

# Environmental planning. Our expertise.

HOARE LEA 2021





### Contents.

This document contains the following parts:

Page 4 Part A – Our approach

**Page 7** Part B – Our expertise Specialist planning expertise

**Page 16** Part C – Our experience Project stories

Page 25 Part D – About us The firm Our people



# Part A. Our approach.





#### Our approach.



Coal Drops Yard, London

# For people and planet.

Our 159-year legacy is built on personal pride, technical expertise and dedication to delivering outstanding results. As a firm, we are driven by a common vision to deliver outcomes focussed solutions for people and planet that transcend internal barriers between technical specialisms.

#### Human-centred design.

There is not one decision maker or leader on this planet who isn't at the mercy of human emotions, human problems, human desires. Human experience is not just at the heart of good design: it is good design. Our work brings 'buildings to life' for people.

#### Planet-conscious design.

Sitting alongside this focus on human-centred design is the need to be guided by doing right by our planet. We were one of the first firms to sign up to the engineers declare climate emergency initiative. The situation demands change and we can either be part of it, or watch it happen without us... Our work and our industry has so much to contribute – we have so much power to, quite literally, design a better future.

#### The tension and the connections.

We understand that sometimes human-centred design solutions aren't always the best choice for the planet; similarly, achieving net zero carbon and other planet-conscious design decisions can result in negatives for the users. But balancing that tension is exactly where we excel: it's where our problem solving 'challenge accepted' culture can shine. The work that we do is at the interface of this tension and we dissect that by helping to find real, applicable solutions.

Looking at the wider picture though, we all understand that human-centric design is now inseparable from planet-conscious design: if we do not have a planet that's thriving, the quality of human life will lessen. It's therefore our responsibility to balance the requirements of both.

As design and engineering consultants in the built environment, we advise on technical design solutions for people and planet, both in terms of architecture and placemaking. And with this expertise, we are perfectly placed to shape the value of planning, not to tick a box, but to play a vital part in addressing 21<sup>st</sup> century challenges.



# Part B. Our expertise.



### Our expertise.

# Environmental planning. Specialist services.

The UK is a densely populated and geographically diverse country with a long established environmental protection regime. New development projects are often affected by a range of environmental constraints and designations. However viewing environmental planning as a barrier to new development misses an opportunity to value and enhance our natural and built environment.

We see environmental planning as an opportunity. Our specialist planning expertise helps stakeholders to understand the environmental implications of new development projects in the context of the legislative and planning policy requirements. This helps to get the greatest value out of a development proposal and smooths the path to obtaining planning consent.

## Technical planning inputs.

New development projects require the input of a variety of environmental planning specialisms to undertake technical design and assessment, but also to make this information available for public participation in the planning process.

We have built a reputation as consulting engineers, with expertise in the operational design of buildings tailored to the needs of its users – human beings. From this expertise we have developed an industry leading understanding of the human health and sustainability challenges to delivering new development projects.

Our design and assessment services are focused on every aspect of human centred and planet conscious design. Our specialist planning services include:

- Air quality.
- Climate change & net zero carbon.
- Daylight, sunlight & overshadowing.
- Energy & carbon strategies.
- Fire safety.

- Lighting Impact & CGI.
- Health impact assessment.
- Noise & vibration.
- Operational waste.
- Security.
- Utilities & energy infrastructure.
- Wind & microclimate.
- Sustainability strategies.MEP.

#### **Environmental Impact Assessment.**

Environmental Impact Assessment 'EIA' is an iterative design and assessment process for achieving the best possible outcomes for people and the environment.

The need for EIA is determined by the characteristics of the development and its location. While location is generally fixed, it is possible at the early stages to make design interventions to avoid impacts and potentially avoid the need for full EIA. This provides an opportunity to positively influence outcomes.

At Hoare Lea we are outcome focused. We take a coordinated approach to maximise the values that our expertise can bring. Our approach to EIA ensures a holistic & joined up process, assurance of regulatory compliance and high quality outputs. Our EIA services include:

- EIA Screening & early design advice.
- EIA Scoping chapters & reports.
- Environmental Statement (ES) chapters, reports and on-technical summaries.
- EIA team coordination.
- Community & stakeholder engagement.
- Construction & compliance monitoring.

