



Stadia

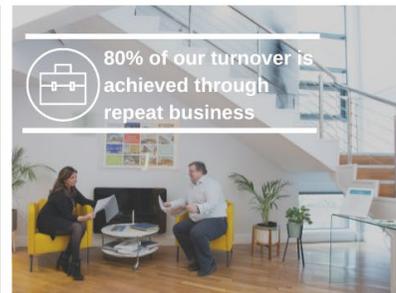
Hannan  
Associates  
MEP Design Solutions

# Introductions.....

Hannan Associates is an engineering consultancy formed in 1983 to provide MEP Design Solutions to the Construction Industry.

We focus on building services and deliver projects valued in excess of £500m with national and international design teams. We work in a range of sectors with projects of varying sizes, providing us with good market resilience and an exceptional breadth of track record and design competence.

We pride ourselves on delivering our service with a higher level of personal attention than larger competitors but providing a comparable strength of management, process discipline, expertise and creativity.



# Our Team.....

The Hannan team is led by long standing directors Ian Joyce, Jamie Hall and John Walker.

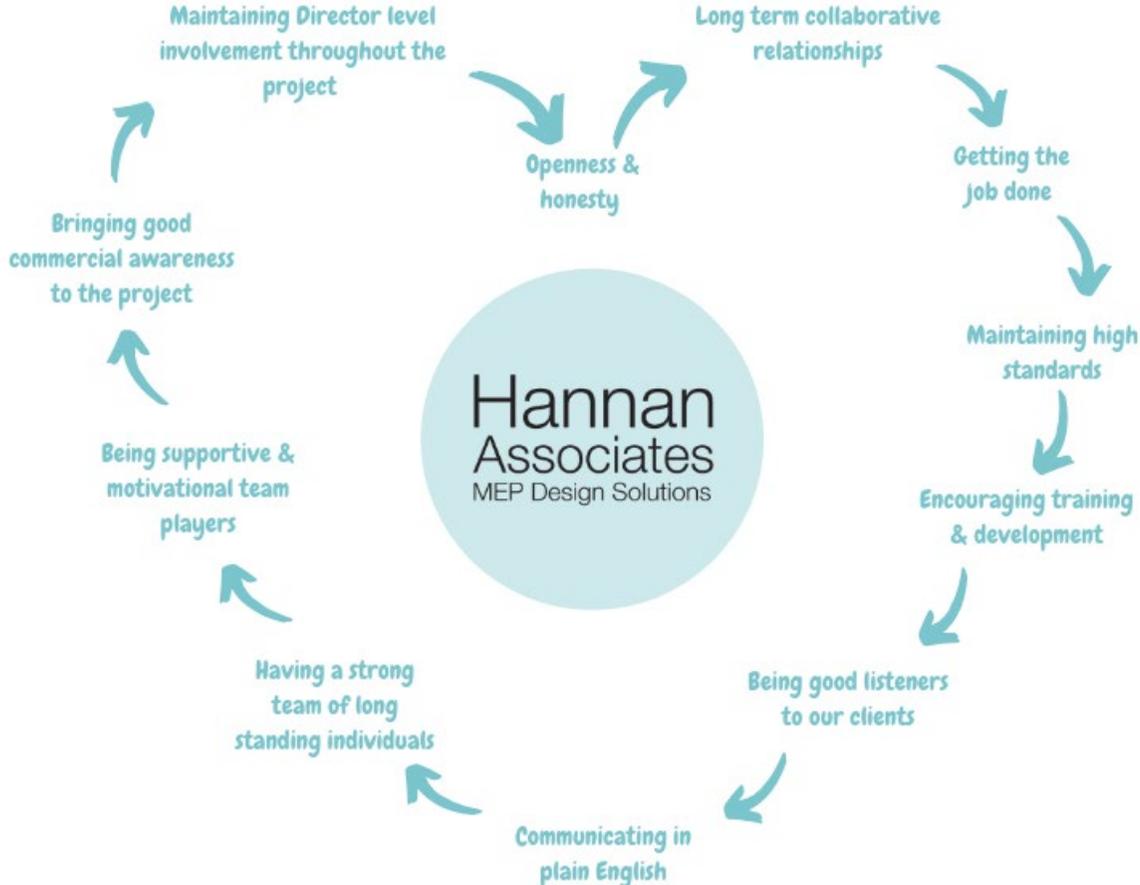
The development of the company has been aided by a strong, long serving work force through which we have developed lasting relationships with our clients, ensuring that 80% of our turnover is achieved through repeat business.

