



**BLIGH
TANNER**

Over 28 years
of Award Winning
Design + Innovation



CARRARA SPORTS
AND LEISURE CENTRE

A distinct advantage of
Bligh Tanner is its team
of highly experienced and
dedicated senior level staff.

Bligh Tanner is a structural, façade, civil, environmental and water engineering consultancy distinguished by its high level of expertise, personalised service and reputation for delivering innovation on all projects.

Over the past 28 years the firm has been responsible for some of Queensland's most innovative and complex engineering projects, from multimillion dollar special structures, to world-leading integrated water management systems.

Bligh Tanner is known for its thorough and collaborative approach to all projects, ensuring high quality and high value outcomes for clients.

With a commitment to integrating contemporary design with the surrounding built and natural environments, Bligh Tanner has a strong focus on environmentally sustainable design that provides impetus to innovation on all projects.

A specialist team of highly experienced and dedicated engineers.



The benefit of working with Bligh Tanner is the attention you receive from the firm's senior people. Their attitude, responsiveness and rigour of documentation distinguishes them.

MARK ROEHRS
PRINCIPAL — HASSELL





+ Services

5

We deliver engineering and consultancy services on a range of complex, cutting-edge projects across five key disciplines.

- + Building Structures
- + Land and Infrastructure Development
- + Water and Environment
- + Special Structures
- + Façade Engineering

Bligh Tanner also has extensive experience in advisory roles for an array of clients, from small-scale institutions to large-scale internationally funded developments. Our firm is able to offer highly informed assessments of projects to ascertain what is practically achievable.

We have a deep understanding of the various design and environmental approvals and guidelines, costs, delivery times and other issues associated with a broad range of project types and can therefore assist in identifying and mitigating potential risks.

Innovation with technical excellence

AWARD-WINNING

Global Change Institute, University of Queensland
World-first use of modern structural geopolymer concrete
Winner Urban Design Category, BPN Sustainability Awards, 2014
Winner Public Building Category, BPN Sustainability Awards, 2014
Winner Large Projects Category, Australian Steel Institute (Queensland) Steel Excellence Awards, 2014
Winner Best of the Best & Innovation of the Year, BPN Sustainability Awards, 2013

Bligh Tanner has built an enviable reputation in structural engineering. Our designs are progressive, robust, efficient and sustainable. We have developed successful, longstanding relationships with a number of leading architects and are considered a vital part of the project team.

Our structural work covers many and varied fields including:

- + Health & education
- + Institutional & community buildings
- + Transportation structures & facilities
- + Multi-residential & architectural housing
- + Industrial & commercial buildings
- + Heritage, conservation & forensic engineering
- + Façade Engineering



Bligh Tanner's structural design processes ensured project cost and operational requirements were achieved while maintaining the architect's aesthetic parameters for the building's structural elements.

DON HEWITT
DIRECTOR MAJOR PROJECTS & PROPERTY—QLD GOVERNMENT



Australian Catholic University Mercy Building

Bligh Tanner's civil engineering expertise supports major urban infrastructure, essential to the economic development of our communities. This work includes engineering for major road and rail projects, development of port facilities, and building projects for schools, hospitals and commercial developments.

We are committed to sustainable land development, integrating essential engineering infrastructure with the urban and natural environments. Our approach involves working with the landscape, rather than against it. Combining experience in town planning, environmental and civil engineering, we provide a service that balances the myriad of urban living, planning and development challenges.

Our skill set covers all aspects of civil engineering, planning and design for community infrastructure, covering transport, building construction and land development for public and private clients.

We have extensive experience in:

- + Development feasibility and approvals
- + Renewable Energy Developments
- + Civil engineering for road, rail and ports
- + Temporary roadworks design for major projects
- + Roads, carparks and services
- + Bulk earthworks
- + Erosion and sediment control (ESC)
- + Water sensitive urban design (WSUD)
- + Flood, drainage and overland flow assessments



Darlington Point Solar Farm



Moreton Bay Rail Link

Working with the landscape

KEN FLETCHER PARK

Setting international benchmarks in environment + water

AWARD-WINNING

Big Plans for Small Creek

A deep level of community engagement was sought that would sow the seeds for long-term community ownership — a critical element of successful waterway revegetation projects. Design Your Creek Week was the centrepiece of the community consultation. Held in November 2016, it was a hands-on co design process where the design team immersed itself in the site for five days and worked with over 180 participants to develop Big Plans for Small Creek.

Winner AILA National Landscape Award, 2017

Winner AILA Queensland Landscape Award, 2017

Winner Stormwater Queensland Award, Excellence in Strategic or MasterPlanning, 2017

Finalist River Basin Management Society Award, Involving Community in Waterway Management

Protecting public health and our environment is the driving force for our water and environment team. Clean and safe water is a key component of protecting public health; our team has extensive experience with drinking and recycled water stormwater, open space planning and water sensitive urban design and can provide expert advice to our clients and resolve technical challenges from catchment to tap.