We work closely with other specialist consultants to ensure a complete and joined up environmental planning service, including: ecology, landscape, water and flood risk, cultural heritage, ground conditions, traffic management and socioeconomics.

# Air quality.

It's important to consider air quality right from the early planning stage. This is when we can help with detailed reviews during proposals and scope out the need for air quality assessments.

Experience has taught us that considering air quality as early as possible and integrating it within the design process demonstrates a commitment to high design standards. This ultimately improves planning, overall success, and the health & wellbeing of the individuals who live, work and play in and around our developments. As the increased demand for air quality grows, so does our team of specialists – from indoor and outdoor air, building emissions and odour, to road traffic and demolitions.

## Climate change & net zero carbon.

Climate change is the most pressing environmental issue facing humanity. We recognise that new developments emit  $CO_2$  and other greenhouse gasses that contribute towards global climatic change. However, we also recognise that new development has the potential to become part of the solution through forward-thinking and holistic design.

Our approach to quantifying carbon emissions arising from all stages of development means we are able to provide an overall carbon footprint. This includes the carbon emissions embodied within construction materials, those that would arise from operation of the development, and alterations to the 'carbon sequestration' potential of soil and vegetation as a result of land use changes.





# Daylight, sunlight & overshadowing.

Controlling the impact of a new building on the daylight and sunlight of surrounding buildings is paramount to the success of a development. This is critical early in the design process, to ensure that design proposals respond to the prevailing daylight and sunlight conditions of the site and its context.

We have expertise in evaluating the daylight and sunlight within a proposed building. We can asses the impact a proposed building will have on the daylight and sunlight of neighbouring plots.

Our early stage input includes identifying sensitive neighbouring buildings and conducting simple, initial tests to determine whether a full daylight and sunlight assessment is required.



## Energy & carbon strategies.

We take a whole-life approach to the energy and carbon performance of developments. This ensures we design for long-term sustainability. We understand the delicate balancing act between architectural vision, energy targets, commercial concerns and sustainable solutions.

With expertise in both operational Energy Strategy Appraisals and Embodied Carbon Assessments, we can guide the design development process to help project teams determine the best fit solutions, for both construction and operation. We use data and performance modelling to effectively demonstrate all proposals in an easy-to-understand way.

## Fire safety.

We are qualified fire safety engineers, qualified to complete planning gateway one fire statements to demonstrate that fire safety issues have been considered. However to provide the best solution we always provide planning inputs as part of an integrated design service.

Innovative fire design can even add benefits over and above fire safety: making cost savings, adding value through space and people-centred design, and increasing flexibility for architects. We pride ourselves on always finding the best possible solution; one that meets – and often exceeds – safety standards.

# Lighting impact & CGI.

Our approach to mitigating obtrusive light is founded on our core understanding of how lighting at night needs to work for all affected. This extends from people and protected heritage sites, to sensitive wildlife (such as bats) and ecological systems. As a minimum, we are able to ensure compliance with the appropriate standards, but we also strive to craft solutions that are both functional and truly sustainable without losing a quality lit scene.

Our experience in daylight and lighting and its application in Computer Generated Imagery (CGI) means the photometric accuracy of our visuals gives a true impression of the designed effects of light from any given viewpoint. We can also generate Virtual Reality (VR) walkthroughs and interactive 360VR visualisations. Furthermore our Night Time Landscape Visual Impact Assessments support challenging developments in sensitive locations.







### Health impact assessment

Human health concerns the state of physical, mental and social wellbeing of individuals or groups of people. Health impacts are often spread unevenly across different groups in a given population. These health inequalities often place a burden on public health services locally.

Health impact assessment seeks to understand the social needs of the local population, to ensure development projects do not create or exacerbate health inequalities. Positive and negative health impacts on the relevant local health determinants are assessed to determine the likely significant health outcomes. Through HIA often relatively small design refinements can be identified to optimise the health outcomes for all.



