



HALLIWELL

JI WAN SOHN

**BE ME CPENG FIEAUST NER RPEV RPEN RPEQ APEC
ENGINEER INTPE(AUS)**

PRINCIPAL FORENSIC ENGINEER

MELBOURNE, AUSTRALIA

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SPECIALTIES

- Civil and Structural Forensic Investigation and Assessment
- Structural Fire Engineering & Post-Fire Damage Assessment
- Road, Pavement, Bridge and Civil Infrastructure Damage Assessment
- Expert Reporting and Expert Witness
- Civil and Structural Engineering Design, Documentation and Certification
- Project Management and Site Supervision
- Client and Stakeholder Engagement

PROFILE

Ji Wan is a Chartered and Registered Professional Engineer with extensive experience in design consulting, investigation and management across a wide range of local and international engineering projects. Specialising in forensic engineering with strong leadership abilities, Ji Wan's expertise spans commercial, industrial, residential and infrastructure sectors, including post-fire structural assessment, road and pavement infrastructure, underground services and utility damage, civil works methodology assessment, foundation movement, drainage and geotechnical interface, moisture and building envelope investigation, and post-event damage assessment arising from fire, flood, storm, impact and construction activities.

Commencing his career as a structural engineer in 2001, Ji Wan accumulated significant experience in the design and analysis of complex local and international engineering projects across APAC region with construction values of up to A\$100 million. His portfolio encompassed both conceptual and detailed civil and structural design, as well as project management for building and infrastructure developments, primarily in the commercial and industrial sectors.

Working as a Forensic Civil/Structural Engineer since 2009, Ji Wan has extensive experience in the assessment, investigation and remediation advice of distressed building structures and civil infrastructures. He has been extensively involved with the investigation and analysis of numerous distressed structures and building failures across Australia and Asia. Ji Wan regularly prepares court compliant reports and appears as an expert witness in disputes and court proceedings.

Ji Wan has led multidisciplinary teams, coordinated complex investigations, and delivered high-level technical reporting for government agencies, insurers, legal firms, asset owners, and corporate clients.

EDUCATION

- Bachelor of Civil Engineering - University of New South Wales, Sydney, Australia
- Master of Engineering (Engineering Project Management) - University of New South Wales, Sydney, Australia

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PROFESSIONAL MEMBERSHIPS AND AFFILIATIONS

- Fellow, Engineers Australia (FIEAust)
- Chartered Professional Engineer (CPEng) – Civil and Structural Engineering
- International Professional Engineer, APEC (APEC Engineer IntPE)
- Member, College of Civil Engineers, Engineers Australia
- Member, College of Structural Engineers, Engineers Australia
- Member, College of Leadership & Management, Engineers Australia
- National Professional Engineering Register of Australia (NER) – Reg. No: 2815940
- Registered Professional Engineer, Victoria – Reg. No: PE0002152
- Registered Professional Engineer, New South Wales – Reg. No: PRE0001454
- Registered Professional Engineer, Queensland – Reg. No: 35735

PROFESSIONAL EXPERIENCE

- Halliwell – Principal Forensic Engineer (2025 – Present)
- FMG Engineering – Principal Forensic Engineer (2009 – 2025)
- Connell Wagner – Structural Engineer (2001 – 2008)

ACHIEVEMENTS AND NOTABLE ASSIGNMENTS

- **Structural Assessment & Emergency Response to High-Rise Apartment Fire, Victoria, Australia**

Engaged to undertake structural assessment and immediate engineering response following the significant façade fire that rapidly spread from a high-rise apartment tower. Ji Wan assessed the structural integrity of the affected building structures and external wall systems in the aftermath of the incident, providing urgent make-safe advice to stabilise structurally compromised areas of the building and enable controlled access for occupants and contractors.

He also responded to the structural requirements set out in the Emergency Order issued by the local council, assisting stakeholders in identifying and addressing immediate hazards and outlining the engineering measures necessary to ensure the safety of the building during the recovery phase. His involvement supported the early planning of reinstatement works and the coordinated engagement between insurers, contractors and regulatory authorities.

- **Forensic Assessment of Damage to Victoria's Road Network**

Acting as Project Director, leading a multidisciplinary team of over 20 professionals—including civil and structural engineers, hydrologists, and quantity surveyors—on a statewide investigation. The project involved assessing damage to over 4,000 kilometres of state-owned roadways, bridges, and crossings across Victoria following the severe storm and flood events of October/November 2022.

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- **Excavation Collapse Investigation, Victoria, Australia**

Forensic investigation into the collapse of a 15-metre-deep excavation adjacent to residential properties during construction works. Led multidisciplinary investigation team including geotechnical and civil engineers. Independent review of structural design and construction documentation to identify deficiencies and contributing factors. Forensic report subsequently relied upon as evidence in regulatory and legal proceedings.

- **Underground Carpark Fire — Multi-Building Residential Complex, South Korea**

Structural engineering expert engagement following a major underground carpark fire initiated by an electric vehicle in a complex housing over 2,200 parking spaces. Comprehensive review of structural performance across basement levels; peer review of multi-stage post-fire investigations including concrete and reinforcement testing, carbonation profiling and structural modelling; damage classification assessment; and expert commentary on repair and strengthening methodologies.

- **Aviation Maintenance Facility, Queensland, Australia**

Acting as an expert witness in litigation concerning a spill of Aqueous Film Forming Foam (AFFF) from the pump room at an aircraft maintenance hangar at Brisbane Airport, Ji Wan's role involved conducting a full independent review of the design and construction documentation, with particular focus on the potential non-compliance of the external block walls, openings, floor joint constructions, and the perimeter bunding, including its storage capacity. Ji Wan prepared a detailed forensic investigation report to document findings and provide technical evidence in support of the proceedings.

- **Wind Farm Failure Investigation, Tasmania, Australia**

Conducted on-site investigations and assessments of structural defects within the concrete footings of 80-metre-high wind towers. His work involved a comprehensive review of as-built information, including construction drawings and various technical reports. He carried out an independent analysis of the original design and specifications, which included finite element analysis (FEA) of a 3D model of the towers and their footings.

- **Adjacent Excavation Damage — Heritage Commercial Structure, NSW**

Civil and Structural forensic engineering assessment of alleged damage to a heritage commercial structure arising from deep basement excavation at an adjoining development. Assessment addressed ground conditions, retention system design, construction sequencing, ground-structure interaction and compliance with building protection works requirements under the Building Act.

- **Expert Witness for Litigation and Dispute Resolution — Multiple Jurisdictions and Forums**

Acting as Expert Witness for multiple proceedings, including Supreme Court, County Court, Civil Administrative Tribunal, AFCA arbitration and regulatory forums across Australia.