We have specialists who critically review management systems and identify practical and measured improvements. Our team has national certification to undertake audits of these systems to measure the level of implementation.

Bligh Tanner regularly advises Councils and government authorities on water management challenges and opportunities.

Our team has experience with:

- + Policy and guideline development
- + Integrated water cycle management
- + Water sensitive urban design that balances development and sustainability issues
- + Natural channel design, flood, drainage and overland flow assessments
- + Management plans and systems (drinking water, recycled Water, healthcare facilities, HACCP, Laboratory, ISO 22000)
- + Technical advice and peer reviews (water quality, contamination events, water treatment plant performance, guideline development, product validation, intelligent water networks)
- + Auditing (regulatory, non-regulatory)
- + Roof water and stormwater harvesting
- + Climate change adaptation and mitigation strategies
- + National parks and open space planning
- + Water efficiency investigations
- + Facilitation, training and capacity building



I'd just like to extend a huge and heartfelt thank you for your exceptional effort in getting Small Creek to this point over the last year. Thanks for having the courage to say "you know what Council? You can be better" in your original concept design bid. I think the outcome is far superior, and really has set a new bench mark for what qualifies as best practice.

BEN WALKER

WATERWAY IMPROVEMENT OFFICER—IPSWICH CITY COUNCIL

4 Special Structures

Bligh Tanner's capabilities and attention to detail extends to a wide range of highly specialised and unique applications.

These special structures demonstrate our firm's technical origins and an ability to work from first principles: to innovate and create customised systems; to test and finesse; and to develop solutions that are effective, efficient, safe and economical.

Our many and varied special structures include:

- + Pedestrian bridges
- + Public art & sculpture
- + Product development
- + Landscape & community infrastructure
- + Membrane & cable structures



We look forward to continuing our professional collaboration as we pursue advance manufacturing techniques, the use of innovative materials and introduce robotics into our global design and construction projects..

SAMUEL MAYZE
PROJECT DIRECTOR—UAP



Pod Web, Chadstone Shopping Centre, Victoria
Image credit: Roger D'Souza Photography and UAP

