



RYAN MILLIN
STRUCTURAL ENGINEER
CURRICULUM VITAE

RYAN MILLIN CV



PROFILE

Ryan is an experienced structural engineer with involvement in commercial, industrial, civic, education, and healthcare design as well as seismic assessments and strengthening.

Ryan combines a strong technical ability with effective communication and collaborative skills to deliver his projects.

Ryan also has experience in the site observation of complex construction projects. He has developed the ability to provide timely alternative solutions on projects to enable works to progress without delays.

QUALIFICATIONS

BE: Civil (Hons) – Bachelor of Engineering, University of Canterbury 2011

ME: Civil – Master of Engineering, University of Auckland 2012

Chartered Professional Engineer (CPEng)
2017

Chartered Member of Engineering New Zealand (CMEngNZ)

CAREER HISTORY

2019 – Present, Structural Engineer –
Structus Consulting Limited

2013 – 2017, Structural Engineer – Holmes
Consulting

MANAGEMENT SKILLS

- Strong communication skills, allowing him to work well with multiple stakeholders within project teams, and proactively identify coordination items
- Maintains regular communication with Contractors on site and deliver clear instructions to ensure projects can progress efficiently

TECHNICAL SKILLS

- Comprehensive knowledge of New Zealand Design Standards and Codes
- Experienced in the design of structural steel, timber, masonry, precast and in-situ reinforced concrete buildings
- Proficient in the use of engineering software such as Microstran, Space Gass, Etabs and Robot
- Able to apply engineering knowledge to complex engineering problems and provide practical solutions
- Extensive construction supervision experience, which includes the ability to investigate and provide alternative

solutions to challenges faced during construction

PROJECT EXPERIENCE

CIVIC PROJECTS

Latter-day Saints Mendenhall Building, Temple View, 2014 – 2016

Alterations and seismic strengthening of an existing two-storey reinforced masonry library / education building (1960's construction), at the Latter-day Saints site in Temple View. Ryan was responsible for the structural design and construction monitoring for the project. New concrete shear walls were introduced, and a new timber / structural steel roof structure was designed to replace the existing roof. Strengthening to the existing level one suspended concrete floor slab and masonry walls / foundations was also undertaken.

Latter-day Saints Stake Centre Building, Temple View, 2015 – 2017

Ryan carried out the construction monitoring for the new function complex in Temple View. There are two main buildings for the project, of structural steel and precast shear wall construction (one single storey building with a timber mezzanine level and a two-storey building with Unispan concrete flooring).

EDUCATION PROJECTS

Ko Awatea II Middlemore Hospital, Auckland, 2016 – 2017

Three-storey reinforced concrete moment frame education building at the Middlemore Hospital site. The structural engineering design for the project was completed by Ryan. The two-way concrete frame construction is precast beams / joints with in-situ stitches and in-situ columns. Precast Double Tee flooring spanning 12m is seated on precast beams.

The foundation system is in-situ concrete foundation beams and screw piles. The building contains a light-weight steel roof and an attached light-weight steel auditorium structure.

Ormiston Junior High School, Auckland, 2015

Ryan designed an 'L' shaped two-storey structural steel frame building (2800m² floor area), one of four new buildings on the site. The building is supported by one-way steel moment frames in each direction and contains composite steel deck flooring. The foundation system is concrete foundation beams and screw piles. Part of the ground floor is suspended due to ground conditions at the site.

Hamilton Girls' High School Gymnasium DSA, Hamilton, 2014

Detailed Seismic Assessment (DSA) of two adjacent gymnasiums (1950's and 1970's construction). One gymnasium is of predominately timber construction and the second gymnasium contains steel portal frames with wall bracing over a reinforced concrete/masonry basement. A strengthening scheme was designed to bring the buildings up to 67% New Building Standard (NBS).