We recognise that we cannot do this without the support and enthusiasm of all our team members and we therefore endeavour to maintain the highest levels of team work and co-operation and develop staff that possess well founded self-belief who will act with diligence and integrity on behalf of our clients.

Many of our engineers have worked together over a long period of time, some for over 25 years, completing many successful projects together. Treating each project as unique we handpick each team to collectively possess the skills and range of experience needed to succeed, whilst creating a dynamic environment that encourages creativity.



# We love ....



# What we do.....

In essence we provide MEP Design Solutions to the construction industry. We have been doing this since 1983 so we're pretty good at it. Here are some of the ways we can help you...

## A

Acoustics  
AV Systems

## B

Building Health Checks  
BREEAM Assessment  
BREEAM Accredited Professional  
Building Physics

## C

Condition Surveys  
Construction Inspection and Supervision

## D

Design for Performance Modelling  
DEC Certification

## E

Electrical Building Services Design  
Energy Audits  
EPC Certification

## F

Feasibility Studies  
Fire Engineering

## I

Infrastructure Planning and Design  
Internal Environment Modelling  
IT Systems Design

## L

LEED Assessment  
Low & Zero Carbon Strategy & Design

## M

Mechanical Building Services Design

## O

Operational Energy Modelling

## P

Planned Maintenance  
Planning Reports  
Public Health Building Services Design

## R

Renewable Energy Technology Feasibility

## S

SBEM Calculations  
Services Engineering Appraisal  
Sustainability Strategy

## T

Thermal Modelling

## V

Vertical Transportation Design

## W

Water Conservation & Compliance Audits  
WELL Building Consultancy

# Sustainability.....

Energy reduction, the core of sustainable design, was inherent in our building design process long before it reached the political agenda. Our sustainable credentials are therefore built upon years of experience at the forefront of low energy, low carbon solutions.

We are now at the forefront of change in relation to the way buildings are modelled to meet the demands of evolving building regulations and guidance from UKGBC and LETI, which are driving carbon targets for construction towards the 2050 net zero government commitments.

Our involvement includes pilot schemes for modelling energy and carbon in use for new buildings, such as Design for Performance (DfP) and NABERS UK and this experience enables a valuable contribution to development masterplan and individual building sustainability.

Hannans can provide sustainability advice across a wide range using in-house engineers and consultants and specialist partners where needed to define ways of achieving sustainability objectives. This includes.....

- ✓ Energy modelling and Carbon assessment of energy for building services
- ✓ Energy and carbon performance evaluation
- ✓ BREEAM assessment and BREEAM AP
- ✓ Carbon in construction
- ✓ Well Building Assessment



## Net Zero Carbon Buildings: A Framework Definition

APRIL 2019

Advancing Net Zero Programme Partners

Lead Partner:



Programme Partners:



# Our clients say.....

“

*Hannan Associates are one of our best consultants. We have an excellent relationship with Hannan Associates who are very good team members. Their input and output are both first class. We would definitely use them again.*

”

“

*I've really enjoyed working with you and your team over the last 10 years. The fact that during all of my time here we have continued to work with Hannans on an increasing basis is testament to the relationship and trust that has been built. I'm sure you will continue to go from strength to strength.*

”