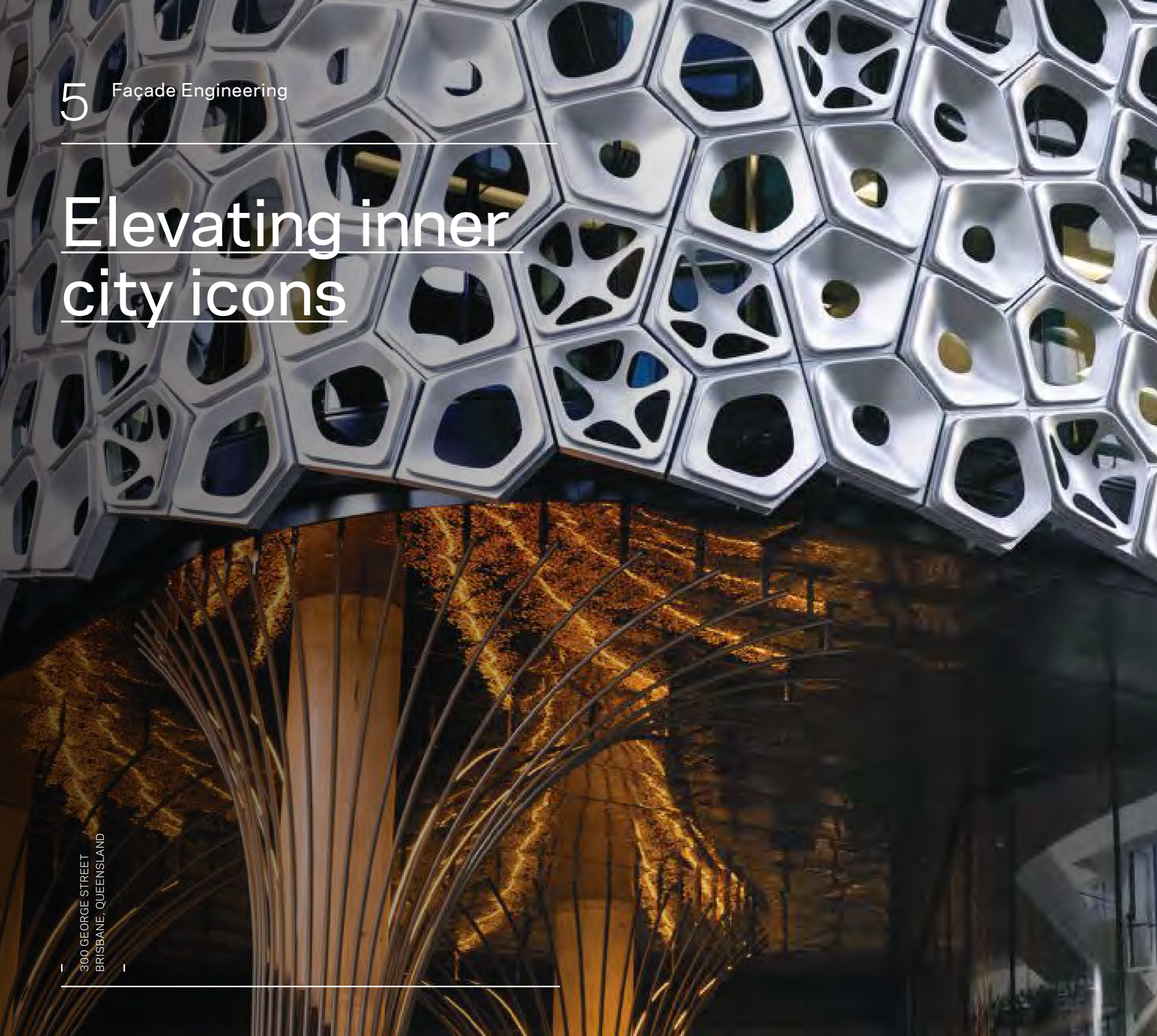


Effective,
efficient, safe
+ economical

CITIZENS GATEWAY
CAIRNS ESPLANADE

Elevating inner city icons

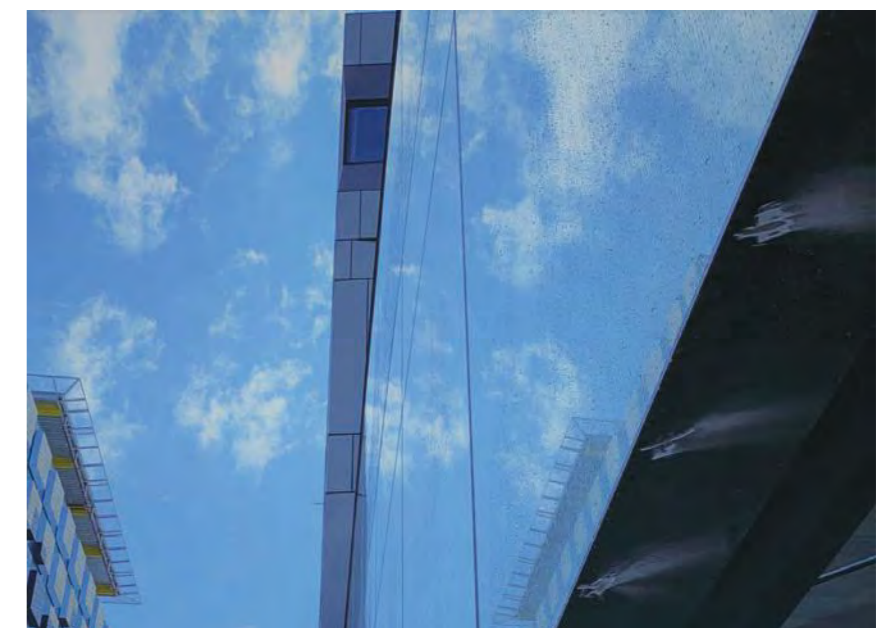
300 GEORGE STREET
BRISBANE, QUEENSLAND



Bligh Tanner has experience in delivering innovative structural solutions for a range of façade engineering work.

Bligh Tanner's façade engineering experience includes designs for:

- + High performance institutional and commercial buildings in combination with heritage stone restoration (such as the Global Change Institute)
- + Glass art installations
- + Cable structures
- + Testing and certification of new cladding products
- + High quality hotels;
- + Commercial office buildings in Brisbane CBD
- + University faculties
- + Refurbishment of existing façades that require upgrading to current standards.



University of Tasmania The Hedberg Performing Arts Centre

Bligh Tanner embraces + nurtures engineering technology through the use of original and emerging software.

Our staff have the experience, dedication and the resources to undertake a vast array of projects, applying our knowledge to create the best results.



+ Revit

Autodesk Revit Structures allows for structural components to be modelled in 3D and building information to be accessed from the model's database. Bligh Tanner's structural team has adopted a full Autodesk platform with Autodesk Revit at its core. The use of a Revit platform permits a high level of collaboration with the Principal Consultant's design team.

