** AFL Architecture

> **Project Value:** £30M

> **Project Duration:** 2007 – 2010



Hannan Associates were the Building Services Designers for the master planning and redevelopment of the Welford Road stadium with the first phase being the new Caterpillar stand.

The master planning of the whole ground in a phased manner with due consideration of the live stadium and services including maintaining and replacing UEFA standard sports lighting, consulting with users and specialists, adding value by ensuring that the phasing was structured with the servicing to meet the long term aspirations of the client.

Phase 1 included the demotion and replacement of the North stand with the new single tier terrace of 10,200 seats and including concourses, crush bar and executive dining facilities with associated catering production areas. The scheme included a planning policy requirement to include a renewable technology to meet 13% of the energy consumption. Biomass boilers were chosen following a feasibility study which was designed to meet the future development requirements to ensure value for money in the long term and future phases.

PROJECT: Liverpool FC Anfield Stadium



- > **Client:** Liverpool Football Club
- > **Architect:** HKS Architects

- > **Project Value:** £400M
- > **Project Duration:** 2007 – 2009



Hannan's were appointed to work on the first scheme for the design of Liverpool Football Club's new stadium during 2007 with AFL Architects.

Then following the sale of Liverpool Football club to the new American owners we were appointed to design the building services for their new unique stadium design up to BSRIA Stage E. We worked closely with Architects HKS and the wider design team.

Our role included managing sub consultancies for Information Technology, acoustic, pitch advertising, and outside broadcast systems. Design development and progress was structured using the RIBA stage reporting process and carefully managed through coordination meetings. Our team was supplemented by a coordination engineer with a specific task of integration of the many complex technology and physical services. Using 3D modelling and design coordination meetings the services were integrated in and around the complex structure.

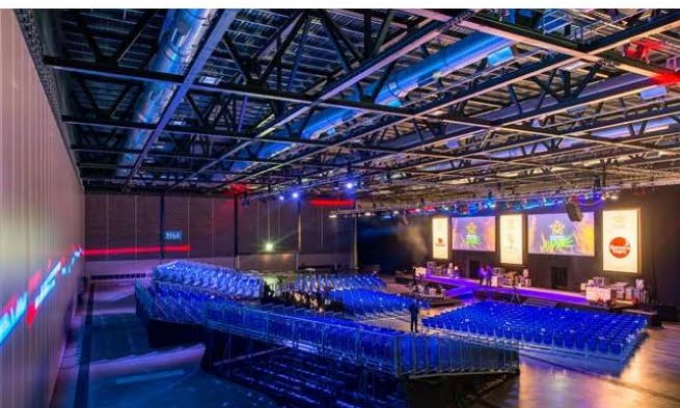
The team developed value engineering opportunities and worked closely with sub-contractors to achieve budget targets. Sustainability was at the forefront of the design development process and included technologies such as maximization free cooling and natural ventilation where possible. The renewable technology options including options for the inclusion of biomass boiler plant, ground source heat pumps, and Rainwater recovery.

PROJECT: Exhibition Centre Liverpool



- > **Client:** ISG and ACC Liverpool
- > **Architect:** Denton Corker Marshall

- > **Project Value:** £40M
- > **Project Duration:** Nov 2012 – Jul 2015



Hannan Associates were engaged to develop the services design for the 87,000 m² Exhibition Centre Liverpool and adjoining 216 bedroom Pullman Hotel at Kings Dock adjacent to ACC Liverpool – the home of the BT Convention Centre and M&S Bank Arena.

For this project we provided energy and sustainability advice and reports to meet BREEAM and Planning objectives. To achieve this we carried out full thermal modelling and optioneering to assess both Carbon and cost in use of the proposals.

The exhibition centre is used to hold trade and consumer exhibitions, music concerts and sport shows – attracting more than 250,000 visitors a year.

The ACC Liverpool has won numerous awards including Excellence in British Tourism at the 2014 LEP Tourism Awards, and Best UK Conference Centre at the M&IT Awards for four years in a row.

PROJECT: Bolton Wanderers FC Reebok Stadium



> **Client:** Bury Wanderers Football Club

> **Architect:** Lobb Sports

> **Project Value:** £30M

> **Project Duration:** 1990-1992



The Reebok stadium (now renamed the University of Bolton Stadium) is the home of Bolton Wanderers Football club. The stadium designed by Hannan's incorporates 25,000 seats for football together with executive facilities and a hotel, conference facilities and an exhibition hall.

Hannan Associates conceived, designed and completed the stadium building services to all areas for the stadium, which incorporates a number fully equipped commercial kitchens to serve the large corporate match day requirements. With over 3,000 executive places provided with suites of varying sizes from boxes for 8 people to banqueting for 500 providing buffet style menus through to silver service a la carte dining.

All of the stadium executive facilities are designed as multifunctional non match day spaces, which are utilised throughout the year for conferences and exhibitions as well as parties, weddings and banquets.

The stadium incorporates an extensive and wide variety of safety systems to protect the 25,000 people using the stadium on a match day, and the non-match day occupants. These systems include standby power generators and battery cubicles, emergency lighting, automatic fire detection, firefighting shafts and lifts, crowd monitoring, exit gate release, cctv and public address throughout.

