

London Aquatics Centre

Zaha Hadid Architects

A visit to the Olympic Park's swimming pool is about as real as it gets in Stratford, home of the branded townscape, writes **Rory Olcayto**

You're not meant to call it a swimming pool. You're meant to call it the Aquatics Centre. Its architect doesn't bother with either of these terms: Zaha Hadid calls it her 'sea-life creature'. Boo-boys and girls call it a 'shocking waste of public money'. But they probably haven't had a swim there yet.

Maybe they have a point: it cost more than £240 million to build Zaha's Olympic pool. That's more than triple the original estimate, pegged in 2005. Why are we so rubbish at predicting costs? Why do we always get it so wrong? The Scottish Parliament. NHS patient record systems. Your wedding. That holiday. Your phone bill ... Still, it only costs four and a half quid for a swim: that's less than the price of a pint of lager. ▶

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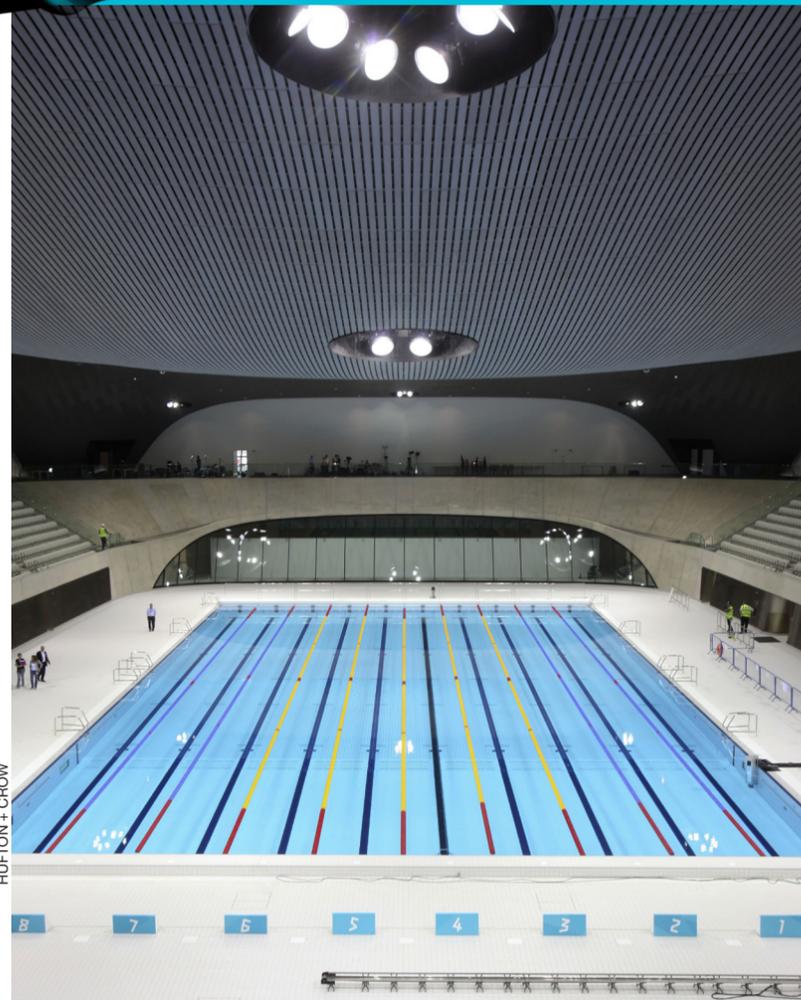


PHOTO BY JAMES NEWTON

If you take a dip, you're in for a big surprise. The Aquatics Centre is our building, your building, London's local swimming pool. One of the best new public spaces anywhere in the just-about-still-United Kingdom.

If you book the 8.30pm slot on a Sunday night, until 10 o'clock you can butterfly, breaststroke, backstroke or crawl up and down the 50m lanes. It's quiet time. You might even have a lane – there are 10 – all to yourself. Backstroke. It has to be backstroke. That roof – that ceiling – is a marvel to behold. Goggles on or off, it will blow your bobbing mind.

