Forensics, Restoration and Building Envelope Services

November 2020

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WALKER CONSULTANTS

Company Profile

Walker Consultants provides planning, design, engineering, forensics, restoration and consulting for the built environment.

Our experts have been advancing industry standards since we began in 1965. We are a 100% employee-owned company that takes pride in the value we provide our clients through integrity, honesty, and excellence.

Walker's forensic professionals perform thorough site investigations, critical reviews and advanced analyses to solve a wide variety of problems. Our technical experts are skilled at providing testimony and litigation support in a variety of formats using the most effective tools.

We have pioneered new methods and set industry standards for testing, restoration and preservation. Our experience includes a wide array of projects for office, medical, commercial, residential and institutional buildings, as well as parking structures, bridges, tunnels, water-treatment facilities, airports, sports/entertainment facilities, and plazas.

Walker's building envelope experts know the errors to avoid and how to provide a long-lasting design. We understand how the different systems of a structure, including roofing, façade, below-grade waterproofing, and structural systems interact with one another.

The combination of our structural engineering and architectural design excellence, building science experts, and vast geographic presence make Walker the first choice for these specialized services throughout the country.

Offices	23
Staff	325
States	50
Countries	20
Repeat Customers (%)	85

Parking Design & Operations

Planning & Mobility

Forensics

Restoration Consulting

Building Envelope

Walker At a Glance

01
Full Service, Single Focus

We are a consulting firm **dedicated to meeting a broad spectrum of client needs** by offering multi-discipline services. Our experts in **planning, design, engineering, forensics and restoration** come together with a singular focus on delivering solutions.

02
Global Experience, Local Knowledge

We've consulted on and designed projects nationwide and around the world, **developing in-depth local knowledge of geographic markets, both domestic and international.** Our 23 offices place us within two hours of every major metropolitan area in the United States.

03
Experienced Staff, Creative Minds

Our project teams pair industry experts who bring decades of experience with young talent to produce creative solutions. The result? **Staff at all levels who have learned from the very best in their fields,** and collaborations that have led to to thousands of successful projects and a deep bench of qualified project managers.

04
Quality Projects, Loyal Customers

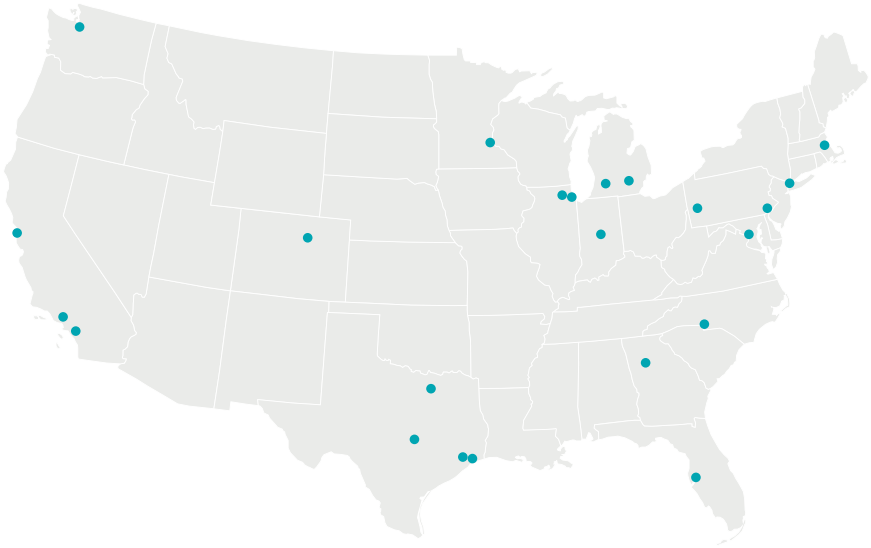
We strive to continually deliver high quality projects for our clients and have consistently out-performed the industry with regards to change orders and construction re-work. The result has been a **repeat client rate of more than 85% and a change order percentage 75% below the industry average.**

05
Practical Experience, Proven Solutions

Our planning and operations consultants have completed hundreds of studies, conducting thousands of hours of research. We take special care to make technological and operational recommendations that are progressive, but also realistic and implementable. **Our focus is on solutions that can improve the patron's experience as well our client's operational efficiency and bottom line.**

Office Locations

800.860.1579
ask.us@walkerconsultants.com
walkerconsultants.com



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Contact via email by combining first initial and last name, e.g. rklein@walkerconsultants.com

Forensics

Our technical experts are skilled at providing testimony and litigation support.

