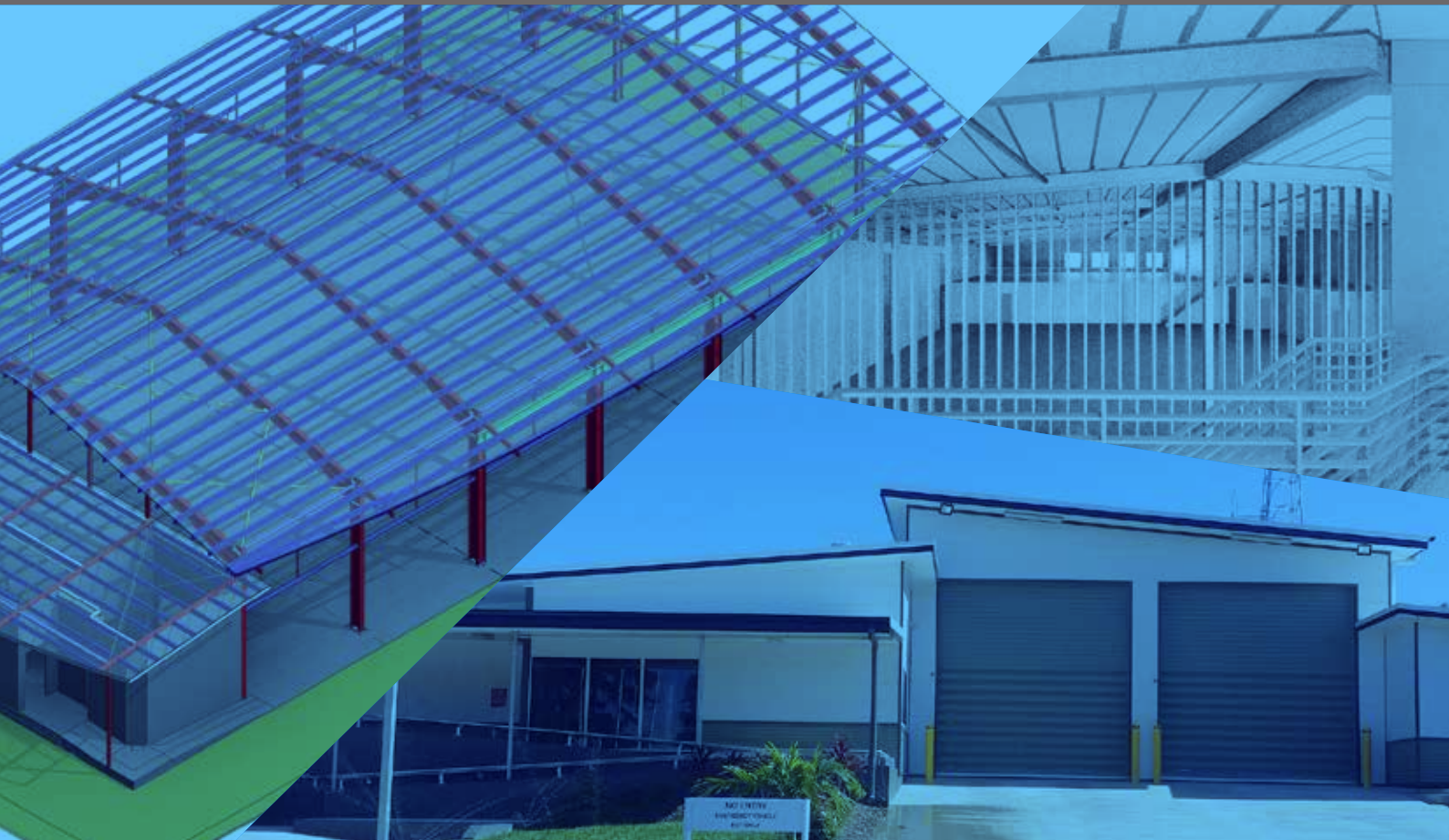




STRUCTURAL ENGINEERING

CAPABILITY STATEMENT



FIRM NAME

**FortisEM Consultant
Engineers & Managers**

ABN

12 764 681 783

YEAR ESTABLISHED

2013

MAIN CONTACT

Principal Engineer Bill Hutton RPEQ BEng
Civil (Hons 1st Class). MIEAust

PHONE

07 4740 4686

EMAIL

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WEBSITE

www.fortisem.com.au

POSTAL ADDRESS

PO Box 4, Townsville Qld 4810

BUSINESS ACTIVITIES

Drafting, structural engineering, scaffold design, 3D modelling, animation,
realistic rendering, project management, 3D laser scanning, civil engineering.