PROJECT: MUFC Old Trafford Museum, Manchester



> **Client:** Manchester United Football Club > **Project Value:** £4M
> **Architect:** AFL



One of several projects we have undertaken for MUFC during the last 25 years is the Old Trafford Museum that includes a visitor centre and the red café. We designed the complete mechanical, electrical and public health installations. The project involved the fitting out of the existing level 3 of the North Stand. Themed areas include the theatre, Red café and interactive exhibit spaces.

Designing the mechanical and electrical services for the building was a challenge due to the unique construction of the stadium and stringent requirements for public safety on Match and non-match days. Interfacing with existing systems was a major consideration during the design and installation. Existing systems had to be extended and/or modified so that they were coordinated with the exhibition stands and displays. All works were undertaken whilst the stand was occupied.

The museum won large visitor attraction of the year at the 2013 Manchester Tourism Awards, it has also been awarded an Enjoy England Quality Attraction Rose. It has achieved a Gold Green Tourism Status due to outstanding contributions to green tourism, including the use of latest technologies such as LED lighting, efficient boilers and renewable technologies.

PROJECT:

City Of Manchester Stadium & Athletics Arena



MANCHESTER
CITY COUNCIL

> **Client:** Manchester City Council

> **Project Value:** £112 M

> **Architect:** Arup Associates

> **Project Duration:** 2001 – 2004



The City of Manchester Stadium was built for the Commonwealth Games held in Manchester during 2002 and converted to a football stadium for Manchester city following the games.

Hannan Associates provided checking duties and advice based on the wide experience gained in the design and execution of major stadia schemes.

Hannans acted for the city council throughout all phases of the scheme. From design development, to installation and commissioning both for the commonwealth games and the occupation by Manchester City Football club.

Hannan's services also including the provision of on site engineers for the duration of construction and fitting out.

The engineers provided support for the building services maintenance contractors during the games including advice on problem solving. Part of the appointment was to identify deficiencies or over design in the scheme to provide value engineering advice to the design and build team.

Hannans were part of a team which included an architect and structural engineer; we worked together to provide a strategically coordinated design services approach.

Following the successful completion of the main scheme Hannan were appointed to design the building services for the Regional Athletics Arena and the management suite.

PROJECT: Blackburn Rovers Training Ground



> **Client:** Blackburn Rovers Football Club

> **Architect:** Riverside Architects

> **Project Value:** £8M



Training Academy and indoor pitch with facilities and accommodation for Blackburn Rovers Football Club.

Hannan Associates were responsible for the MEP and infrastructure design for the Blackburn Rovers Football Club Academy development.

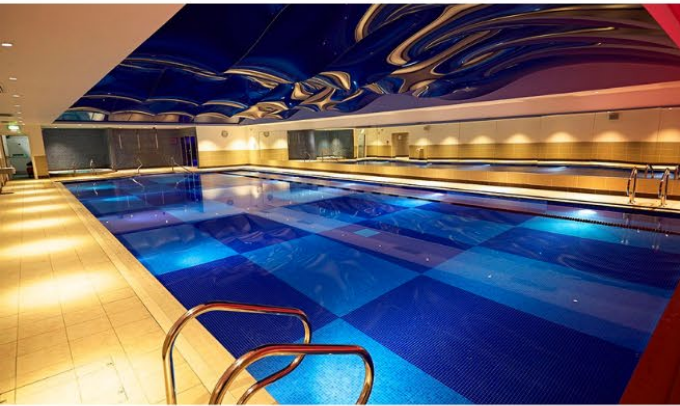
The scheme included a full size indoor pitch, training facilities including swimming pool, changing facilities, medical facilities, accommodation and external pitches both grass and artificial.

PROJECT: DW Sports Leisure Centres

> **Client:** JJB Sports / DW Sports

> **Project Duration:** 1999 – 2016

> **Architect:** NJSR Architects



Hannans undertook contracts for DW Sports, formerly JJB, for over 15 years, providing M&E consultancy for the fit out of over 60 health clubs throughout the UK and Ireland. We also worked on a selection of 'Soccer Domes' and superstores as well as undertaking various projects at Wigan Athletic's DW Stadium.

Facilities at each health club included: swimming pool; steam rooms and spas; gym areas; group exercise studios; changing rooms; members lounge and bar.

Our designs constantly evolved, remaining up to date and at the leading edge of low-energy design. To reduce energy consumption and carbon emissions, the latest health club designs incorporated LED lighting to the majority of areas, absence and presence detection lighting control in toilet and back of house areas, displacement ventilation with free cooling when external conditions allow to the Gym area, inverter driven pumps, heat recovery on ventilation systems and a reduction in stored hot water capacity.

In addition monitoring of the pool hall conditions was incorporated onto the automatic controls system to raise alarms when internal conditions (and in turn energy usage) exceed parameters. Manual covers for the pool and spas were also installed overnight in conjunction with night setback on ventilation plant to further reduce energy usage.

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