



PIYUSH SETIA
STRUCTURAL ENGINEER
CURRICULUM VITAE

PIYUSH SETIA CV



PROFILE

Piyush is a talented and highly motivated structural engineer with four years' experience in multiple large, medium and small size structural design projects. Piyush also has experience in providing seismic assessments and strengthening of existing commercial and residential structures.

Piyush has gained his experience working on projects throughout New Zealand. He also has a good understanding of all stages of the design process and construction monitoring.

He has experience working with private clients, government agencies and construction contractors with timely delivery of numerous design packages and accelerated projects. He has received excellent client feedback on several projects for the quality of deliverables and responsiveness.

Piyush also has experience in construction monitoring for a number of commercial and residential projects, and has worked with Auckland Council as a building inspector.

QUALIFICATIONS

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

Member of Engineering New Zealand (MEngNZ)

CAREER HISTORY

2017 – Present, Structural Engineer, Structus Consulting Limited

2016 - 2017 Structural Engineer, GHD Ltd, Auckland, New Zealand

2015 - 2016 Graduate Structural / Civil Engineer, GHD Ltd, Palmerston North, New Zealand

TECHNICAL SKILLS

- Experienced in the design of structural steel, timber, masonry, precast and insitu reinforced concrete buildings.
- Detailed knowledge of civic structures such as retaining walls and culverts.
- Comprehensive knowledge of bridge inspections and maintenance regimes.
- 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 Microstran, spacegass, SAP2000 and ETABS.
- Proven ability to oversee construction work onsite and act as Engineer's Representative.

PROJECT EXPERIENCE

RETAIL PROJECTS

Supermarket Refurbishments, NZ wide, 2017-present, \$2-5m

Refurbishment of over 6 no. Countdown supermarkets to date for Woolworths New Zealand (previously Progressive Enterprises) and foodstuffs North Island Limited including new pharmacies, 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.

RESIDENTIAL PROJECTS

Eden View Apartments, Auckland, 2017 – Present, \$30m

New 7 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. Piyush was the design engineer during concept and preliminary stages carrying out new structure analysis and calculations.

110 Kitchener Road Apartments, Auckland, 2017 – Present, \$20m

New 6 storey apartment building with carparking and retail at ground level on street frontage. The structure is typically steel frames with precast concrete double tee floors. The lateral system consists of steel sway frames in the transverse direction and precast concrete panels in the longitudinal direction. Piyush was the design engineer

during concept and preliminary stages carrying out new structure analysis and calculations.

651 West Coast Road, Oratia, 2018

Refurbishment of residence at 651 West Coast Road. The refurbishment included design of new steel frame, floor joists and connections. Piyush was a structural engineer for this project and carried out design documentation and construction monitoring.

INDUSTRIAL PROJECTS

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

New high specification warehouses – 7 no. in total – with associated single storey offices, constructed on 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. Piyush was responsible for designing and documenting complete retaining walls package.

189 Captain Springs Road, Onehunga, Auckland, 2017

130sq.m extension to an existing building, the new building was seismically separated to ensure the two buildings acted independently. Perimeter block walls provided the permanent retaining to the 2m high external soil levels. Piyush provided construction monitoring for this project to cover all of construction monitoring scope.

Pallet Racking Design – multiple projects, 2017-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. Piyush carried out spacegass analysis on pallet structures and prepared a calculation report and drawings suitable for building consent submission. Piyush has done multiple racking design projects nationwide.

AVIATION FACILITIES

Rotorua Airport, Rotorua, 2017

Piyush was the structural design engineer on this project, to provide detailed design of an airport extension. He also prepared the structural calculation package for building consent and worked with draughtsmen in developing building consent drawings and specifications.

CIVIC PROJECTS

Emergency Works Contract, Manawatu and Rangitikei District, 2015-2016

Piyush was involved with the June 2015 flood repairs (70 no. sites in total) for MDC and RDC. This work involved providing effective remedial solutions for dropouts and over slips. He provided retaining design options such as Gabion structures and timber pole retaining structures (with structural calculations). He also carried out NZS3910 contract management procedures such as writing Requests for Tenders (RFT's), Registration of Interest (ROI) documentation, and contract award letters, etc.

2 Degrees tier 4 rollout, New Zealand, 2015-2016

2 Degrees proposed different equipment to be loaded on to existing Antenna poles and

Lattice towers. Piyush was responsible for structural checks and analysis of Antenna poles and lattice towers around New Zealand.

HCC Detailed and General Bridge and Retaining Wall Inspections, New Zealand, 2015

As part of the clients' regular asset inspection regime, Piyush took responsibility for detailed site inspections and delivery of reports outlining ongoing maintenance costs for around 50 bridge and retaining walls. This involved several weeks of inspections in the field using mobile data capture software. The final output for the client being a report with attached master spreadsheet outlining required future maintenance costs assessed on the risk and priority of each repair item. Following on from NZIHT training, the use of this bespoke technology led to an efficient inspection regime, resulting in a cost effective project for the client in a compressed programme period.

Massey University Detailed Bridge and Culverts Inspections, Palmerston North, 2015

Piyush carried out detailed Inspections of 11 no. bridges and large culverts owned by Massey University on their rural farms. This involved writing detailed specific reports outlining key concerns, and providing maintenance or remedial schedules.