Walker's forensic experts perform thorough site investigations, critical reviews and advanced analyses to solve a wide variety of problems.

Our broad spectrum of forensic services ranges from structural engineering to architecture and building envelope.

Whether a simple failure of a distinct system or a complex, interconnected problem, we can precisely identify the root cause or factors resulting in failure. Our education, training and experience in design, forensic skills, analysis and visualization allows us to succinctly and effectively communicate our findings.

Walker provides attorneys, insurance companies, adjusters, building owners, and design firms with a wide range of litigation support. Our technical experts are skilled at providing testimony and litigation support in a variety of formats using the most effective tools.

Walker has a large geographic presence with 23 offices throughout the United States. This allows us to efficiently respond to local needs with specific knowledge from expert designers and practitioners who participate in professional committees, write and update codes, and publish peer-reviewed technical articles.

Investigations and Assessments

- Collapse/Failure Investigation
- Damage Investigation
  - Earthquake
  - Extreme Wind
  - Flood and Storm Surge
  - Fire/Lightning
  - Impact/Explosion
- Design Errors and Omissions
- Construction Defect
- Diagnostic & Non-Destructive Testing/Destructive Testing Consulting
- Vibration Monitoring and Mitigation
- Emergency Response Consulting and Safety Assessment
- Deconstruction Consulting/ Demolition and Implosion Monitoring
- Advanced Analysis
- Code Compliance and Peer Review
- Litigation/Claim Support and Expert Testimony

Restoration Consulting
for Existing Facilities

Walker has pioneered new methods and set industry standards for testing, restoration and preservation.

We are dedicated to helping owners extend the life of their facilities. We use state-of-the-art testing, restoration and preservation strategies to offer prescriptive recommendations that enable clients to improve the long-term health and increase the value of their assets.

Our experience includes a wide array of projects for parking facilities; office, medical and institutional buildings, bridges, tunnels, water-treatment facilities, airports, sports/entertainment facilities, and plazas. Compared to overhauls, renovations, or wholesale dismantling and reconstruction, Walker's approaches are practical and a substantially smaller investment in time and money; and are less disruptive.

We are dedicated to helping owners extend the life of their facilities.

Structural Engineering

- Advanced Structural Analysis
- Blast Analysis, Design, and Retrofit
- Diagnostic and Testing Consulting
- Due Diligence Survey
- Foundation Evaluations and Repairs
- Investigations and Assessments
- Repair Design and Construction Documents
- Structural Strengthening
- System Upgrades

Structural Strengthening

- Seismic Upgrades
  - Seismic and Wind Hazard and Risk Assessment
  - Asset Management Plan and Maintenance Programs
  - Repair Design and Construction Documents

Parking Restoration

- Condition Assessment
- Design Repairs
- Asset Management Plan
- Maintenance Programs

Building Envelope
for Existing Facilities

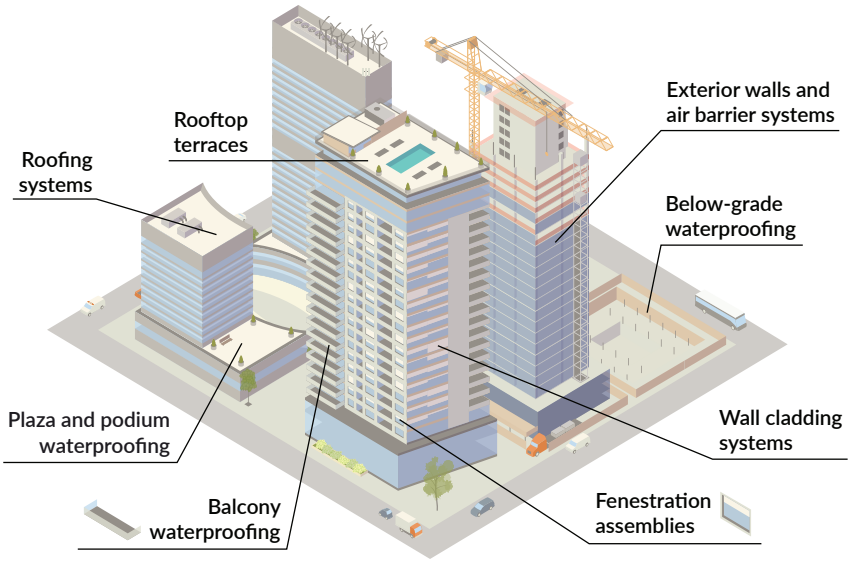
Walker's building envelope experts know the errors to avoid and how to provide a long-lasting design.