### Noise & vibration.

We have one of the largest and longest established acoustics consultancies in the UK and were one of the first built-environment engineering firms to insist every single project is checked for acoustic standards. We look at buildings and beyond; considering the acoustics within a space, but also managing the sounds around it, including the noise a development might produce. This forward-thinking approach and our industry leading experience helps clients make significant savings as early as master planning stage. Our experts assess every design aspect that influences acoustics.

## Operational waste.

The transition towards the Circular Economy is a key component of sustainable development. It aims to keep materials at their highest use and value, by minimising the need for new resources and energy. It's important that the principles of the Circular Economy are not only considered in the design of materials, but also for the development's intended operation. Operational waste assessment maximises opportunities to divert waste from landfill. Such opportunities can include waste segregation to maximise recycling, ergonomics of waste management facilities, and maximising waste collection efficiency. Coordination with design is essential to develop an effective operational waste management strategy.





#### Security.

We believe early consideration of security provides significant opportunities to a development's sustainability aspirations and therefore planning success. Fundamentally, security is a feeling of freedom from threat and, as such, it is a crucial component in creating a sense of wellbeing. But it goes further than this; the natural, physical, social and economic aspects of sustainability can all be positively influenced through early security planning.

Underpinned by a development-specific threat and risk assessment, we identify security requirements and opportunities for added value through the application of established principles such as Crime Prevention Through Environmental Design (CPTED).

### Utilities & energy infrastructure.

Available as part of our holistic planning service, or as a standalone service, our Utilities & Energy Infrastructure team has a proven track record in managing even the most complex planning projects.

We start by looking at four key requirement areas: reinforcement, energy, waste, and diversions, covering all aspects of water, gas, electricity, telecoms, and energy services.

After producing a robust infrastructure procurement plan, we manage the entire bid process: market interrogation, design, and negotiation of competitive packages.

## Wind & microclimate.

Excessive wind velocities and wind chill directly influence pedestrian comfort and safety. As a result, the implications for access, footfall and user experience throughout the public realm of a development require careful consideration at every stage of the design process.

We undertake high-level wind desktop evaluations, complex simulation analysis, and lead wind tunnel testing works for single building developments to large scale masterplans. Our performance-based approach means we focus on the best value solutions throughout the design process, drawing on our knowledge of the physics within the built environment and simulation capabilities.









#### Sustainability strategies.

No longer simply ticking boxes, today sustainability is about adding value. Increasingly, it has become the starting point and the heart of ambitious projects. On each and every project, we take an exciting journey together with clients and project teams to help shape a more sustainable world.

#### Experts who speak your language

It's important to find experts who truly understand the often-complex sustainability standards. It's a language that we speak; comfortably interpreting it into simple, clear aims.

#### A sustainability framework

Within the built environment, considering five defined factors and their value is key to a connected approach: the people, the building, the social networks, the natural environment, and the economic output. These form the basis of our sustainability framework which is tailored to the needs of each project.

#### Stakeholder engagement

Working with the project team we actively engage with the planning authorities, local community groups and the general public throughout the planning process. We collaborate with the client and project team as well as key stakeholders to create informed innovative strategies. Each strategy responds to the five elements of our framework, and we make sure we articulate it in an accessible and engaging way, no matter the complexity.

#### Ahead of the industry

Our team is actively shaping the future of sustainable practices. We conduct in-depth research, author industry guidance, build close links with sector-wide organisations, and sit on influential committees. The result is an unrivalled ability to provide informed, strategic advice that stays ahead of industry changes and is pivotal to our successful input to planning.





# Part C. Our experience.







# Whipps Cross Hospital, London. Safe and sustainable clinical services.

The Whipps Cross regeneration will see the area transformed into an integrated health, social care and health & wellbeing campus.

#### Impact assessment

We supported a hybrid planning application, providing specialist Environmental Impact Assessment (EIA) noise and vibration, climate change, daylight sunlight and overshadowing (DSO), and wind microclimate inputs to the Environmental Statement.

#### Modern and future-proofed design

A new 500-bed hospital is to be constructed that will serve the whole community but focus on elderly patients and maternity. We are supporting the design, incorporating the very latest in net zero carbon thinking.