“

*Knowledgeable, commercial and capable M&E consultant. They get the job done in line with the demands of the project and are good to work with.*

”

“

*Very professional & client focused.*

”

“

*I think Hannan Associates are a brilliant company to work with. They have never let me down.*

”

“

*They have a no nonsense approach. Always happy to help.*

”

“

*I recommend them all the time. I have been using them for a some time now and never been let down.*

”

“

*Hannan Associates play an important role within the team, integrating well and always listening to their design team colleagues to ensure the desired client outcome is achieved.*

”

# 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.

We continue to build upon our portfolio of experience and specialist knowledge of sport and leisure sector projects, unrivalled in the UK, which we believe to be a contributing factor towards the success of the projects upon which we work.



# MUFC OLD TRAFFORD QUADRANTS EXTENSION

**Client:** Manchester United Football Club  
**Architect:** Miller Partnership  
**Project Value:** £42 M  
**Contract 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.



# MUFC EXECUTIVE BOXES, MANCHESTER

**Client:** Manchester United Football Club  
**Architect:** Marshall Kypriandis Associates  
**Contract Duration:** February 2010 – January 2012



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.



# MUFC TRAINING GROUND, CARRINGTON

**Client:** Manchester United Football Club  
**Architect:** Marshall Kypriandis Associates  
**Contract Duration:** March 2010 – January 2014



Having successfully previously 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 comprises the refurbishment alteration and extension of the first team building, a new sponsors building, a new parents and spectators building, relocation and additions to the a side courts, new car parking surfacing, temporary accommodation and lighting and a new feature linking glazed walkway and water feature with illuminated signage with a scheme value of around £13m.

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.



# Lancashire County Cricket Club – Red Rose Grandstand and Hotel

**Client:** Lancashire County Cricket Club

**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 and main contractor Eric Wright Construction on this project.



# WOLVES FC MOLINEUX STADIUM

**Client:** Wolverhampton Wanderers FC  
**Architect:** AFL Architects  
**Project Value:** £40 M  
**Contract Duration:** August 2009 – September 2011



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

The first phase of the project was the new North stand, starting with the master planning of redeveloping the ground in a phased manner, with due consideration of the live stadium and site wide services. These included IT, public address, HV infrastructure, turnstile monitoring, essential services, AV systems, CCTV and replacing UEFA class 4 Elite standard sports lighting temporarily and permanently.

The second phase being the new East stand, with other stands to follow.

Scheme development of phase 2 including enabling works and fitting out for East stand, executive boxes, lounges and banqueting hall. Including designing services to allow early occupation of terrace and lower concourse.



# BRISTOL SPORT ASHTON GATE STADIUM

Client: Bristol Sport  
Architect: KKA  
Project Value: £40M  
Project Duration: April 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 and BREEAM Assessment for the project.

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.



# STOKE CITY BET 365 STADIUM EXPANSION

**Client:** Stoke City FC & Bet 365  
**Architect:** AFL Architects  
**Project Value:** £5.4M  
**Project Duration:** July 2016 – June 2018



Hannan Associates provided a Stage 4 Design of the Building Services Design for the expansion & refurbishment works at Stoke City's Bet 365 Stadium.

Works included:

- 1| Infill of the South East Corner Stand creating additional seating and concourse including diversions and maintaining existing services
- 2| Upgrade of the stadium accessible seating in all stands to comply with Premier league and government guidance
- 3| SE and NW Corner media screens and new NW corner media control suite including diversions
- 4| Alteration of the South stand segregation for away fans to allow flexibility of use



# LEICESTER TIGERS FC WELFORD ROAD STADIUM

**Client:** Leicester Tigers Football Club  
**Architect:** AFL Architects  
**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.



# 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.



# BOLTON WANDERERS FC REEBOK STADIUM

**Client:** Bolton 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.



# MUFC OLD TRAFFORD MUSEUM, MANCHESTER

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



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.



