LETICIA LUM
LEAD STRUCTURAL ENGINEER CURRICULUM VITAE

LETICIA LUM CV

PROFILE

Leticia is a highly motivated structural engineer with experience in residential, commercial, retail, and industrial design as well as seismic assessments and strengthening.

She has gained her experience through the design of several structures, primarily in New Zealand and the South Pacific, and seismic assessment of structures in both the building and energy sectors. Leticia has experience in design and construction for many retail, commercial and residential projects.

Leticia's leadership and communication skills ensure that the teams she leads are client focused, results driven and work well within a collaborative environment.

QUALIFICATIONS

BE (Civil) (Hons) – Bachelor of Engineering, University of Auckland 2014

Chartered Professional Engineer (CPEng) 2019

Chartered Member of Engineering New Zealand (CMEngNZ)

CAREER HISTORY

2021 – Present, Lead Structural Engineer– Structus Consulting Limited

2019 – 2021, Senior Structural Engineer– Structus Consulting Limited

2016 – 2019, Structural Engineer– Structus Consulting Limited

2014 - 2016 Structural Engineer, Calibre Consulting Ltd, Auckland, New Zealand

MANAGEMENT SKILLS

- Strong communication skills and ability to relate well to clients, stakeholders, and the project team, providing clear advice
- Understands clients' needs and project drivers through thorough scoping process
- Proven project and design management resulting in successful and timely project delivery
- Successful leadership and guidance of structural design teams on small to medium sized projects

TECHNICAL SKILLS

- Experienced in the design of structural steel, timber, masonry, precast and insitu reinforced concrete buildings
- Detailed knowledge of the complete design process and consent documentation

- Comprehensive knowledge of New Zealand Design Standards and Codes

- Proficient in the use of engineering software such as SpaceGass, Microstran, and ETABS

PROJECT EXPERIENCE

COMMERCIAL AND RETAIL PROJECTS

Supermarket Refurbishments, NZ wide, 2016-present, $2-10m

Refurbishment of over 35 no. Countdown and Fresh Choice supermarkets to date for Woolworths NZ, including new mezzanines, concrete slabs, structural bracing, rooftop plantrooms, bulkheads, partition walls, pylon signs, building component seismic restraints and floor trenches. Provided structural engineering design, Revit documentation and construction monitoring.

Countdown Richmond, Nelson, 2019-2021, $14m

The supermarket building consists of 4,500m2 of Countdown Supermarket and 2 no. additional retail tenancies, drive through covered loading dock, standalone walkway and pickup canopies and on-grade carparking. Long span steel portal frames form the superstructure and a mixture of precast concrete panels and glazing form the façade. Structural engineering design, Revit documentation and construction monitoring. Green Star project.

Countdown Awapuni, Palmerston North, 2019-present, $13m

The supermarket building consists of 4,500m^2 Countdown Supermarket and 1 no. additional retail tenancy, drive through covered loading dock, standalone walkway and pickup canopies and on-grade carparking. Long span steel portal frames form the superstructure and a mixture of precast concrete panels and glazing form the façade. Timber SED driven piles for liquefiable site in high seismic zone. Structural engineering design, Revit documentation and construction monitoring.

Fresh Choice Te Ngae, 2016-2017, $5m

Single-storey Supermarket building in Rotorua. Mezzanine floor and rooftop plantrooms. Total floor area approximately 1,300m^2.

Pak'nSave Warkworth, 2019-present, $30m

Landmark retail development of over 11,000m^2 area and consisting two major stores and several specialty retail stores, including loading dock, mezzanines, entry areas, canopies and retaining walls. Structural engineering design, Revit documentation and construction monitoring.

Wellington Botanical Garden Pavilion Building, Wellington, 2015

A single storey, architecturally designed, timber framed pavilion building, with masonry block shear walls, located in the Children's Garden in the Wellington Botanical Gardens. Leticia was the primary structural design engineer on the project.

RESIDENTIAL PROJECTS

MYLA, Auckland, 2020-present

Two storey terraced housing and apartments residential development for Fletcher Living in Stonefields. Predominantly plywood portal frame and GIB braced timber frame structures, the Apartments are precast flat slab and reinforced masonry walls, with rib raft floor slabs to all buildings and some steelwork. Structural engineering design and construction monitoring.

Line Epping & Derna Tobruk, Auckland, 2019-2021

Large two storey terraced housing residential developments for Fletcher Living in Glenn Innes and East Tamaki. Predominantly plywood portal frame and GIB braced timber frame structures, with rib raft floor slabs and some steelwork, plus pipe bridging structures and site retaining walls. Structural engineering design and construction monitoring.

18 Apirana Avenue, Auckland, 2019-2021

2 no. two storey high end residential development including timber and steel superstructures, suspended ground floor concrete slabs on RC piles, bridging structures and timber pole retaining structures on a constricted site. Structural design, documentation and construction monitoring services.