We are creating a sustainable space that is fit for future generations. Our designs include air and ground source heat pumps, Passivhaus levels of insulation and infiltration control, as well as low embodied carbon materials.

#### A community approach

Our design will bring together a collection of connected services, teams and supporting infrastructure. This includes housing, leisure and cultural spaces that will provide a holistic care and wellbeing to the local environment that has been designed around their needs. Intelligent building design utilised to create a smart hospital of the future.

BREEAM Excellent with an aspiration for Outstanding.

Modern Methods of Construction will streamline and standardise the project.

Client:	Barth Health NHS Trust
Architect:	Ryder Architecture
Services:	Environmental Planning, DSO, Microclimate, MEP, Acoustics, BREEAM, ICT, Sustainability, Vertical Transportation
Value:	£380 million
Sector:	Healthcare
Status:	Planning Application and Outline

Business Case





# Sky Studios Elstree. Home to the UK's next-gen creative talent.

Sky Studios Elstree is a significant new investment in the UK creative economy. It provides a new home for Britain's flourishing creative sector and much needed space for Europe's brightest talent. It provides the capacity for Sky Studios to produce more original content inhouse, while continuing to work with independent production companies. The new studio space will also play host to major film productions from Universal Pictures, Focus Features and Working Title, and television series from NBC Universal Content Studios.

#### **Coordinated planning support**

Owned by Legal and General, the underutilised greenfield site on the edge of Borehamwood was allocated for class B employment uses. Yet with a critical shortage of production space in London / the south-east, and the close proximity of Elstree Film Studios, the development plot presented an opportunity for much needed studio space.

In support of the EIA Development Planning Application, we undertook the impact assessment of noise and vibration, air quality, environmental light and climate change. We also provided the sustainability strategy and utility and energy infrastructure inputs to the planning application. Our internally coordinated approach to our planning stage inputs has meant that all of our deliverables were submitted ahead of programme.

#### Confidence and accuracy

Although the planning application was submitted early in the design process, prior to RIBA Stage 3, our specialists undertook front-end design in parallel with the impact assessment process. Not only does this improve confidence in the accuracy of the planning information submitted, but also provides efficiencies for evolving the detailed design as the project progresses, without the need for costly design iteration. Complex interaction between planning and early design.

A challenging programme.

Large multidisciplinary project team involving input from six of our specialist teams.

Client:	Legal and General
Architect:	UMC
Services:	Environmental Planning Services, Air Quality, Sustainability, Environmental Lighting, Acoustics, Vibration, Utilities & Energy Infrastructure
Sector:	Arts & Culture

Status: Approved, under construction





# Dunsfold Park. Enabling growth with zero carbon.

Dunsfold Park is seeking to create a new village in the heart of the Surrey countryside. The site is the former Dunsfold Aerodrome and proposals include up to 3,000 new homes, a primary school, village centre, retail and the expansion of an existing business park to include commercial and industrial units.

#### Holistic support

The project is a great example of the value, breadth and depth of our specialist environmental planning services: our acoustics, lighting, utilities and energy infrastructure and sustainability experts all supported this challenging application.

In support of the EIA submission, we undertook the noise and vibration assessment, as well as the environmental light assessment. Our utility and energy infrastructure team were instrumental in overcoming the challenges of necessary power and water reinforcements as well as negotiating the implementation of a new sewage works with the environment agency.

#### **Enabling zero carbon**

We have also helped define the sustainability strategy for the masterplan, enabling innovations to come forward at reserved matters stages such as Passivhaus accreditation, low-carbon heat network powered by biogas-CHP, and an integrated water and waste strategy for the production of on-site biogas (to feed the CHP). These all contribute to the overarching aim of the masterplan achieving 'zero carbon'. A challenging and complex planning application.

Brownfield site redevelopment.

Two years of pre-planning work involving five of our different specialist teams.

Client:	Dunsfold Airport Ltd
Architect:	Pollard Thomas Edwards
Services:	Acoustics, Environmental Lighting Design, Sustainability, Utilities & Energy Infrastructure
Sector:	Mixed use, Residential
Ctatuc	Approved

Status: Approved





# Elephant and Castle. A brand new town centre.

The Elephant and Castle is one of central London's largest regeneration projects. Incorporating 1,000 apartments, retail, restaurant and leisure facilities, along with a new cutting-edge campus for London College of Communication with exhibition and cultural spaces – it's set to be a brand new town centre for the capital.