# NEWBURY RACECOURSE REDEVELOPMENT

**Client:** Newbury Racecourse  
**Architect:** KKA Architects  
**Project Value:** £20M  
**Project Duration:** August 2010 – ongoing



Hannan Associates have been retained MEP Consultants for Newbury Racecourse since 2010. We have provided stage 3 Developed Design, monitoring duties and utilities infrastructure for each phase of the work during the redevelopment of the racecourse.

The £20 M redevelopment includes a new 4\* 120-bed hotel by 'Bespoke' Hotels, the creation of a more impressive entrance providing a real 'sense of arrival', new ticket offices, new weighing room, new parade areas, refurbishment of the stable block, new accommodation for the 'stable lads', a new building for the children's nursery at the racecourse', improved access to the racecourse via a new bridge, upgrade external lighting, landscaping and car parking.

Improvements and additions to the current racing and golfing facilities at the racecourse are also being made. The site will also have up to 1500 new homes of which up to 450 will be affordable, shared equity housing or available to rent. The site won the excellence in planning to deliver housing category at the 2015 Royal Town Planning Institute Awards.

The redevelopment of the Heartspace area is now complete and available for use by racegoers. The Heartspace scheme focused on the redevelopment of the heart of the racecourse, undertaken in phases to ensure racing has been able to continue unaffected.

Phases one and two were completed in Summer 2017 and included the construction of a new Owners Club to provide hospitality space and office accommodation, re-location of the Pre-Parade Ring and Saddling Stalls and a new East Entrance building.

The final phase of works included a new South Entrance building, 2nr. Totes, landscaping and re-modelling of the Parade Ring and Winners Enclosure.



# CITY OF MANCHESTER STADIUM & ATHLETICS ARENA

**Client:** Manchester City Council  
**Architect:** Arup Associates  
**Project Value:** £112 M  
**Contract Duration:** May 2001 – January 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.



# BLACKBURN ROVERS TRAINING GROUND

**Client:** Blackburn Rovers Football Club  
**Architect:** Riverside Architects  
**Project Value:** £8 M



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.



# GABALA FOOTBALL CLUB COMPLEX, AZERBAIJAN

**Client:** Gabala Football Club  
**Architect:** AFL Architects  
**Project Value:** \$200M  
**Contract Duration:** 2013 – 2014

Hannan Associates were contacted to design the expansion of Gabala Football Club's stadium in the mountains of Azerbaijan, between Baku and Georgia in one of the high seismic regions of the world.

The facility consists of a state-of-the-art training academy and a 25,000 seat stadium, incorporating hotel, conferencing facilities, retail and corporate hospitality space. The 9,000 m<sup>2</sup> training facility incorporates first and youth team facilities, separate recreation and training suites, gym facilities, swimming pool, indoor sports hall, & eight external practice pitches.



# TABUK STADIUM

**Project Location:** Saudi Arabia  
**Dates:** 2015  
**Stadium Capacity:** 30,000 Seat  
**Project Value:** £300M

A 45,000 seat stadium and precinct as part of the KASP development for the Saudi government. Designed to stage 2 concept.



## NAJAF STADIUM, IRAQ

**Client:** HKS Architects  
**Architect:** HKS Architects  
**Project Value:** \$300 Million  
**Contract Duration:** 2010 - 2011

Hannan Associates carried out the MEP, ICT and fire engineering services concept design to this 30,000 seat stadium in the south central region of Iraq up to BSRIA stage C design.

The stadium included a number of sustainable technologies and incorporated low energy building services systems.



## BASRA STADIUM, IRAQ

**Client:** HKS Architects  
**Architect:** HKS Architects  
**Project Value:** \$300 Million  
**Contract Duration:** 2010 - 2011

We carried out the MEP, ICT and fire engineering services concept design to this 30,000 seat stadium in the southern region of Iraq close to the Persian Gulf up to BSRIA stage C design.



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# Hannan Associates

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