

Gold Coast stadium dominates design stakes



Metricon Stadium, Carrara

A boutique stadium construction has topped half of the categories in the latest Steel Design Awards for Queensland it was revealed on 3 August at the Brisbane Convention and Exhibition Centre.

The new home of the Gold Coast Suns AFL team won in the Buildings – Large Projects and Engineering – Infrastructure, Resources and Mining categories for its use of lightweight steelwork supporting a membrane canopy and efficient incorporation of standard sized steel sections.

The judges were particularly impressed by the project's scale model wind tunnel testing of the steel roof structure, expert roof membrane design input, and impact assessment of faceted solar arrays to confirm structural soundness.

The structure also takes advantage of the design flexibility enabled with steelwork via bolted connections to allow the structure to readily adapt for hosting higher profile international events as the need arises.

A strikingly angled 4WD retail and showroom building with a 'folded' façade that grabs attention on a busy motor trader strip in Townsville topped the Buildings – Small Projects category. The building's distinctive angular profile was also designed with the region's cyclone-prone climate in mind.

The wholesale embrace of weathering steel as a cladding material to suit a naturalistic setting attracted the win in the Steel Clad Structures category for the Fitzgibbon Community Centre in Brisbane.

Awards convenor, ASI State Manager – QLD, **John Gardner** said the winning projects embodied the design flexibility, environmentally sustainable responsibility and structural integrity achievable with modern steelwork.

Buildings – Large Projects

Metricon Stadium, (Winner)

River Quay, South Bank (Highly Commended)

Buildings – Small Projects

Opposite Lock 4WD Retail and Showroom (Winner)

Steel Clad Structures

Fitzgibbon Community Centre (Winner)

Engineering Projects

Metricon Stadium (Winner)

Undergraduate Engineering Student Awards

Patrick Fletcher (The University of Queensland)

Mitchell Lees (Central Queensland University)

Mitchell Mulvey (Griffith University)

Jarryd Londino (James Cook University)

Scott Smith (University of Southern Queensland)

Dylan Williams (Queensland University of Technology)

Judging Panel

Tim Ekert (Austin Engineering)

Kerry Lindemann (BDS Vircon)

Steve Penman (Apex Building Products)

Brian Steendyk (Steendyk)

John Van De Hoef (NJA Consulting)

Metricon Stadium, Carrara



Buildings – Large Projects

Metricon Stadium, Carrara (Winner)

This 25,000-seat facility is new home for the Gold Coast Suns AFL team and the proposed main stadium for the 2018 Commonwealth Games. The project team met a reasonably tight budget and fast tracked construction program with a precast and steel stadia incorporating a lightweight curved form membrane roof supported via curved CHS members, in turn supported via simple planar CHS trusses on a large 12-14m grid, the structure achieving benchmark steel weights for a roof of this kind of around 40kg/sqm. The stadium bowl and Western Grandstand are entirely steel framed from top of pile cap to tip of roof for constructability and to speed erection. Standard UB, WB, UC, WC and CHS sizes were used throughout for swifter fabrication and site delivery.

PROJECT TEAM

Architect: Populous

Structural Engineer: Arup

Head Building Contractor: Watpac

Steel Fabricator: Beenleigh Steel Fabrications

Steel Detailer: TD Drafting Services

Steel Processing: BSF Metal Centre

Profile Cutting: Pipe Profiling Services

Hot Induction Bending (CHS): Inductabend

Coatings Contractor: Tranzblast Coating Services

Coatings Suppliers: International Protective Coatings, Industrial Galvanizers

Steel Distributors: BlueScope Distribution, OneSteel

ASI Steel Manufacturers: BlueScope Steel, OneSteel



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