How do you get there? Take the Underground to Stratford, London's fertile new town. Stratford is an experiment: a wild urban garden sprouting property section 'luxury towers' ('first phase sold out!'), Costadel-student housing blocks ('all inclusive bills, wi-fi and 24-hour security') and Westfield.

Make sure to walk through it on your way. Westfield is 'Earth Style' – that emerging, generic shopping-leisure aesthetic that makes London look like Singapore, and Istanbul like Moscow. Forget Modernism, Postmodernism, Deconstruction, Brutalism, Gothic and Romanesque. Earth Style rules them all.

Westfield intoxicates with pseudo-authenticity. Restaurants strive to be 'real'. The Real Greek promises 'an extraordinary Mediterranean dining experience'. Wahaca offers 'Mexican market eating'. Yet both are chains, housed in aluminium-clad ground floor units fitted with brise-soleils, and closely resembling office space.

As pedestrian Westfield frays, the Olympic Park begins. You'll cross a road and enter another car-less zone: a bound gravel promenade – expansive, lit with LEDs, lined with stripling trees. It is another new kind

of London, another kind of Earth Style. Is it authentic? Unique to here? It does feel English, in a monstrous summer fete, village green kind of way. The Olympic stadium, straight ahead, a big top; the red steel knotweed Orbit tower alongside it, a freakish, corporate maypole; and just a few steps away now, Zaha's 'friendly alien'*.

It glows. The glazing facing Westfield is like a huge open eye (long grasses at the threshold, like eyelashes). That world-famous roof dips down and hovers over the gravel. It feels like a porch. This should be the entrance. It's not. The sloping glass that rises from the ground to meet the Stetson soffit does indeed have a door, but it opens onto a room overlooking the pool, a leftover, an extravagant example of Koolhaas 'Junkspace'. Its future lies in venue hire.

Instead, walk on, until you come to the steps. They lead down to a reception, and the pool itself. Beneath your feet: tiles. Above your head: concrete, then timber, with impossible sea-creature curves. Around you: space. Lots of space. Too much space? It feels ... retro. Like Saarinen's terminal for TWA, or its parametric cousin. But forget all that. Forget architecture. Forget Earth Style. Forget too, the Stirling Prize. Just float on your back and look at that roof. It weighs more than 3,000 tonnes. ■



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* Friendly alien is the name given to the Graz Kunsthaus, a parametric-style glass blob, by its designers Peter Cook and Colin Fournier

'Backstroke. It has to be backstroke. That roof – that ceiling – is a marvel to behold. Goggles on or off, it will blow your bobbing mind'

Project Q+A

Jim Heverin

Project director, Zaha Hadid Architects

What was your initial concept?

To create an experience of swimming in natural light close to nature. We proposed a large roof, undulated to differentiate the three pools – for diving, competition and training. Ancillary facilities such as a gym and changing facilities were housed in a podium upon which the roof rested. The 15,000 temporary seats for the Olympics would be covered by the permanent roof. Once that seating was removed, the pools would be enclosed with glass facades so that the experience focused on our original concept of swimming close to nature.

Did the executed project differ from this initial concept?

The permanent roof and footprint were reduced and combined with a bridge, with the training pool underneath. The roof was reduced to cover only two of the three pools. The temporary seats were covered by a temporary roof, reducing the permanent roof. This meant that in Olympic mode the venue's external expression was dominated by the two temporary seating stands, with the permanent roof only visible from inside. These stands are now gone and the roof is fully visible.

What was the client's input?

The London Development Agency's brief in 2004 promoted the need to design for long-term legacy, converting the facility for

the Olympics on a temporary basis. The Olympic Delivery Authority redefined the site available, so that facility became more compact and efficient.

What was the most challenging aspect of the project – and why?

Putting the training pool under a bridge because it would have no direct daylight. To avoid it being a dark tunnel-like space, we introduced glazed screens to borrow daylight from the main competition pool hall, and we used the void formers in the concrete bridge structure to create a diffuse light source for the space and conceal acoustic absorption for the space.

What is the most important lesson you have taken from this project?