Sunderland A, Hobsonville, 2014-2016

Leticia was involved in the design and construction monitoring of several architecturally designed terraced houses in Hobsonville. A combination of timber, steel and precast concrete is used for the houses. This project also involved the design of a number of different foundation systems.

Eden View Apartments, Auckland, 2017-2021, $40m

New 6 storey apartment building with carparking and retail at ground level on street frontage. The structure is typically steel framed with precast concrete double tee floors. The lateral system consists of steel concentrically braced frames in the transverse direction and steel moment resisting frames in the longitudinal direction.

INDUSTRIAL PROJECTS

Project Diego, Auckland, 2016 - 2017, $16m

A new high specification 8,100m2 warehouse with 3 no. two story offices, constructed within an existing industrial complex. The new facility is located at 25 O'Rorke Road, Penrose, Auckland. The warehouse is to contain a high specification post-tensioned slab throughout. The warehouse width varies from 75m to 100m resulting in large spans for the steel portal frames.

5-11 Selwood Road, Auckland, 2017 - 2020, $20m

New high specification warehouses – 7 no. in total – with associated single storey offices, constructed in a constrained site with challenging site conditions. The warehouses typically contain large spans for the Steltech portal frames or steel rafters on precast concrete panels. There are canopies to each warehouse. Site retaining walls required to overcome the site topography. Hard stand paving through the development for heavy vehicles. Structus are engaged for structural engineering design and construction monitoring from concept through construction.

Sherratt Warehouses and Offices, Hobsonville, 2016

Two storey office with adjoining warehouse. Leticia was the lead designer of the office structure, which consists of precast concrete shear walls and steel moment frames. She completed the full detailed design, and documentation for the office portion of the project.

Pallet Racking Design – multiple projects, 2015-present

Design of pallet racking presents unique challenges in New Zealand due to the high

seismic forces. Structus has worked closely with Pallet Racking Solution to develop design software and processes for the design of these racks. This included laboratory testing of structural components in order to develop ductile seismic systems which lead to safer and more cost-effective designs. Multiple racking design projects nationwide.

HEALTHCARE AND AGED CARE PROJECTS

Aria Bay, Auckland, 2016-2020, $60m

New retirement village development consisting of 2 no. 5 storey apartments blocks and a 4-storey day clinic block (Importance Level 3) within an existing operational retirement village campus, plus a two storey link and bridge structure in a very constricted part of the site. Significant RC soldier pile tiered retaining structures with ground anchors, RC bored pile foundations, precast concrete shear walls and steel frames. Structural engineering design, Revit documentation and construction monitoring

CHT Highfield Rest Home, Te Awamutu, 2015

A single storey rest home, consisting of five blocks, and surrounding structures. Involved timber, steel and masonry design. Leticia was involved as a structural design engineer to provide design and documentation.

Greenwich Gardens, Auckland, 2015

Three sets of rest home structures consisting of a number of single and two storey timber framed villas. Leticia was a structural engineer on a portion of the villas.

DETAILED SEISMIC ASSESSMENTS AND STRENGTHENING

165 The Strand, Auckland, 2016

The building is a 2-storey reinforced concrete moment resisting frame structure with a 2 storey newer steel structure above. The building is currently used as office and retail tenancies. In order to assess the seismic performance of the building advanced computer analysis techniques were used to accurately quantify the building response during an earthquake. Structural strengthening works to allow for 67% NBS performance of the building were designed and construction monitored by Structus.

Millennium Centre, Auckland, 2016

Millennium Centre comprises 7 no. mainly office buildings (typically 4 storeys) in total over two level basement carparks, part of which are combined over several buildings. The structures generally comprise reinforced concrete frames and precast concrete shear walls, with the 5-storey carpark a steel k-framed structure. The development was designed and constructed in the early 2000's. In order to evaluate the seismic capacity of the building Structus developed computer programmes to analyse the structures. This resulted in an accurate determination of the structures seismic capacity.

2-4 Kitchener Street, Auckland, 2017

The building is a 14-storey reinforced concrete moment resisting frame designed and constructed in the 1980's. The building is currently used as offices, retail and carparking. To assess the seismic performance of the tower advanced computer analysis techniques were used to accurately quantify the building response during an earthquake. The building is on a sloped site with the two lower levels being underground on the eastern side.

65 Main Highway, Auckland, 2017

Comprises 2 no. office buildings (4 storeys) over three level basement carparks common below the two buildings. The structures comprise reinforced concrete frames to the upper floors and precast concrete shear walls to the basement levels. The development was designed and constructed in the early 2000's. To evaluate the seismic capacity of the building Structus developed computer programmes to analyse the structures. This resulted in an accurate determination of the structures seismic capacity.

Aurora Energy Seismic Assessments and Strengthening, Otago, 2014

Detailed seismic assessments for switchyard equipment located in 29 zone substations in Dunedin, Queenstown and various additional locations. Leticia was involved in completing Initial Seismic Assessments and Detailed Seismic Assessments of both the switchyard equipment and substation buildings for the majority of the sites.