



SANDY LIAO
STRUCTURAL ENGINEER
CURRICULUM VITAE

SANDY LIAO CV



PROFILE

Sandy is a structural engineer with 3 years of experience in New Zealand. After completing his degree in civil engineering at Canterbury University in 2016, Sandy worked as a structural engineer. In 2020, Sandy attended Auckland University to obtain a Master of Engineering Studies in civil engineering.

Sandy is highly motivated to use the knowledge obtained from studies and work to deliver high quality projects.

QUALIFICATIONS

BE(Hons) – Bachelor of Civil Engineering with Honours, University of Canterbury, 2017

MEngSt – Master of Engineering Studies, University of Auckland, 2021

Member of Engineering New Zealand

CAREER HISTORY

November 2020 – Present, Structural Engineer – Structus Consulting Limited, Auckland, New Zealand

February 2017 – February 2020, Graduate Structural Engineer – WSP – Palmerston North, New Zealand

TECHNICAL SKILLS

- Experience in Structural design of concrete, timber, steel structures and structural elements
- Knowledge of engineering design process and consent documentation
- Experience in construction supervision of structural works
- Knowledge of New Zealand Design Standards and Codes

PROJECT EXPERIENCE

RNZAF Base Ohakea NH90 Simulator Building, Ohakea, 2018-2019

New steel warehouse building with lean-to structures. The central tower provides space for the NH90 simulator and the surrounding lean-to buildings for office and other training purposes. The overall dimension is approx. 25m x 30m x 12m. Main design feature includes moment resisting steel frame, steel connection design, compression/tension bracing, RC slab/floor and RC shallow foundations. Sandy produced the structural design and construction monitoring.

NZDF Linton Camp Mobile Weapon Training Simulator building, Palmerston North, 2017

Structural design of a new steel warehouse building used for military training purposes. The structure is approx. 18m x 18m x 6m. The building consists a main hall and a lean-to office area with canopies.

NZDF Linton Camp Vehicle Servicing Facility Extension, Palmerston North, 2017

An extension to the existing steel portal frame structure used for vehicle servicing. The extension design is approx. 28m x 18m x 10m. Key design features include steel moment frames, precast concrete shear walls, cable bracing and RC pile foundations. Sandy provided structural design and construction monitoring services.

DETAILED SEISMIC ASSESSMENTS AND STRENGTHENING

30 Bennett Street DSA and Strengthening Design, Palmerston North, 2019

Detailed seismic assessment of a warehouse building initially constructed in the 1980's. The

structure consists of a mixture of construction materials and structural components added after initial construction. The assessment/strengthening design covers glulam portal frames, reinforced concrete blockwork perimeter walls, shallow RC foundations and light timber frame walls.

St Mary's Anglican Church & Parish Hall DSA, Levin, 2017

Detailed seismic assessment of the church building (reinforced concrete) and the parish hall building (combination of steel portal frame, timber frame and reinforced concrete masonry).

Leonard Road, Auckland, 2019 - present

Structus has completed a comprehensive Detailed Seismic Assessment (DSA) of 2 no. industrial / commercial buildings, including single and two storey offices, at Leonard Road, Auckland. The DSA was completed to provide the client with an accurate %NBS for their buildings. The assessment was completed in accordance with the latest Seismic Assessment methodology and utilized 3D finite element analysis to understand how the buildings perform in an earthquake. Structus also provided full LoD300 as-built Revit modelling and documentation of the buildings, seismic strengthening design and construction monitoring services for the buildings.

409 Manukau Road, Auckland, 2016 - present

This is a two storey unreinforced masonry building. The building is currently used as mixed use retail and offices. The client required that the seismic performance of the building be assessed against the current building standards. To detailed assess the seismic performance advanced techniques were used to accurately quantify the building

response in during an earthquake. Seismic strengthening of the building was fully documented in Revit for building consent. The building has also undergone a significant refurbishment, for which Structus fully designed and documented the structural works.