That the fundamental things we want and love about buildings cannot be easily measured by

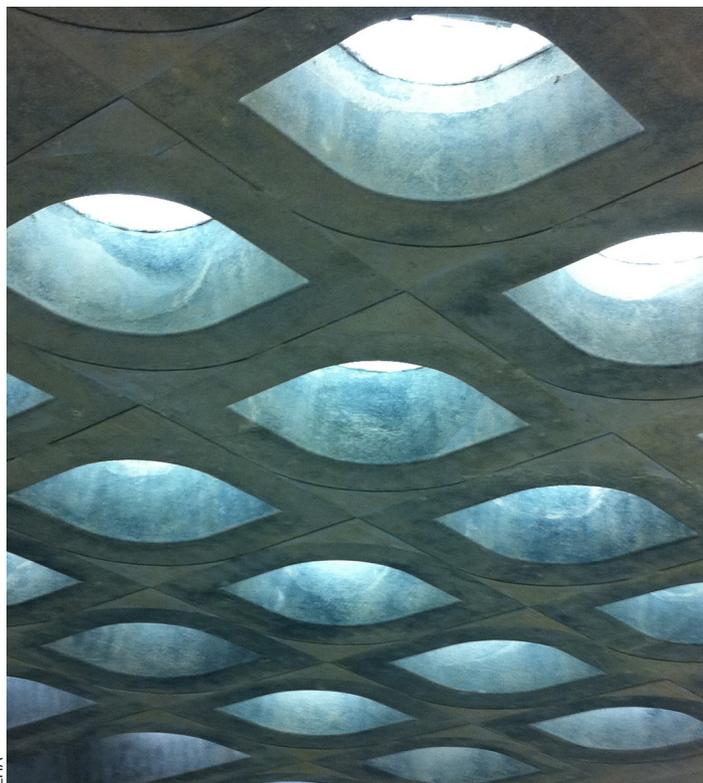
metrics or determined by process maths. It is the intangible qualities such as the quality of the space and the built materiality that make the difference in the end.

Where does this building sit within the evolution of the practice?

It was our first sports project and the experience allowed us to bid for stadiums. We have since had two stadium commissions: the Al Wakrah stadium in Qatar; and the national stadium of Japan.

How do you think the building has adapted to its post-Games use?

It's only when you see it in operation that you appreciate the legacy of the Olympics – its generosity of space. And the public is responding to it as a place of memories of the Olympics but also a very generous and accessible facility.



ZHA



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Project data

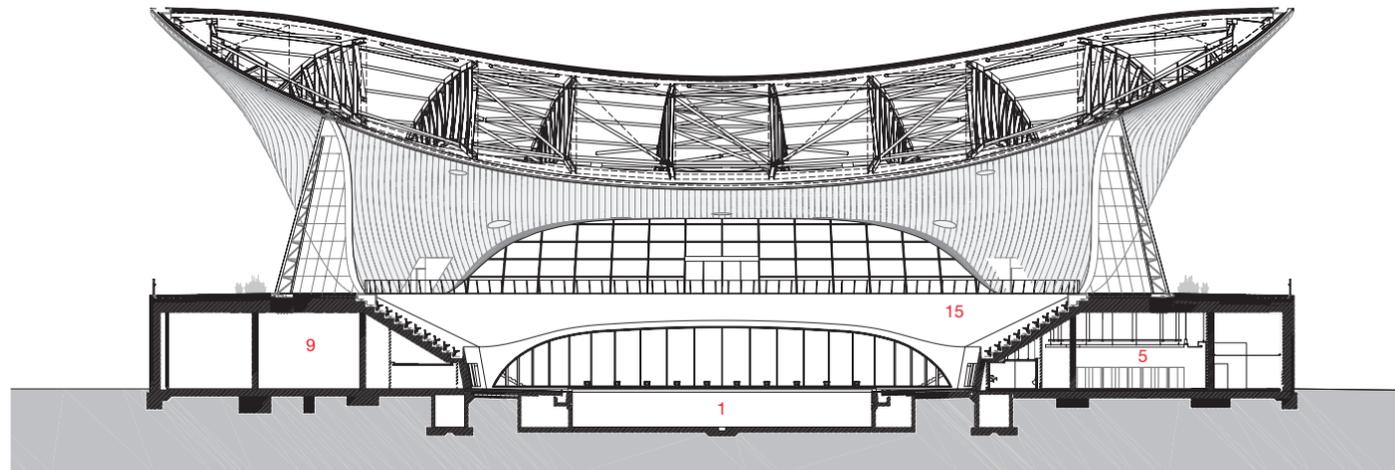
Start on site June 2008 **Completion** February 2014 (legacy mode) **Floor area** 20,264m² **Cost** £269 million (includes Stratford City Bridge, legacy facilities and all transformation costs) **Client** Olympic Delivery Authority **Architect** Zaha Hadid Architects **Main contractor** Balfour Beatty **Structural engineer** Arup **Services consultant** Arup **Quantity surveyor** CLM **Project manager** CLM **Annual CO₂ emissions** 53.6 kg/m² **Facade engineer** Robert-Jan Van Santen Associates **Access consultant** Access = Design **CDM co-ordinator** Total CDM Solutions