MARKETS SERVED

Marine, mining, industrial, commercial, residential, bridge maintenance,
tunnelling, events and general construction and maintenance industries.



BILL HUTTON, PRINCIPAL ENGINEER

BEng Civil (Hons 1st Class),
MIEAust, CPEng, NER, RPEQ



GLOBAL CERTIFICATION PTY LTD
QUALITY MANAGEMENT SYSTEM CERTIFIED



AS/NZS ISO 9001:2008
Registration Number:
275



BURDEKIN CYCLONE SHELTER

Strength in engineering efficiency

FortisEM Consultant Engineers and Managers is a Queensland-based consultancy providing structural engineering services to a diverse range of clients.

Professional recognition, innovation, superior technical expertise and communication positions FortisEM above the pack.

This is ingrained in every structural system designed, developed and tested across the range of industry sectors we serve.

It is complemented by processes designed to facilitate more effective engineering outcomes.

That revolves around a team of professionals who have access to the latest technology.

Furthermore, we respect community expectations on developing the built and natural environments and sensitive issues

are accounted for in our planning matrix.

Our aim is to ensure a smooth transition from the design table to opening ceremony by delivering better engineering.

And we have the credentials to prove it.

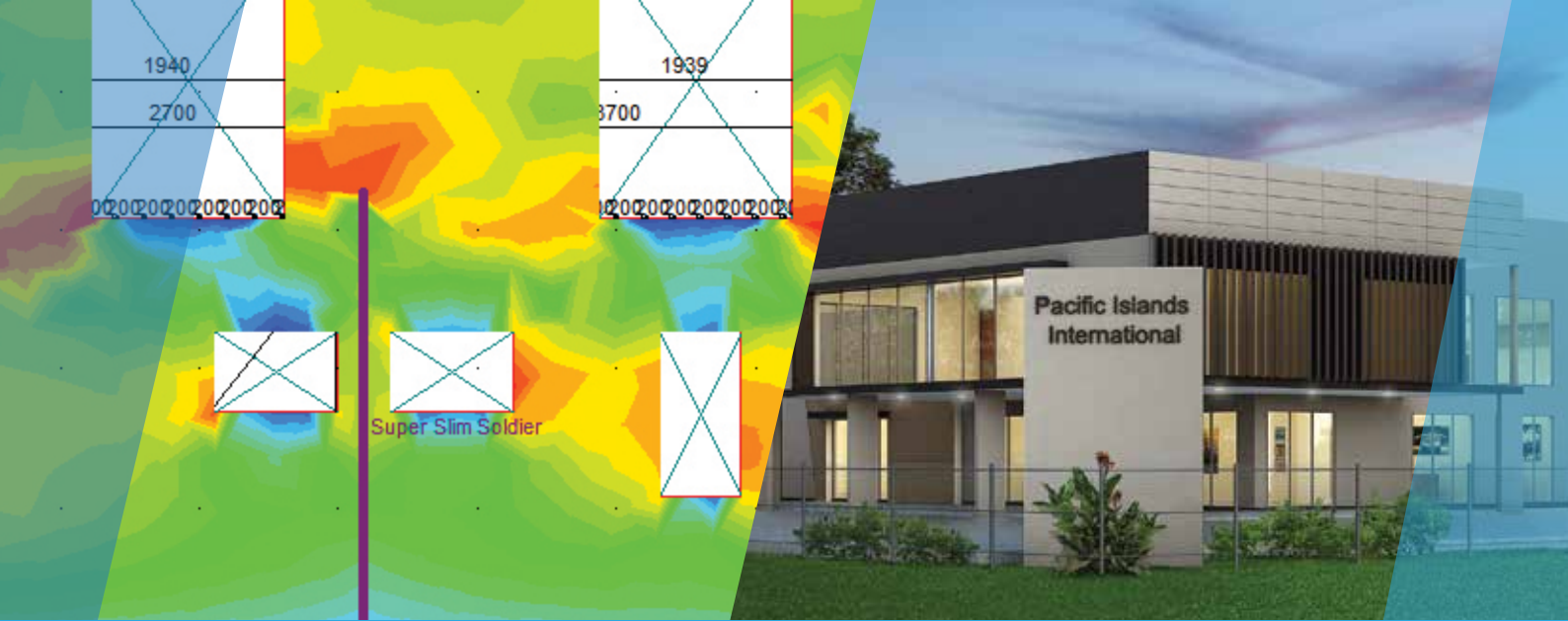
We've worked with a range of structural materials including timber, concrete, steel, masonry, glass and composites.

