

# Sasa Dzekic, M.Eng., P.Eng.

## Practice Lead, Civil/Structural



### Contact

sdzekic@diact.ca  
905-580-3537

---

### Academic Background

Graduate Diploma-  
Rehabilitation of Civil  
Engineering Structures,  
McMaster University,  
Hamilton, Ontario  
2006

Diplomirani Inzenjer- Master in  
Civil Engineering equivalent,  
University of Belgrade,  
Belgrade, Serbia  
1988

Mr. Sasa Dzekic, M.Eng., P.Eng., is the Practice Lead for the civil/structural engineering services contracting with Diact. He is a designated consulting engineer with over 35 years of professional experience in civil/structural engineering, including more than 25 years in forensic engineering. He specializes in the investigation and assessment of failures or underperformance of structural systems, building envelope, and/or their components.

Mr. Dzekic has performed evaluations of the extent of structural damage, planning and on-site advice concerning unsafe building conditions and demolition, including temporary measures for the structural securing of buildings, and preparation of the scope of required remediation, for a wide range of projects. He has conducted forensic investigations, produced reports regarding the causation, building code requirements, and/or the standard of care and liability, and provided expert testimony as required.

### Primary Areas of Consulting

#### Structural Evaluations

- Commercial, residential, industrial, institutional (including schools, churches, hospitals), farm/agricultural buildings, and designated structures (including pole barns, greenhouses, silos)
- Structural failure of buildings and structural systems, and/or their components
- Structural damage due to fire, explosion, weather events (wind, snow, flood), impact, vibration, water leakage
- Historical buildings and structural systems
- Structural material evaluation (including concrete, masonry, wood, steel, aluminum)
- Building code evaluation
- Temporary measures for structural securing of unsafe structures
- Demolition plan preparation, general review of demolition
- Scope of reconstruction, field review during construction

#### Construction Defects Evaluation

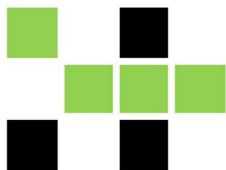
- Assessment of deficiencies associated with the standard of care

#### Building Envelope Evaluations

- General civil evaluations
- Foundation and retaining wall failures
- Fills and earth movement
- Pools and other buried structures
- Drainage and flooding

#### Personal Injury Incidents

- Slip and fall
- Glass doors and windows
- Aluminum ladders



## Professional Licensure

Professional Engineers Ontario,  
Consulting Engineer Designation  
1997 - Present

Association of Professional Engineers  
& Geoscientists of Alberta  
2021 - Present

Professional Engineers &  
Geoscientists of British Columbia  
2021 - Present

## Certifications

- Haag Certified Inspector Residential (HCI-R), 2022
- Qualified Designer under the Ontario Building Code (Building Structural), Ministry of Municipal Affairs and Housing, 2006
- Engineered Masonry Design Course Graduate, McMaster & Ontario Masonry Contractors' Association, 1999

## Employment Background

### **Diact Inc., Toronto, Ontario**

*Practice Lead, Civil/ Structural*

2024 - Present

- Established and leads the civil/structural division, overseeing a range of forensic engineering investigations. Tasks include evaluating structural damage, determining the causes of failures or underperformance, and devising remediation and loss mitigation strategies.

### **Haag Canada Inc., Toronto, Ontario**

*Practice Lead, Civil/ Structural*

2020 - 2024

- Responsible for coordinating efforts of civil/structural group and conducting investigations on single and multi-faceted forensic engineering matters. Assignments involve the assessment of structural damage, causation of failure or underperformance, remediation, and loss mitigation.

*Director of Forensic Engineering*

2022 - 2023

- Leading and coordinating a multi-disciplinary team of forensic engineering experts. Responsible for conducting structural investigations and assessments performed for the insurance and legal industries, and other consulting companies.

### **JNE Consulting Ltd., Hamilton, Ontario**

*Discipline Manager - Forensic / Senior Structural Engineer*

2012 - 2020

- Coordinated efforts of an engineering team in investigation of structural failures, and evaluation of buildings, including preparation of reports, and preparation of drawings for the purpose of assessing the cost of the required structural reconstruction, and for the building permit purposes. General review during construction, communication with contractors, homeowners, architects, engineers and other building professionals, and preparation of reports.

### **Southward Consultants Limited, Burlington, Ontario**

*Structural Engineer*

1997 - 2012

- Involved in investigation and assessment of failures of buildings and structural systems, and/or their components, and structures damaged by fire, explosion, water leakage, impact, vibration, etc., and preparation of reports. Investigation of building science problems.
- Computer finite element analysis of two and three dimensional framed and plate structures using Stardyne. Structural analysis and design of concrete, steel, wood and masonry structures, utilizing engineering programs (STAAD, RISA, WoodWorks, Masonry Design Software). Drawing and modeling using AutoCAD.



### *Structural Designer*

1995 - 1997

- Computer modeling and animation of structural collapses using AutoCad and 3D Studio. Participated in the investigation and assessment of failures of buildings or their components, preparation of accident reports and photographic records, and structural analysis and design.

