

**An exciting world first.  
Breathing life into an icon.  
Challenge accepted.**

HOARE LEA & GASHOLDERS LONDON



DAVID / 20.03.15 / SENT 16:35PM

# It'll definitely be an interesting one. You in?

Gas storage is certainly not synonymous with luxury city residences. But the new Gasholders London might just change that. The iconic circular guide frames that surrounded the gas-holding drums have decorated the landscape at King's Cross for more than 150 years. Transforming the space into unique apartments injected new life into these historic structures.

At the start of our journey, we knew the architecture was anything but ordinary... but who wants ordinary? Reusing these iconic circular frames for such a completely different purpose was a challenge not to be underestimated... and it was one we embraced with all the enthusiasm and energy it deserved.

ALAN / 20.03.15 / SENT 17:15PM

# That's what I like to hear! When can we start?



CLIENT: ARGENT  
CONSTRUCTION COST: £100M  
ARCHITECT: WILKINSONEYRE



“We wanted every aspect to be unexpected, so even if you’re in the roof garden, looking down inside, you’ll see something interesting.”

JEFF LEE  
WILKINSONEYRE





## Our approach. Meet Clive Williamson, Lead Partner for Gasholders.

“The Gasholders project was all about creating a dynamic counterpoint between old and new. Now, walking through the regenerated King’s Cross area, I always take a moment to admire the three circular residential buildings sitting inside their restored frames. For me, they showcase what our teams can do when challenged with such a unique brief.”



### GASHOLDER EXPLAINED

A gasholder, or gasometer, is a large container in which natural gas or town gas is stored.

Constructed of cast iron columns, the frame for the gasholders in London was erected in 1867 and later enlarged in 1880. They are known as the ‘Siamese Triplet’ because their frames are joined by a common spine. Transforming them into residences was always going to be a task riddled with complexity.

### WORLD FIRST

As the only apartments in the world to be built within a trio of listed gasholder frames, the development required a completely different approach right from the start. The entire project team was working with the unknown. We were tasked with ensuring that the engineering solutions complemented and showcased this unique design, as well as enabling each space to function in the best possible way.

### SERVICES PROVIDED

MEP

LIGHTING DESIGN

VERTICAL TRANSPORTATION

SUSTAINABILITY

ACOUSTICS

FIRE ENGINEERING

OPPORTUNITIES FOUND IN CONSTRAINTS



## INNOVATIVE THINKING

**FINDING INSPIRATION:  
EMBRACING THE CIRCLE**

The shape and form of the building created challenges unusual for residential design. The circular aspect of the gasholders inspired architect WilkinsonEyre to arrange the apartments around three atria. This meant the floor plates were divided into slices like a pie, laid out to take advantage of natural daylight, with the living spaces and bedrooms at the outer perimeter. Our client Argent placed a key emphasis on coordination between the disciplines and knew we were best placed to offer a self-managed joined-up approach. Our Acoustics, Daylighting, Fire Engineering, MEP, Sustainability and Vertical Transportation teams all worked in tandem to realise the vision for these unique apartments. By taking responsibility for so many services, we could adopt an iterative design process, and provide one consistent voice for the architect and Argent.

**COOL DECISIONS:  
SEAMLESS INTEGRATION**

In terms of services, several on-site cooling options were considered but none of them were able to meet Argent's requirements. A chance conversation we had led to discussions about the potential for a district cooling system, and

we demonstrated how it could be seamlessly incorporated. In fact, our design for Gasholders actually helped drive Argent's decision to install a district cooling scheme for the overall King's Cross site.

**FAÇADE DEMANDS:  
IN THE BALANCE**

By leading the design process, we helped to develop a practical – yet certainly not conventional – overall design. This took into consideration everything from the acoustics (such as nearby train noise) to daylighting conditions, with us coordinating the various disciplines to achieve the most balanced approach.