Materials

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|--|--|--|--|---|---|
| <p>1. Roof timber cladding – red louro timber boards in grey stain finish</p> <p>2. Glazed facade – Tvitec insulated glass panel with anti-glare dot</p> | <p>3. Floor, wall and pool tank tiles – KlinkerSire ceramic tiles of varying colours and textures</p> <p>4. Dive warm-up pool – Rosa Gres 25mm</p> | <p>pattern fritting</p> <p>5. Concrete wall – Morrisroe in situ fair-faced concrete</p> <p>6. Louvre – Levolux aluminium louvre with anodised finish</p> | <p>7. Balustrade and handrail – McGrath bright polished stainless steel</p> <p>8. Floor grille – Kampmann Optiline linear bar grille in anodised</p> | <p>aluminium</p> <p>9. Diving platform – Mat Tiflex Treadmaster anti-slip diving board floor mat</p> <p>10. Changing village ceiling – SAS extruded aluminium</p> | <p>tubeline ceiling</p> <p>11. Changing village locker – Prospec Marathon locker in yellow laminate finish</p> <p>12. Locker key strap – Prospec flexible PVC</p> |
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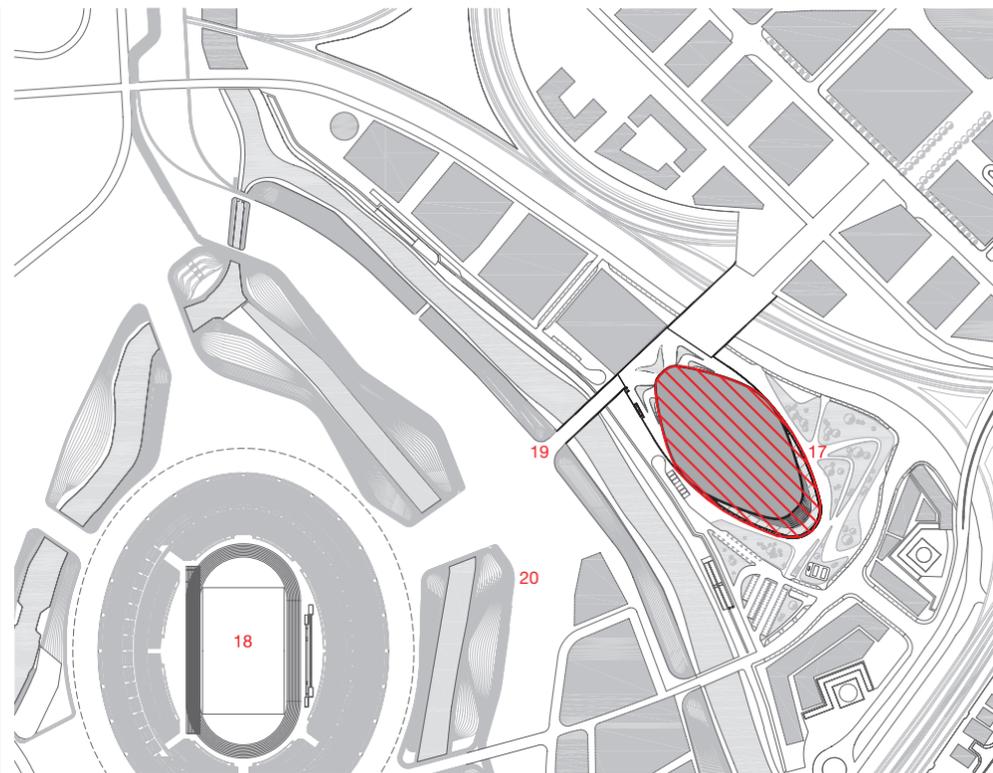
Drawings



