

QUEENSGATE MARKETS, HUDDERSFIELD

The market hall forms part of a nine-acre development planned from the late 1950s and sits on a steeply sloping site within Huddersfield city centre. It was designed to be lowest at the top of the slope and highest at the bottom, preserving the views to the existing Town Hall and Library, both buildings of architectural importance to Huddersfield. This resulted in a 4-storey building that still feels human in scale, with a dramatic elevation to the ring road.

Seymour Harris' architect, Ken Wood's, concept was to evoke the traditional idea of a market place: a thriving, bustling environment where a variety of stalls are accommodated, covered yet not enclosed. He achieved this by designing an innovative roof structure covering the entire market area, with the stalls clustered around the column bases, thus defining the circulation pattern throughout the building. The roof also provided a "memory" of the structure it replaced, being a modern interpretation of the Gothic-style former market hall.

It was a time of great innovation in the use of concrete, and the resulting design for the asymmetric hyperbolic paraboloid (hypar) inverted umbrella structures at Queensgate Markets are considered unique to this country, if not the world. This pioneering design was a product of close collaboration between the architects, engineers and a team of researchers at Southampton University, who were also responsible for the testing of the Sydney Opera House shells.

The roof structure is made up of 21 freestanding columns ranging in height from 3.3m to 7m, each supporting 17m x 9.5m hypar shells weighing approximately 80 tons. Furthermore, the columns were placed 1.5m off-centre along the longitudinal axis to avoid monotony. This was a brave architectural move as the wisdom at the time was that asymmetrical hypar umbrellas were impossible to construct and should not be attempted, a statement made by Felix Candela, considered to be the then international authority on the design and construction of thin concrete shells. Ken Wood and his team subsequently proved Candela's assertions wrong at Queensgate.

Incredibly, the design resulted in the shells cantilevering 7m to one side and 10m to the other, each structurally unconnected to the other, therefore un-braced and functioning independently. The shells were placed in rows of four or five, alternating in height from north to south, and stepping up and down from west to east. This resulted in gaps of 1.3m between each roof section, allowing the glazing to be suspended from the top hypar and to move independently with the columns a maximum of 5cm in any direction.



Externally, the originally-intended fully concrete elevations gave way to stone cladding, with expressed framework and patent glazing to all elevations. The Queensgate façade is decorated with enormous ceramic relief panels designed by Fritz Steller, said to be the largest ceramic sculpture in the world. The work is entitled "Articulation in Movement" with each panel bearing a representation of the goods being sold within the building. The north wall is decorated with a metal relief entitled "Commerce", also by Fritz Steller, with depictions of trade, industry and agriculture of the area.

So far, no records of any further concrete hypars in the UK have been found.

Credits

Completed: 1970
Status: Grade II Listed in 2005
Client: Huddersfield Corporation
Developers: Initially Murrayfield, then Ravensef
Contractors: Token Construction Ltd. (fr. March 1968)
Sir Robert McAlpine and Sons Ltd. (from late 1968)
Architects: J. Seymour Harris Partnership (Kenneth Wood and Gwynfor Edwards "Gwyn" Roberts)
Q.S: P. A. Fisher & Partners
Engineers: Leonard & Partners
Sculptor: Fritz Steller

For more information, see Huddersfield Gem website: www.monoculartimes.co.uk/huddersfieldgem

Acknowledgements

"Architecturally, the new Market Hall is one of the most interesting buildings to have been erected in Huddersfield for many years. When the work began, the site was dominated by a huge crane, but there soon appeared strange mushroom-like structures on the skyline around Ramsden Street.

What were they, people asked. Back came the answer - asymmetric hyperbolic paraboloids. Not much wiser, people watched as the giant mushrooms increased, until they seemed to be springing up all over the place. In fact, twenty-one concrete mushrooms were built, each measuring about 56ft. by 31ft. and each one free-standing and supported on a single column.

It was impossible to imagine what kind of a building could result from such strange objects. But people soon admitted that here was something new and exciting. Something of which to feel proud."

Huddersfield Daily Examiner
6 April 1970

Huddersfield's Queensgate Market is the best surviving example of a retail market from the 1960s and 1970s. It is an imaginative structure that combines innovative technology of its time to produce a dramatic space full of natural light with the striking focal point of the roof.

Culture Minister David Lammy
Department for Culture, Media and Sport, 4 August 2005

"Queensgate Market was designed and built with confidence using a spectacular combination of architecture, engineering and art. It is a young building, only 35 years old and the exemplar of 1960s retail design. It is credit to the designers, builders and engineers it has been listed so soon. The listing will give it a degree of protection that will allow designers to look at regeneration proposals that make best use of this unique and beautiful structure."

Huddersfield Gem co-founder and architect Adrian Evans