The façade design was possibly the most complex aspect of the project. We had to carefully balance the conflicting requirements of overheating, energy efficiency, acoustics, and daylight to develop the best possible façade system. The result is a solution that features motorised shutters, comfort cooling limited to acoustically challenged apartments, and daylight levels in accordance with planning requirements... all with fabric and energy efficiency that goes beyond Part L compliance. In fact, since residents have moved in, the Gasholders have been held up by the BBC as a great example of external shading design that solves the overheating most buildings suffer from during sunny hot spells.

**145**  
apartments.

**123**  
cast iron columns.

**14**  
seat screening  
room and adjacent  
games room.





**BREEAM**  
Very Good rating

○ **CFD modelling**  
demonstrated the fire engineered approach to the atrium and its likely internal comfort conditions throughout the year.

○ **3 gas frames**  
originally constructed between 1860-1867.

○ **2 year**  
refurbishment of the 123 cast-iron columns.

○ **1,2,3 & 4**  
bedroom apartments.

THE BIGGER PICTURE





# Project impact. Unique homes made possible.

There are so many elements of design that come together to deliver luxury living spaces. The bespoke apartments and spaces that were envisioned for Gasholders demanded unique solutions that could provide both the high standards of comfort expected and realise the architectural ambitions... all within a safe environment.



## MAKING STYLISH SPACES SAFE

The heritage running through the Gasholders' external appearance is continued through to the inside, with an open circular atrium at the centre. Argent's challenge to our Fire Engineering team was to keep the atrium feeling open, light, and airy, but also compliant with fire safety measures.

Our experts set to work on in-depth fire and smoke CFD modelling, along with a detailed assessment of how people would use the space. This allowed us to craft a solution that used clever ventilation and control of potential combustible materials. The result is a vibrant open atrium that allows light to flood into the apartments through glazed screens. Even more importantly, as a stunning central space, it encourages residents to get to know their neighbours.

“Collaborative design was the key to this project. It was great to have a client who wanted us to bring ideas that challenged normal conventions.”

ALAN FEATHERSTONE  
SENIOR ASSOCIATE

CHALLENGING DESIGN CONVENTIONS





“The transformation  
of this no-go north  
London area into a  
go-to address has set  
a benchmark.”

THE SUNDAY TIMES

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### PICTURE PERFECT

The Gasholders' architecture is anything but ordinary; it makes passers-by stop in their tracks. The structures form a key part of the King's Cross pedestrian thoroughfare so part of the architect's vision was for each building's façade to appear 'alive' and responsive when people interact with them.

By working *with* the gasholder frames rather than against, we found inspiration in what would typically be considered a 'constraint'. These restored cast-iron structures create a stunning anchor for the unique buildings inside them, and provide a 'picture-perfect' frame for the fantastic views over the water.

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### PRESERVING AN ICON

In a time of increasing urbanisation, projects like Gasholders are vital to land conservation and the regeneration of structures that might otherwise fall into disrepair.

When we set out on our journey, we knew the final result would be a truly unique set of buildings that would take unused structures and breathe new life into to their historic frames. What we could only of hoped for, however, was how these finished buildings inspire and excite in equal measure... and proudly sit as a vibrant new landmark on the London landscape.







## Achievements recognised.

- Awarded a BREEAM Very Good rating.
- Winner of a 2018 RIBA London Award.
- Winner of an overall 2018 RIBA National Award.
- Chosen as Development of the Year at the 2018 British Home Awards.
- Finalist, AJ Architecture Awards 2018.



COMPLETED WITH PRIDE







## Engineers of human experiences.

Hoare Lea is an award-winning engineering consultancy with a creative team of engineers, designers, and technical specialists. We provide innovative solutions to complex engineering and design challenges for buildings.

Irrespective of the scale or complexity of a project, we provide a full range of MEP, environmental, and sustainability services, bringing buildings to life and ensuring that they perform in operation as well as they look.

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