+ Strand 7

Strand7 is a general purpose Finite Element Analysis software package with a vast range of application throughout the engineering industry. The program allows you to construct models, run analyses and investigate results simultaneously using a unified interface. Bligh Tanner has been putting Strand7 to use as a powerful analysis tool for designing structures with complex geometries.

+ Quantum Geographic Information System (QGIS)

QGIS is a 'free-to-use' GIS platform for analysing and processing geospatial data. Bligh Tanner's water team utilises this program in numerous ways and our capabilities with the software are continually expanding. Bligh Tanner uses QGIS for strategic planning purposes, regional mapping analyses and producing high quality mapping and processing of flood modelling results.

+ Trimble Sketchup Pro

SketchUp is a 3D modelling computer program valuable for a wide range of drawing applications including civil engineering. Bligh Tanner has been using SketchUp to deliver civil engineering projects including roads, airports, large car parks, solar farms, drainage and complex services relocations, building structures, staging work and other infrastructure projects.

+ MCM/MCAP by BIRDAIR

MCM/MCAP by BIRDAIR is a large deflection finite element method stress analysis software package specialising in design development for tensile structures such as membranes or cable nets. The MCM platform is an interactive mesh, shape, and load creation program for membrane and cable net model pre-processing and manipulation and is used in conjunction with MCAP, the analysis platform, for structural shape generation and stresses.

+ Flood Modelling

The use of flood modelling software in engineering work is becoming increasingly commonplace, as advancements in computing power mean the everyday office computer has become capable of running complex 1D/2D hydraulic models in a more time-effective manner than previously possible. Bligh Tanner uses a range of tools including XP SWMM, TUFLOW, HEC-RAS, DRAINS and WBNM software packages on our projects to assess overland flow risks, evaluate flood impacts for a site, and to characterise velocities and flow behaviour on creek restoration projects.

Other software employed at Bligh Tanner

- + **Autocad** –Computer-aided design and drafting software
- + **Spacegass** –General purpose structural analysis and design program
- + **Structural Toolkit** –Structural calculation tool for design and documentation tasks
- + **RAPT** –Design and analysis tool for reinforced and post-tensioned concrete slab and beam systems
- + **RAM Concept** –Analysis and design program for elevated concrete floor systems, and mat foundations
- + **Limcon** –Analysis and design software for structural steel connections
- + **Strand 7** –Finite element analysis software used for complex structural design and analysis problems
- + **12D** –Civil engineering, terrain and services modelling software
- + **MEDLI** –Understanding and assessing effluent re-use schemes
- + **EPANET** –Water network modelling
- + **MUSIC** –Stormwater quality modelling
- + **Adobe Premier Pro** –Video editing and production software
- + **Adobe InDesign** –Page design and layout software
- + **Adobe Photoshop** –Image editing and design software
- + **Adobe Illustrator** –Vector graphics and illustration software

+ Achievements

Established in 1992

[Freefall Installation](#)

Bligh Tanner's winning Cochlear inspired design for the Engineers Australia Freefall Experience Design Ideas Competition is on track to be built at the National Arboretum Canberra by 2019. It is to commemorate 100 years of Engineers Australia and provide a platform for interaction between the public and the engineering community for the next 100 years.

[Timber technology](#)

Bligh Tanner is now using Cross Laminated Timber (CLT) and other timber technologies to build faster and smarter, adopting pre-fabrication methods to improve safety and quality, minimise trades on site and achieve savings for our clients.

[Best paper at AWA](#)

Michael Lawrence won best paper at the 2017 Australian Water Association North Queensland Regional Conference. Michael presented a paper on Health Based Targets, Risk Assessment and the Difficult Task of Communicating Future Options.

[Five awards at AILA QLD](#)

Bligh Tanner had five wins at the 2017 Australian Institute of Landscape Architects QLD Landscape Architecture Awards with the projects — Big Plans for Small Creek, Noosa North Shore Beach Campground, Gabba 2 Goodwill Bikeway, Roma St Parkland Playground and Children's Garden, Tully Memorial Park Flood Markers.

[Big Plans for Small Creek](#)

Turning 1.6km of concrete drain back into a healthy functioning creek has been a prized opportunity for Bligh Tanner to make a lasting difference to the City of Ipswich and contribute to the global movement towards healthier, greener cities.

[Carrara Sports & Leisure Centre completed](#)

The Carrara Sports and Leisure Centre was completed in 2017 and will host events for the 2018 Commonwealth Games. As structural engineers for the \$110M project, Bligh Tanner worked closely with the design team led by BVN architects and Hansen Yuncken to ensure the delivery of complex engineering for the world-class facility.



Bligh Tanner's projects and people have been widely awarded and published both domestically and internationally.

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- + Land and Infrastructure Development
- + Water and Environment
- + Special Structures
- + Façade Engineering

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