This experience and employing the latest technology while applying creative processes allows us to develop novel solutions.

We can carry out 3D laser scanning, undertake engineering calculations and model and document the solutions in a timeframe that facilitates decision making.

Moreover, we have the professional standards and qualifications to sign off on plans and drawings.

FortisEM - expect more.



Case Study

Pacific Islands International Warehouse & Office Complex

CLIENT:

Pacific Islands International

DESCRIPTION:

Project management of the design of a logistics centre for Townsville-based Pacific Islands International.

- Provision of detailed structural and civil engineering services.
- Managing the development and coordination of site layout, building approval and town planning aspects of the development.
- Construction phase services including preparation of pre-cast panel shop drawings, site inspections, review of contract quality assurance documentation and certification.

CHALLENGE:

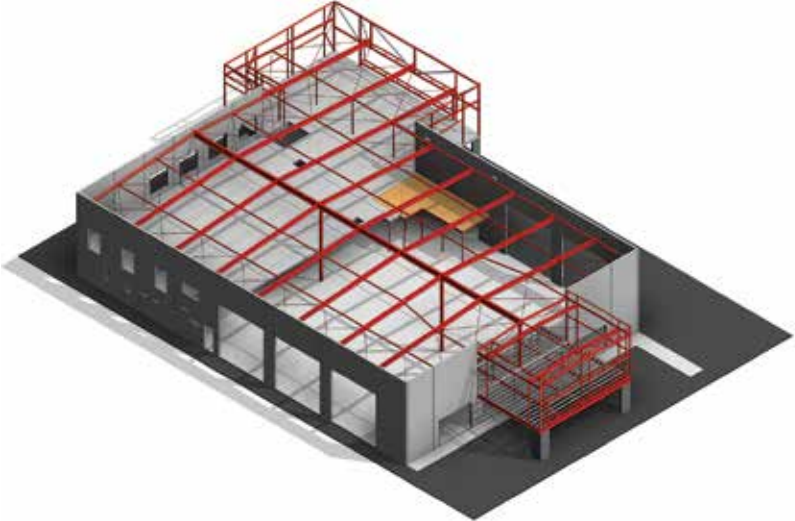
Incorporate transport access and egress, and materials and package handling for thousands of square metres of stock.

Incorporate large high-end office space complete with data and systems capabilities.

Optimise structure height and panel thickness whilst meeting cyclonic wind design criteria.

SOLUTION:

- Provided detailed civil and structural engineering documentation.
- Executed design management of sub-consultants.
- Employed BIM extensively, including converting plans into a virtual reality model. This assisted in both compliance reviews and further optimising the structure.
- Established a one-stop reference point for contractors seeking clarification.
- Completed precast panel shop drawings for the successful contract, including panel lift engineering and certification.
- Management of all structural and civil site inspections and certification.



INDUSTRIES SERVICED

- Universities and educational establishments
- Infrastructure and local government
- Mining
- Industrial
- Commercial
- Residential
- Ports and marine infrastructure
- Scaffolding
- Formwork
- Processing plants
- Bridges
- And many more

SERVICES

- Structural engineering
- Civil engineering
- Project management
- 3D laser scanning
- 3D modelling into AutoCAD and Revit formats
- Building Information Modelling
- Virtual reality
- Precast panel and tilt panel shop detailing
- Structural steel shop detailing
- Scaffold design

EQUIPMENT

- SPACE GASS
- SkyCiv
- Slabs
- Microstran
- Tedds
- Faros XD130 laser scanner
- Faros Scene
- ReCap
- AutoCAD
- 3ds Max
- Revit
- Navisworks
- A360

CERTIFICATIONS HELD

All our engineers hold a Bachelor of Engineering (Civil) with honours.

The principal holds first-class honours and is a:

- Chartered Professional Engineer
- Registered Practising Engineer Queensland and is on the
- National Engineering Register.

TRAINING AND CAPACITY LEVELS

FortisEM has a third party-accredited ISO9001 quality assurance system which is audited annually.

As part of our system we have a process whereby all staff have the benefit of senior management mentoring in their professional development.

All our staff undertake regular training and maintain a minimum of 50 Continuous Professional Development points each year.

Management Systems & Risk Management

Safety, Environment and Quality - FortisEM has an internal quality system including a Quality Policy Statement and documented Quality Management System.

Their development is overseen by a senior manager responsible for quality management.

These systems and procedures are ISO9001 compliant.

Our workflow is charted and processes standardised allowing for continual improvement.

