QUAY QUARTER TOWER

SYDNEY'S ENGAGING, INNOVATIVE HIGH-RISE

QUAY QUARTER SYDNEY IS A MAJOR REDEVELOPMENT OF TWO COMPLETE CITY BLOCKS IN THE HEART OF THE SYDNEY CBD. WITH OVER 150,000M² OF FLOORSPACE, IT INCLUDES THE REGENERATION AND ADAPTIVE RE-USE OF THE 1970S 50 BRIDGE STREET TOWER, MORE THAN DOUBLE THE SIZE OF THE EXISTING BUILDING. THE DEVELOPMENT ALSO INCLUDES A RANGE OF NEW RESIDENTIAL BUILDINGS AND A RETAIL NEIGHBOURHOOD, AS WELL AS REVITALISATION OF HERITAGE BUILDINGS. THE QUAY QUARTER TOWER IS THE CENTREPIECE OF THE DEVELOPMENT.

Quay Quarter Tower is bordered by Young, Phillip, Bridge and Alfred Streets in the heart of Sydney's central business district. The most significant building within the precinct will be a 200m tall, 49-storey office tower for AMP Capital at 50 Bridge Street: Quay Quarter Tower (QQT). Designed by Danish practise 3XN, along with BVN and Arup, 3XN was named the winner of an international design competition in September 2014.

An innovation in high-rise towers, 50 Bridge has been designed as a unique and attractive addition to the Sydney skyline. Offering over 90,000m² square metres of premium-grade office space, the tower will set new benchmarks in office design.

FIVE STACKED AND ROTATED VOLUMES

Once complete, QQT won't feel like a high-rise at all, but a vertical village that catalyses life and community feeling. The design looks at the 'high-rise' in an entirely new way, every architectural solution aiming at creating added value for people—both the users inside the building, and the people outside and around it.

Instead of one large volume or 49 separate floors, the design of QQT envisions five volumes stacked upon each other, each connected by a large atrium. Rather than face directly into the tower at 33 Alfred Street, the lower levels of the tower are angled westward to capture the energy and movement from the Loftus and Yonge neighbourhood, looking up and over the Custom House. As the building rises, the northern façade shifts to the east. The result is a rotating building with a minimal perceived mass, enhanced views over the Opera House and Harbour, and a greater real estate value for the lower floors through maximising the potential of the views.

Rotating the tower also creates a collection of exterior terraces that are directly linked to the multi-level interior atria, which will contain shared amenity spaces for tenants in each block. These common amenity spaces provide stunning views both vertically and horizontally and bring daylight deep into work spaces while promoting collaboration and interaction. As an additional benefit the rotated volumes help self-shade the northern façade from harsh afternoon sun, creating a passive sustainability feature.

EACH VOLUME IS A VILLAGE

By dividing the building into five separate volumes, architects 3XN have managed to achieve the best of both worlds: an optimal balance between 49 individual floors and one large open atrium—a balance that offers the best of both intimacy and connectivity. Each volume and its atrium have been appropriately sized for a more intimate feel, breaking down the massing of the entire tower into vertical communities.

The visual transparency of the open atrium spaces allows for easy visual access to the surrounding areas, departments and colleagues, thus, positively affecting the levels of knowledge sharing and social interactions within each part of the building. In addition, the visual contact makes each part of the building easily legible. It becomes a spatial reference point that allows the users to always know where they are, a reference point that affords a view of the spatial layout

making way-finding and discovery of different areas within the building easier.

INTEGRATED DESIGN

The building is divided into a high-rise and a podium. The podium holds public and semi-public functions such as green gardens, restaurants and retail. Spatially and programmatically, the podium is arranged quite simply around a large voluminous atrium. All points of entry have at least a double height space that extends into the large, Market Hall and Food Court atrium at which it then visually extends into the first commercial block's atrium space above.

The podium has multiple points of entry from Bridge Street and Phillip Street. Its permeability as well as its retail offerings encourage pedestrian flow through the building and animates the public domain. This connection results in a vibrant, active space, which extends beyond the daily work cycle with retail, food and beverage offerings that become part of the city movement network. Its design will encourage after work socializing; thus, promoting the area as a destination and enhancing the street life and retail value in the precinct.

SUSTAINABILITY: UPCYCLING EXISTING CORE

QQT will feature the latest in commercial office technology and is targeting 6-star Green Star and 5.5 Star NABERS ratings. The design incorporates approximately two thirds of the structure of the existing 188m tall building located on the site.