Excellent transportation links to the area are integral to its success. Two underground and one mainline rail station, 28 bus routes, excellent road connections and one of London's first Cycle Superhighways will ensure the development is easily accessed. It also connects to another major redevelopment site: King's Cross – which we have also been heavily involved in.

#### **Capital constraints**

This highly technical and challenging project involved working in a constrained site, with a major road, tube stations and tunnels, and train lines all in close proximity. Our client was keen that the development embraced the multi-cultural ethos of the area – bringing the already established community closer together by creating new a space for people to use.

#### In the mix

This was a fantastic project to utilise and bring together almost every aspect of our business. We drew on the design expertise of many of our sectors specialists – from retail and workplace to residential and leisure. We designed collaboratively across our specialist groups. Co-ordinating under one banner meant we could create holistic and complementary solutions that really delivered across the spatial and time constraints. One of central London's largest regeneration projects.

1,000 residential units on the site, which links with another key London redevelopment: King's Cross.

The majority of our specialist groups contributed to the project.

Architect:	Allies and Morrison
Services:	MEP, Utilities & Energy Infrastructure, Vertical Transportation, Façade Access, Lighting Design, Acoustics, Vibration, Fire Engineering, Sustainability, Air Quality, Performance
Sector:	Residential, Retail Higher Education Arts, Culture & Heritage
Status:	Under construction





# Bath Quays: phase 1 & 2. Regeneration done right.

Bath Quays is the Council's flagship regeneration project. Designed to create a new and vibrant commercial quarter for the flourishing businesses in the heart of the city's Enterprise Zone, it aims to generate higher wage jobs and provide more opportunities for Bath residents.

#### **Location location**

The scheme will provide new offices alongside homes, cafes, restaurants and a high-quality public realm. Due to the nearby location of a busy main road, air quality and noise was a key consideration for planning approval. The Council also demanded the development wouldn't cast light onto the river (due to the need to protect bats at night). To assess noise impacts, we carefully measured noise levels at key locations on the site, allowing us to identify different sources present and isolate those that would not be present in the future once the development had been built. Our lighting experts also ensured the river was protected from light at night through intelligent design and positioning of fittings.

#### **Promoting communication**

We contributed to the layout in order to maximise the quieter aspect of the development (overlooking the River Avon) and position less noisesensitive uses in a way that meant they offered the more sensitive spaces protection against road noise. The most significant aspect of this project was the in-depth communication that we maintained throughout the process. Promoting an open dialogue up front meant that we could reduce the chance of the planning application being rejected or requiring revisions. The scheme achieved planning approval in April 2017 and is the most significant development in Central Bath for decades.

#### The site is located in the World Heritage Site of Bath City.

A sensitive conversion of the Grade II listed Newark Works Building, demolition of redundant buildings, and the introduction of three new buildings.

The most significant development in Central Bath for decades.

Client:	Bath and North East Somerset Council
Architect:	Allies & Morrison Architects (phase 1), Penoyre & Prasad (phase 2)
Services:	Sustainability, Acoustics, Air Quality, Lighting Design, MEP, Utilities & Energy Infrastructure
Sector:	Mixed use
Status:	Complete





# The Welding Institute. Joined-up thinking builds bonds.

From developing innovative ways to repair off-shore wind-turbine blades while out at sea, through to re-joining failed petrochemical pipework at deep sea levels, The Welding Institute (TWI) is the world's leading research facility for this highly specialised branch of engineering.

#### Uniting employees with space.

TWI's headquarters was originally made up of disparate buildings, with everyone working on individual projects. This development sought to unite people via a brand new interconnected campus. A key challenge for the client was to create spaces that were flexible enough to facilitate the wide-range of experiments and research required. Added to this was the need for the project to meet the planning requirements set by the local council.