We encourage client feedback as part of our standard operating procedures and have responses to address all comments.

This is collated into a monthly report, which charts the company's progress and helps plan its development.

Our safety and environmental procedures are consistent with office environments functioning at optimum levels.

Insurances - We are fully insured.

- \$20m public liability
- \$10m professional indemnity
- WorkCover

Risk management approach

Safety and design is critical in what we do and we are constantly upgrading our compliance.

Our risk management approach is consistent with the ISO9001 series. It includes built-in redundancies where drawings are reviewed by third-party senior draftsmen and designs certified by an RPEQ-recognised engineer.

We are compliant with all regulations governing our activities, including:

- Workplace Health and Safety Act
- Australian Standards
- Building Code of Australia
- Scaffolding Code of Practice

Our engineers complete technical requirements to maintain certified status in their specialties. That includes more than 250 hours a year professional development in civil and structural engineering for the business principal.

We are developing a process for senior managers to pass on knowledge throughout the organisation.

Our professional staff are undertaking post-graduate studies and our technical staff continually undertake allied TAFE and other courses and are required to share the knowledge.

This is to maintain currency with industry-specific requirements and regulatory obligations.

As leaders in the field of 3D laser scanning we are educating the industry not only on the capabilities of laser scanning, but also the significant benefits accurate 3D data provides.



WE WALK THE WALK

By having engineers, designers and draftsmen in the same office we can address the technical as well as the practical aspects of each project. Better design means better communications, means quicker decisions, means on time, on budget, means better profits.

WE ARE SOLUTIONS BASED

We are passionate about our ability to ensure an optimal outcome is achieved efficiently in any project through the use of laser scanning.

WE BACK OUR CLAIMS

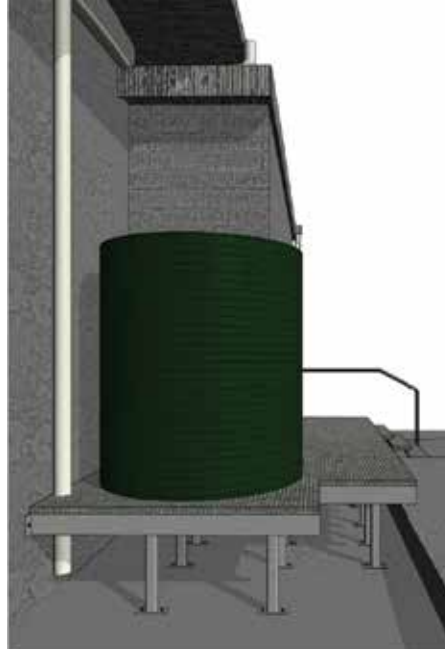
Our services are audited to the point where we foster a company culture of continuous improvement, with a focus on project delivery and client relations.

WE BACK OUR PEOPLE

Our succession planning is allowing for staff to come through the system and take more responsibility. This means we maintain our commitment to maintain standards and be responsive. Designs are all signed off by an RPEQ.



JCU SIDE STREAM PROJECT



Recent Projects

- Ingham Fire Station D&C
- Mount Isa Good Shepherd School Extension
- JCU Building 4 Fit-out
- St Anthony's Catholic College Padua Campus
- JCU Side Stream Filtration System
- Dalrymple Villa Aged Care Facility
- Burdekin Cyclone Shelter
- City Crash Repairs Warehouse
- Ross River Road Medical Centre
- 6 Carter St Unit Development
- Yanks Jetty
- Pacific Islands International Warehouse
- Agripower Diatomaceous Earth Plant
- Various Sugar Mill Projects
- Carpentaria Gold Dewatering Plant
- Home Hill State School Multipurpose Hall
- Burdekin PCYC Extension
- 9 Palmer St Commercial Development
- Ingham Showgrounds Horse Sports Arena
- McCathies Real Estate Auction Shed
- Kirwan Coles Express Fuel Station
- Lower Burdekin Home for the Aged - Ayr
- Lower Burdekin Home for the Aged - Home Hill

Working with industry and others

Our professional staff members are members of one or all of the following peak industry groups:

- Consult Australia
- Engineers Australia
- Steel Association Australia
- Concrete Institute of Australia

LONG-TERM RELATIONSHIPS

FortisEM has secured long-term relationships and repeat business since incorporation.

We are the default provider for established businesses, servicing Tier 1 providers in mining, construction and infrastructure and event management.

In terms of repeat business, the test is in the taste.

We've had to prove ourselves and can cite numerous clients that have tried us, tested the market, only to return to FortisEM as repeat clients.

References are available on request.