Section A-A



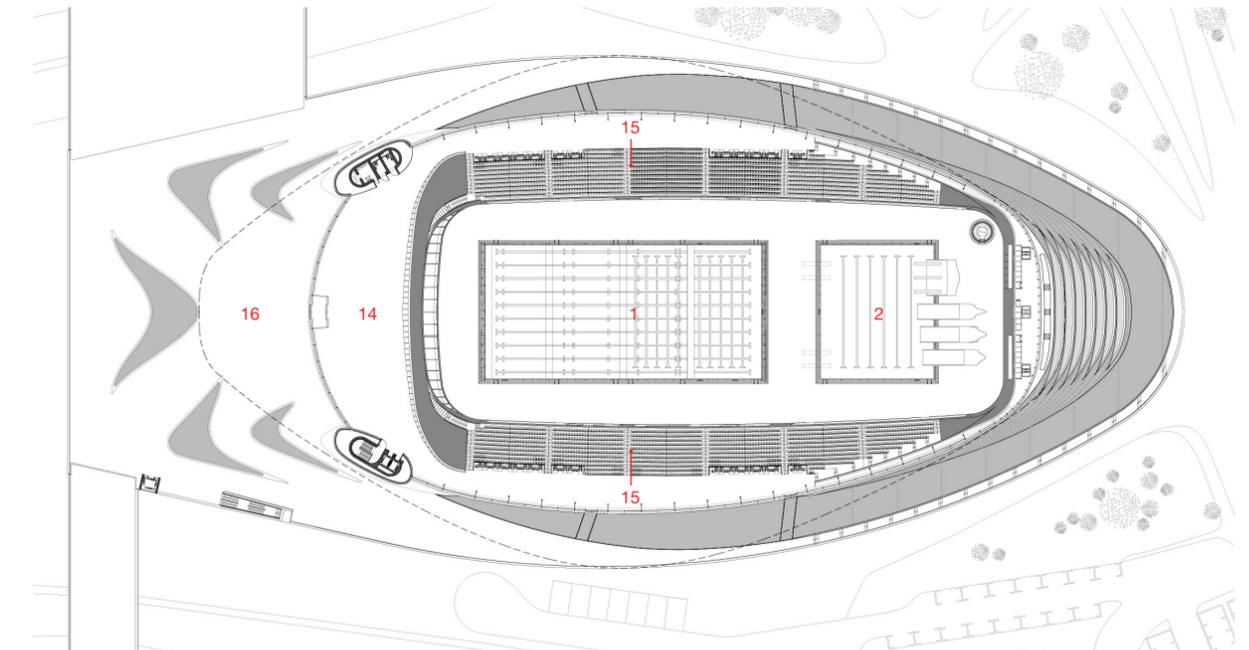
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|--------------------------------------|---------------------------|
| 1. Main competition pool | 10. Swim tech area |
| 2. Diving pool | 11. Timing control |
| 3. Training pool | 12. Plant room |
| 4. Entrance foyer and reception | 13. Chiller plant room |
| 5. Competition side changing village | 14. Upper welcome zone |
| 6. Pre-swim showers | 15. Spectator seating |
| 7. Training side changing village | 16. Plaza bridge |
| 8. Crèche | 17. Aquatics Centre |
| 9. Café kitchen | 18. Olympic Stadium |
| | 19. Stratford City Bridge |
| | 20. ArcelorMittal Orbit |