The first block accommodates a reception, kitchen, restaurant, café, conference facility, library, lecture theatre, and offices. The second contains laboratories and teaching spaces, and the final block holds a machine hall and plant room, fixed crane, and space for experiments.

#### In control.

Getting the machine hall right was key, as the building had previously suffered from a great deal of overheating. By completely overhauling the space's ventilation system, we provided the flexibility to shut off specific areas of the hall for different experiments, which allows for massive variation in the type of research that can be done. Our designs involved combined heat and power and photovoltaics, helping mitigate 10 percent of the total site emissions. It was also important to think about the user experience throughout the process – our high-quality LED lighting designs and Building Management System allow TWI to have all the control it needs over its high-specification, adaptable headquarters. The new HQ links several buildings into one central 'campus' that inspires creativity.

Spaces designed to be flexible enough to facilitate the widerange of experiments and research required.

10% mitigation of total site emissions.

#### Client: TWI

 

 Architect:
 Eric Parry Architects

 Services:
 MEP, Acoustics, Fire Engineering, Sustainability

 Value:
 £40 million

 Sector:
 Science & Research Workplace

 Status:
 Complete



Hoare Lea night-time CGI of Corn Exchange, Manchester



# Part D. About us.



# The firm.

### Our specialist expertise.

We are problem solvers who care how a space makes you feel when you step inside – who bring buildings to life.

Our comprehensive offering includes:

MEP. Acoustics. Air Quality. Audiovisual. Building Physics. Digital Engineering. Expert Witness. Façade Access. Fire Engineering. Intelligent Buildings. Lighting Design. Operational Engineering. Performance. Property Services. Research & Development. Security. Sustainability. Utilities & Energy Infrastructure. Vertical Transportation. Vibration.

### Our in-depth sector experience.

We take personal responsibility to achieve a shared vision, combining strong relationships with technical excellence.

#### Our dedicated sector expertise includes:

Arts, Culture & Heritage. Courts. Data Centre & Mission Critical. Defence. Distribution. Healthcare. Higher Education. Hotels. Manufacturing & Process. Prisons. Residential. Retail. Schools. Science & Research. Sport. Transport. Workplace.



## Our people.



# Mark Cope



#### ASSOCIATE EIA CONSULTANT

BSc (Hons). MSc, FGS, MIEMA, CEnv, REIA

As a Chartered Environmentalist and IEMA Registered Environmental Impact Assessment (EIA) Practitioner, I am passionate about environmental and sustainability issues relevant to land use planning.

I specialise in the multidisciplinary coordination of complex impact assessments on major development projects. At this scale it is essential to ensure that the needs of the development is proportionate to impacts on people and the environment. Through EIA, I relish the opportunity to make a positive impact.

#### **EIA competent expertise**

For 15 years since beginning my career in a Local Authority Planning Department, I have worked on a range of strategic, masterplan and detailed development planning applications. This has ranged in scale from urban extensions, brownfield and town centre redevelopment; flood and coastal defence; to nationally significant road and railway infrastructure projects. As a result I have extensive environmental planning consultancy experience across a range of development sectors. As part of the EIA process I coordinate specialist technical input to EIA screening and scoping opinion requests and Environmental Statements (ESs) reports. The EIA coordinator is responsible for providing a framework that ensures compliance and quality of a wide range of specialist technical inputs to EIA. As a result I am familiar with environmental legislation and planning case law, and have a broad understanding of industry practice assessment guidelines and methodologies.

#### Selected project experience

- M26 J2a MSA (Moto Hospitality & Smith Jenkins Town Planning).
- Whipps Cross Hospital (Barts NHS Trust & Ryder Architecture).
- Sky Studios Elstree (Legal & General).
- East Rhyl Coastal Defence Scheme EIA (Balfour Beatty & Denbighshire County Council).
- Leicester Flood Conveyancing Phases 2 and 3 EIA (Environment Agency).
- Wokingham Town Centre Redevelopment EIA (Wilson Bowden & Wokingham Borough Council).



# Thank you. hoarelea.com.

#### Locations

Abu Dhabi Birmingham Bournemouth Bristol Cambridge Cardiff Doha Glasgow Leeds London Manchester Oxford Plymouth Madrid (associated office)