Rural Bridge Design, Dannevirke, 2015

Piyush was involved with design of a rural bridge in Dannevirke which was incurring degradation. The bridge structure consists of timber deck, steel beams sitting on concrete abutments. Piyush prepared preliminary design options before the final design was selected. Piyush incorporated generic designs of concrete deck, double tee section and double hollow-core section. This project was

driven by addressing the solution to the use and budget available.

MUNICIPAL WATER AND WASTEWATER FACILITIES

Fred Thomas Drive Wastewater Treatment Plant, Auckland, 2016-2017

New wastewater treatment plant construction in North Shore, Auckland. Piyush's role was to carry out in-depth construction monitoring (primarily structural inspections), document monitoring in site visit reports and issue to the client and contractors. He was also continually engaged with the construction RFI's and resolving them.

Ardmore Water Treatment Plant, Auckland, 2016-2017

Ardmore water treatment plant in Auckland was to undergo renovations and extension. Piyush's involvement with this project was to carry out structural detailed design of the plant extension (concrete structure). He also prepared a calculation package for building consent, and assisted in preparing structural drawings and specifications.

HEALTHCARE AND AGEDCARE PROJECTS

Structural Engineer for Aria Bay Redevelopment, a new retirement village development in Browns Bay, Auckland. 2no. 5 storey apartments blocks and 4 storey day clinic block form the development within an existing operational retirement village campus. Piyush was responsible for design and documentation of specific elements for the building.

INITIAL SEISMIC ASSESSMENTS

Multiple Sites, Palmerston North, 2015

Upon engagement by Palmerston North City Council (PNCC), Piyush's work involved site investigations of earthquake prone buildings and assessing the seismic strength of the buildings in accordance with the procedure outlined in the New Zealand Society for Earthquake Engineering (NZSEE) seismic assessment guidelines.

Papakura Tenancies ISA, Papakura, Auckland, 2017

Piyush carried out an in depth Initial Seismic Assessment of 3 no. buildings at 210-222 Great South Road, Papakura as described in Part B of the guideline document, 'The Seismic Assessment of existing buildings – Technical Guidelines for Engineering Assessments'.

DETAILED SEISMIC ASSESSMENTS AND STRENGTHENING

Inglewood Primary School, Inglewood, 2015

Upon engagement by the Ministry of Education (MoE), Piyush carried out a detailed seismic assessment (DSA) at Inglewood Primary School. The building is a two storey timber structure. The DSA involved justifying the current % NBS of the building. Further to providing a final % NBS rating, strengthening solutions for rough order of pricing were included.

85-101 Alexandra Street, Hamilton, 2017

85-101 Alexandra Street is a reinforced concrete office and car parking building located in Hamilton. The building is comprised of four separate structures including 4 storey carpark podium and two 10-14 storey Office towers. The building was designed and constructed in the 1980's. The seismic

bracing for the building consists of reinforced concrete moment resisting frames. In order to evaluate the seismic capacity of the building Structus developed a computer programme to analyse the frames. This resulted in an accurate determination of the buildings seismic capacity. Structural strengthening works to allow for 100% NBS performance of the building were designed. Piyush carried out construction monitoring of this project.

Millennium Centre, Auckland, 2016-2017

Millennium Centre comprises 7 no. mainly office buildings (typically 4 storeys) in total over two level basement car parks, 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. Seismic strengthening was implemented to local areas. Piyush carried out construction monitoring of this project.

1135 Arawa Street, Rotorua, 2018

1135 Arawa Street is a 10 storey reinforced concrete shear wall building located in Rotorua. The building was designed and constructed in the 1980's. The building is currently used as an office building. The client wishes to consider changing the use of the building, which requires that the seismic performance of the building be assessed against the current building standards. In order to assess the seismic performance of the tower advanced computer analysis techniques were used to accurately quantify the building response during an earthquake.

Strengthening of shear walls through the use of fibre reinforced polymer and stair remedial works to allow for sliding to accommodate building drifts. Piyush carried out part of the strengthening works for the building and also resolved construction RFIs followed by construction monitoring.

50 ANZAC Ave, Auckland, 2018

50 ANZAC Ave is a 10 storey offices over 3 storey carpark building. The tower contains reinforced concrete moment resisting frames from the ground floor to the roof and precast concrete shear walls in all basement levels. The building was designed and constructed circa 1986. In order to evaluate the seismic capacity of the building Structus developed a computer programme to analyse the frames. This resulted in an accurate determination of the buildings seismic capacity. Piyush assisted a senior structural engineer in preparation of calculation package and a DSA report. Piyush also carried out a visual inspection of building defects and proposed remedial solutions.

BUILDING COMPLIANCE INSPECTIONS

Multiple properties, Auckland, 2016-2017

This project included Auckland Council building inspections for compliance with the current building code. This work involved exposure to a wide range of structures and design methods. As a result, Piyush has gained a better understanding of council regulations and criteria. This work has also provided an opportunity to carry out structural review of residential and commercial building consents and civil works for Auckland Council. The responsibility of inspecting and signing off site work has introduced Piyush to a variety of construction scenarios where a balance of the code compliance, building performance, and customer communication is vital.