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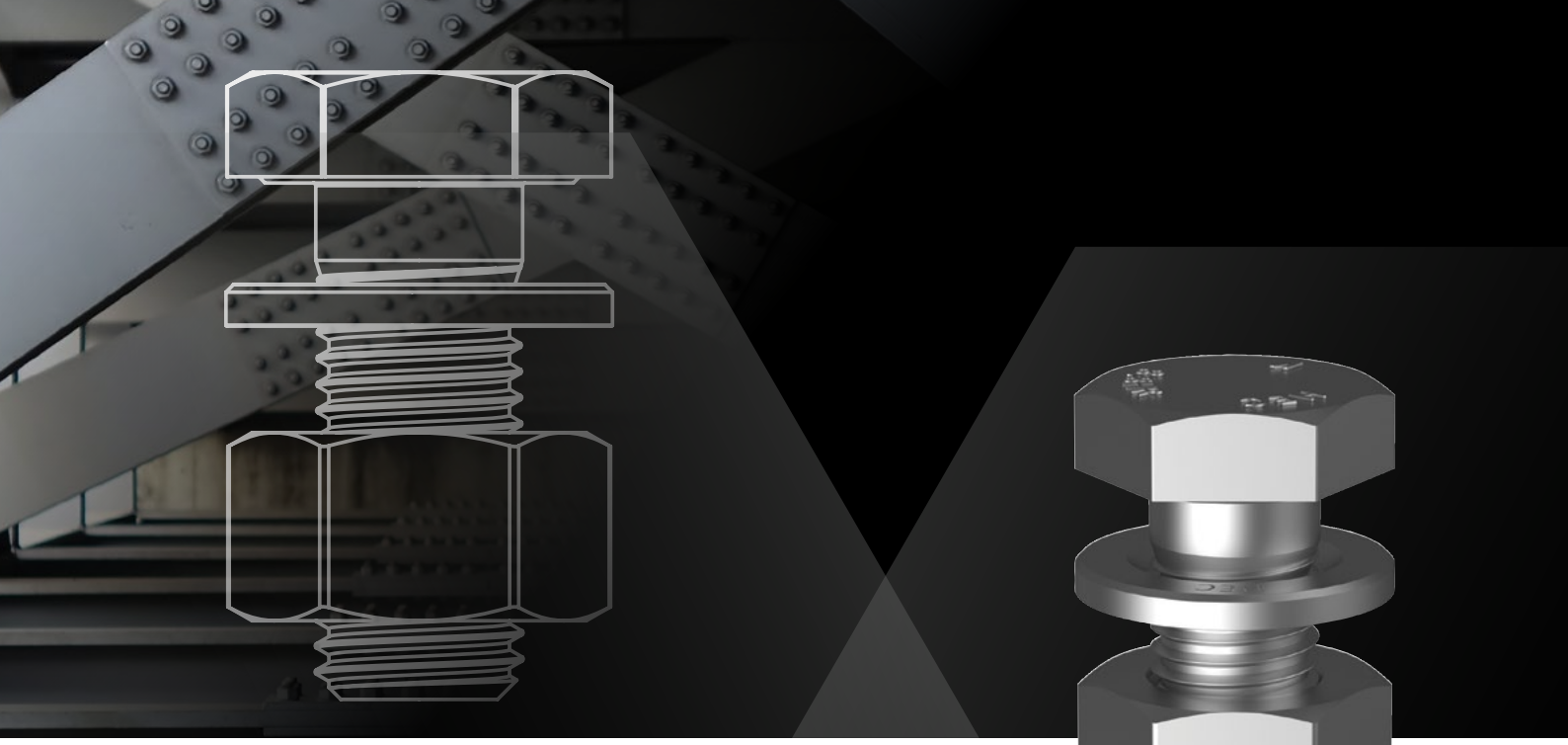
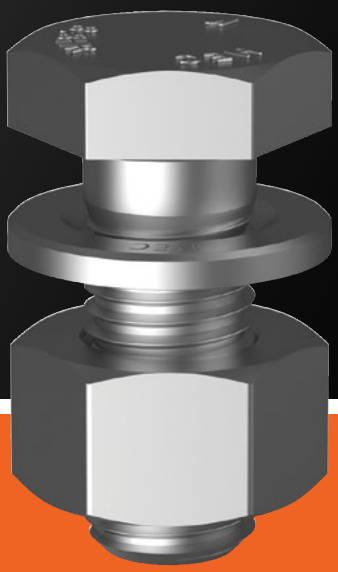
Above
QQT is divided into a high-rise and a podium. The podium holds green gardens that are accessible to the public.