HEALTHCARE PROJECTS

Waitakere Hospital SCBU, Auckland, 2017-present, \$10m

Refurbishment and extension to the existing Special Care and Birthing Unit at Waitakere Hospital, consisting of single level building with both existing building refurbishment and extension to provide additional facilities. This is an Importance Level 4 structure. Structus services comprise structural engineering on this project, from the initial concept through construction.

Hawkes Bay District Health Board New Endoscopy Unit, Hastings, 2016

Ryan undertook the floor vibrations analysis and recommendations for the new endoscopy unit. The building is a two-storey braced steel frame structure with rib and timber infill floors and a suspended ground floor. The ground floor contains operating theatres with stringent floor vibration requirements.

Thames Hospital Strengthening, Thames, 2016

Ryan was responsible for the construction monitoring associated with the seismic strengthening works of the Front Ward at Thames Hospital. The building is six-storey's and of concrete construction. Gravity support is provided by reinforced concrete moment frames and lateral load resistance provided by reinforced concrete shear walls. Shear walls were strengthened with structural steel flat plate and reinforced concrete columns were strengthened with fibre reinforced polymer (FRP) wrapping. Ryan provided an appropriate repair methodology to address corrosion to the basement columns.

Tokoroa Hospital Strengthening, Tokoroa, 2013

Fit-out and seismic strengthening of Ward 4 at Tokoroa Hospital was undertaken by Ryan. He undertook the structural engineering design and construction monitoring associated with the project. The building is a single storey timber structure with a suspended concrete ground floor and a subfloor containing masonry shear walls. Strengthening to the basement was provided with new masonry shear walls.

COMMERICAL AND RETAIL PROJECTS

Te Awa Shopping Mall Stage 5, Hamilton, 2014

The project involved design and construction monitoring for the Farmers extension. Work added to previous construction stages of the Te Awa Mall. The extension contained new composite metal deck flooring and structural steel framing.

The Warehouse Limited Alterations, Hamilton, 2013

The Hamilton Central Warehouse alterations included a new garden centre steel portal framed structure, concrete stairs and cladding and glazing support. Ryan carried out the design and construction monitoring for this project. These designs required an assessment of the impact of the new work on the existing building.

Bay City Music, Tauranga, 2013

Seismic strengthening of a building containing a two-storey reinforced concrete front section and a single storey structural steel portal frame structure at the rear. The building is supported by a combination of in-situ concrete walls and frames and structural steel portal frames. Additional bracing was required in the concrete front section and was provided by two structural steel braced frames.

GOVERNMENT PROJECTS

Justice Precinct Emergency Services Building, Christchurch, 2014

Design of the lead rubber bearing base isolation devices (50 in total) for the base isolation supplier of the Justice Precinct and Emergency Services building in Christchurch. The project included observing production testing for the base isolators at the production

factory in Kuala Lumpur to check for compliance with design requirements.

INDUSTRIAL PROJECTS

Nu-age 70T silo, Waharoa, 2017

The 70T silo is supported by circular hollow section (CHS) posts and equal angle (EA) cross bracing, supported by a foundation slab. Ryan delivered the structural engineering for the project which included the structural steel bracing design and foundation design. The foundation slab was designed to rock under seismic loading.

TEMPORARY WORKS PROJECTS

Latter-day Saints Mendenhall Building, Temple View, 2015 – 2016

Ryan was responsible for the temporary works associated with the alterations and seismic strengthening of the existing two-storey masonry library/education building. He worked on behalf of the Contractor. Scope included support of masonry retaining / shear walls, support of the level one suspended concrete floor slab and providing temporary bracing to the building.

Lyttelton Wharf Crane Transfer, Lyttelton, 2014

An assembly of beams was designed to transfer two cranes on/off Lyttelton Wharf. The wharf is supported by a series of deep piles. The structural steel 'double I' beams spanned 19m and were precambered over the wharf to avoid overloading the piles. Transverse beams were also utilised to mitigate this effect. Pile tolerances and the beam precamber were captured in the structural analysis.