### **Invest-Biro, Belgrade, Serbia**

#### *Structural Engineer*

1989 - 1995

- Structural analysis, design and field review during construction. Responsible for a variety of projects from inception to completion. Prepared project plans and specifications.

## Notable Projects

### **Forensic Engineering**

- Fire and explosion damage – over 900 residential, commercial, industrial, institutional and farm buildings
- Collapses of concrete, masonry, steel and wood framed structures, including:
  - Champlain Towers South in Surfside, FL
  - Mall Roof in Elliot Lake, ON
  - Concert Stage in Toronto, ON
  - Parking Garage Roofs in Mississauga and Kitchener, ON
  - Public Arena in New Brunswick
  - Numerous other residential, commercial, industrial, institutional and farm structures
- Structural damage due to wind - nearly 200 claims involving residential, commercial, industrial, institutional and farm buildings, including:
  - Tornado damage to grain elevator, salt storage, office building and commercial/residential buildings in Goderich, ON
  - Tornado damage to greenhouses in Leamington, ON
  - Wind damage to highrise apartment building and commercial building in Hamilton, ON
  - Wind damage to numerous pole barns and silos
- Collapses of steel racking systems in Brampton, Vaughan and Hamilton, ON
- Structural impact damage (vehicles, trees, cranes) - numerous residential, commercial, industrial and institutional buildings, and bridges
- Structural concerns associated with vibrations (traffic, construction, blasting), numerous investigations including vibration measurements, analysis and assessment of their impact on structures
- Crane failures in Hamilton, Nanticoke, ON
- Several storage tank and silo failures



## Structural Design

- Residential
  - Residential developments Sava in Obrenovac, Serbia and Megdan in Uzice, Serbia
  - Several highrise condominiums in Belgrade, Serbia, and Moscow, Russia
  - Numerous new, rehabilitation, renovation and addition projects in Belgrade, Uzice and Obrenovac, Serbia
- Commercial
  - Renovation and addition to Apollo Commercial Centre in Novi Sad, Serbia
  - Sport Centre (Phase II) in Perm, Russia
  - Renovation and addition to Bank Zaria in Perm, Russia
  - Restaurant at tourist resort Dzerzinski in Sochi, Russia
  - Car Park Sosnovaya Rosca in Yalta, Ukraine
- Industrial
  - Intex plant in Indjija, Serbia
  - Renovation and addition at Motel and Gas Station Asprom in Belgrade, Serbia
- Oil and Gas
  - Structural modelling and review of steel tanks in Fort McMurray, Alberta

## Professional Development

Numerous professional industry courses, seminars and webinars on structural, building science and professional engineering ethics, leadership and management, as reported through professional associations' Continuing Professional Development programs. Typical examples of continuing professional development are:

- The Science of Storm Analysis, Haag Education (2024)
- The Bridge That Crossed the Atlantic, CSCE (2024)
- 70 Years of Precast Concrete Knowledge, PCI (2024)
- Adhesion of Bonded Single-Ply Roofing Membranes, Haag Education (2023)
- Forensic Engineering Seminar 2022, National Academy of Forensic Engineers (2022)
- Investigating the Interaction Between Tornadoes and Structures, Haag Education (2022)
- Wind vs. Wave Damage Assessment, Haag Education (2022)
- 14th Canadian Masonry Symposium (2021)
- Roof Damage Assessment, Haag Education (2021)
- Steel Design and Detail Issues, AISC Conference (2020)
- Petrographic Analysis of Concrete Deterioration, ASCE (2019)
- Conservation of Heritage Structures, PJ Materials Consultants (2019)
- Structural Design of Mass Timber, AIA CES (2018)
- Snow Loading for Non-Standard Roofs, ASCE (2018)



- Design Snow Loads for Complex Roofs, ASCE (2017)
- Cold-weather Concrete: Guide Updates, and Research on Placement and Early-Age Behavior, ACI (2017)
- Anchoring, Post Installed Rebar Design, NCSEA (2016)
- Mid-Rise Construction, Canadian Wood Council (2015)
- Performance-Based Requirements, Specification and Testing for Concrete and Sustainability, ACI (2015)
- Bolting and Welding for Design Engineers, CISC (2007)
- Modern Concrete, Dalhousie University (2002)

## Technical Presentations

- *“Forensic Investigations of Structural Failures”*. Presented as part of Course MSE 431S/1031S - Forensic Engineering, University of Toronto, March 2023, April 2024
- *“Wind Effects on Structures – Large Loss Series”*. Approved Course by Registered Insurance Brokers of Ontario, Alberta Insurance Council, Insurance Council of British Columbia, and Insurance Councils of Saskatchewan, February 2023
- *“Collapse of Champlain Towers South, Florida - June 24, 2021”*. Presented as part of Course MSE 431/1031 - Forensic Engineering, University of Toronto, April 2022

## Publications

- *“Preventing the Next Collapse”*, Canadian Underwriter, December 2021/January 2022, pp.39-40
- Southward, R.E., Dzekic, S., *“Unbalanced Snow Loading and the Structural Integrity of Circular Arched Roofs”*, American Society of Civil Engineers, Practice Periodical on Structural Design and Construction, November 2005, pp. 209-216

*\*Project history available upon request.*