Below
3XN, with local partners BVN and Arup, is designing the 200m high, 49-storey tall QQT, which is located close to the Sydney Opera House.

Below (Left)
The Quay Quarter precinct, as masterplanned by 3XN.





Structural Assemblies

K2 Class 10.9

Sizes

M16 - M36

Manufacturer's mark

Unique Trace Code for link to test certification

Property Class as per ISO 898-1 and HR

HOT DIP GALVANISED / EN 14399-3:2005

- Premium Range – Class 10.9
- Unique batch head marking
- Tolerances tightly controlled during manufacture. Refer details on the label for k factor and torque method
- Torque values able to be used for tensioning
- Full Quality Assurance documentation online

10.9 K2

2006181

ISO 9001 BUREAU VERITAS Certification
Nº.9000117

NATA
ACCREDITED FOR TECHNICAL COMPETENCE
Nº.18918

Member of AUSTRALIAN STEEL INSTITUTE

CONTACT US: hobson.com.au | engineering@hobson.com.au

Bolt Tension | Anti-Vibration | Corrosion Resistance | Product Reliability | Traceability

HOBSON ENGINEERING

QUALITY FASTENERS SINCE 1935

The AMP Centre located at 50 Bridge Street which dates to 1976, was in need of a significant upgrade to meet modern market demands. In an act of radical sustainability, QQT will incorporate the majority of the existing structure, adding four new elevator shafts to the core. By reusing significant portions of the original structure, the overall carbon footprint of the building's construction is being significantly reduced as compared to a complete rebuild scheme. In addition, while many new premium-grade office towers are now costing well in excess of a US$1 billion to construct, QQT is expected to cost much less than that – at approximately US$700 million.

STEEL BOLTING

ASI member, Hobson Engineering, has played a small but crucial role in QQT, supplying the bolting that holds the structure together.

Established in 1935, Hobson Engineering is one of Australia's leading distributors of hex bolts and nuts, screws, allthread, stainless fasteners and hardware to the commercial, construction, mining, manufacturing and petrochemical industries. Hobson carries out the most comprehensive independent fastener testing program in Australia. All structural bolting assemblies are batch tested by an independent ILAC (International Laboratory Accreditation Cooperation) laboratory that is certified for the testing of fasteners.

According to Graham Bush (Senior Executive, Hobson Engineering), "Hobson Engineering, an Australian, family-owned company, is extremely proud to supply structural bolting to the Quay Quarter Tower, another iconic building in Sydney's central business district."

"Hobson Engineering is heavily invested in leading the industry to supply quality structural bolting that meets the latest Australian Standards. The Hobson K0 class 8.8 bolting supplied to QQT project meets the latest Australian Standard AS 1252:2016 *High-strength steel fastener assemblies for structural engineering - Bolts, nuts and washers technical requirements*."

"The introduction of this Standard significantly raised the quality bar over the previous 1983-1996 iteration of the Standard. The addition in the 2016 Standard of mandatory assembly testing is designed to test the quality aspects of the structural assembly to provide a statistical indication that the batch is fit for purpose. That being said, it has taken many years for the industry to catch up. Our belief is some product sold in the Australian market will not consistently pass mandatory assembly testing."

"Hobson's structural assemblies are manufactured in CE certified factories and verification testing must be completed in an ILAC accredited laboratory certified for the assembly test. Hobson K0 class 8.8 structural assemblies are supplied to meet the AS 1252:2016 standard requirements with Part 1 and Part 2 (Independent Verification testing) with the addition of a unique trace code on every bolt assembly, to ensure full traceability once the product leaves the box. We are fortunate to have a forward thinking CEO who understands the market, keeping up with all planned developments and willing to invest in holding large stocks to complete these projects."

"Although this seems pretty insignificant, bolting seems to be the last consideration in most instances—the expectation is that it is an off-the-shelf product. Without the forward thinking and planning of Hobson, I believe many projects would struggle with supply causing delays. Fasteners are a very small part of any project, but no project can proceed without them," said Bush.

Once complete in 2022, QQT will reshape Sydney's skyline and stand as a powerful demonstration of how to transform two city blocks to develop greener, more connected city neighbourhoods.

PROJECT TEAM

CLIENT: AMP Capital

ARCHITECT: 3XN, BVN and Aspect Studios

HERITAGE AND PLANNING: Urbis

BUILDER: Multiplex

STRUCTURAL AND CIVIL ENGINEER: Arup

STEEL SUBCONTRACTOR: Samaras Group