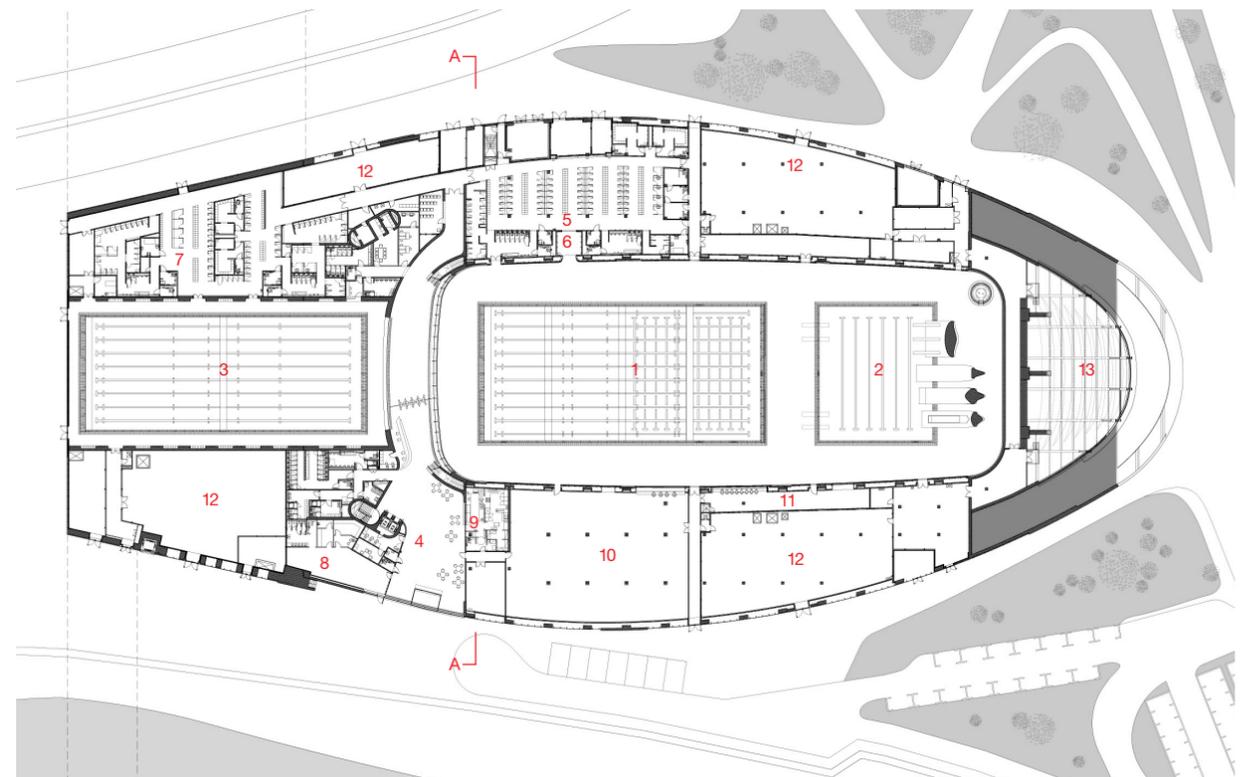
Site plan



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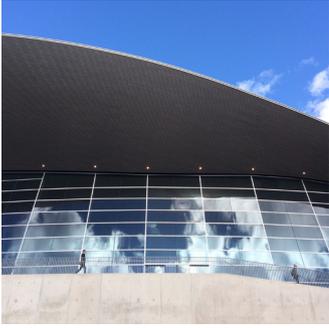
First floor plan



Ground floor plan



Detail



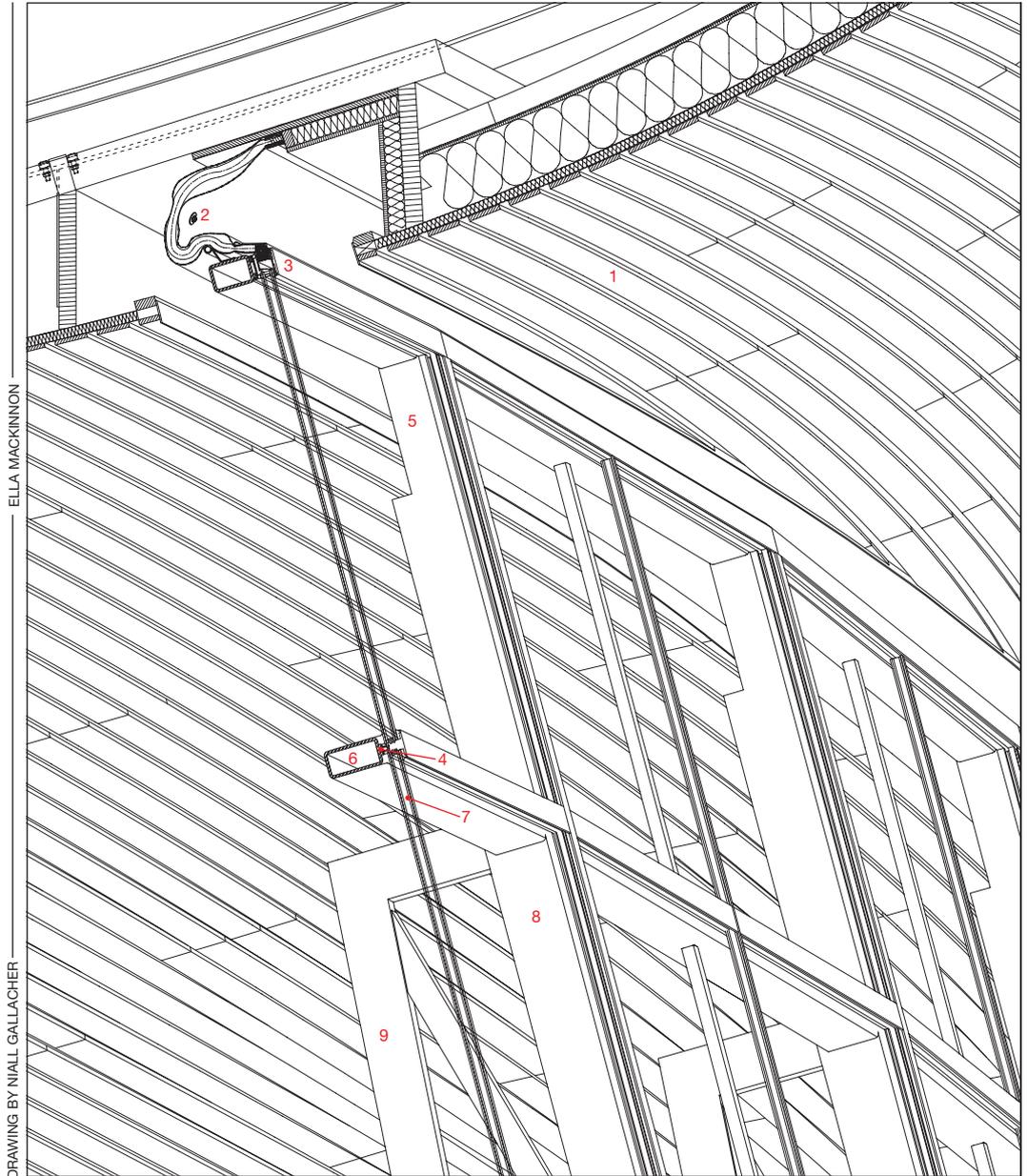
Glass facade head

The glass facade head detail has had a few design iterations but in concept it remains unaltered and encapsulates the phasing of the venue.

The glass facade was installed after the Olympics, but the recess was built in the first phase. Part of the post-Olympic transformation was to install the glass facade, including its structural support and this head detail. The glass facade is fully supported from the floor with cantilevered columns.

The head detail has no structural connection between the facade and the roof, but is a thermal and airtight connection of the building envelope. It is also a movement connection, which needs to handle the large lateral and vertical movement of the roof, which spans over 115m without support and moves a lot more than a normal building. For this reason the head detail was called a '3D' joint from the beginning, although in the end the actual installed joint looks more like a quilted blanket.

Jim Heverin, project director, Zaha Hadid Architects



ELLA MACKINNON

DRAWING BY NIALL GALLACHER



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| <ol style="list-style-type: none"> 1. Preweathered FSC-certified red louro rainscreen cladding plus soffit lining 2. Shearable waterproof insulated rubber membrane 3. Anodised aluminium pressure plate 4. Thermal break foam joint 5. Full steel section | <ol style="list-style-type: none"> 6. Bespoke galvanised steel transom 7. Insulated rectangular glass pane with anti-glare fritted pattern 8. Galvanised steel mullion 9. Cantilevered support truss |
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