We understand how the different systems of a structure interact with one another.

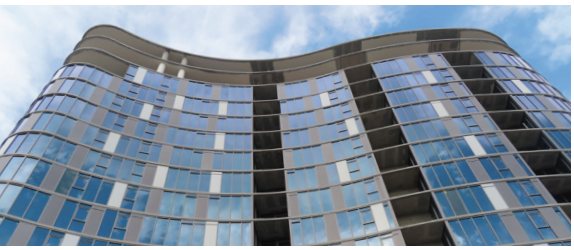
Through our restoration experience, we have encountered and mitigated almost every possible design error or construction mistake. We understand how the different systems of a structure, including roofing, façade, below-grade waterproofing, and structural systems interact with one another.

Walker's ability to provide problem-solving and building science services for structures makes us equally qualified for restoration or new construction.

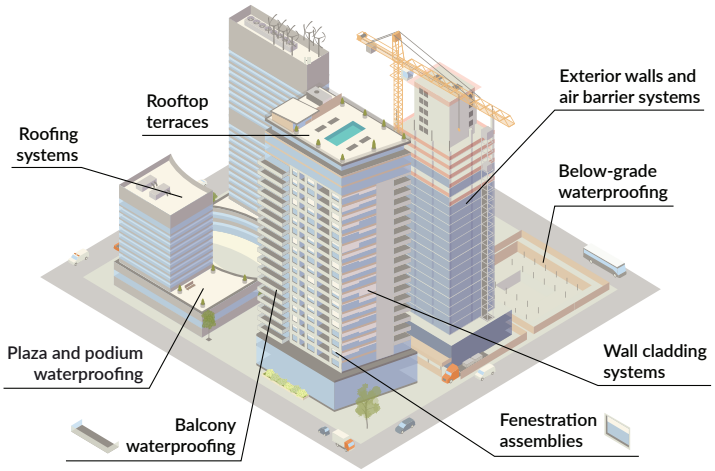
- Building Envelope Testing
- Façade Access Davit & Anchor Testing
- Design Peer Review
- Fenestration Consulting
- Construction Monitoring and Third-Party Review
- Waterproofing Design
- Building Science
- Façade Design and Restoration
- Roofing Design and Repairs
- Plaza Design and Remediation
- Commissioning



Building Envelope Consulting
for New Construction



Walker Consultants is a specialized consulting, design, engineering, and planning firm. We are dedicated to proactively designing for durability and environmental concerns as well as extending the life and value of your building assets. Walker's building envelope experts are also experienced forensic and construction defect investigators, so we know the costly mistakes to avoid.



Design and Construction Documents

- Air Barrier Continuity
- Basis of Design Reports
- Below Grade Waterproofing
- Building and Energy Code Review
- Hygrothermal and Condensation Analysis
- Façade Access and Maintenance Studies
- Façade Cladding and Wall Assemblies
- Fenestration Selection, Flashing, and Tie-Ins
- Parking Garage Study and Design
- Roofing, Waterproofing, Plaza Design
- Specifications
- Vapor Barrier Design

Bidding Services

- Bid Review and Negotiations
- Descope Meetings
- Value Engineering

Construction Phase

- Change Order Review
- Construction Inspections
- Field Sketches and As-Built Drawings
- Mock-up Coordination and Testing
- Pre-Warranty Coordination
- Shop Drawing and Submittal Review
- Shop Visits and Manufacturing QA/QC

Project Close-Out and Operations

- Maintenance Plans
- Material and Assembly Warranty Coordination
- Repair and Restoration Services

Forensics

- Construction Defect Investigations
- Leak Testing and Diagnostics
- Material/System Non-Performance Investigations

Al Bustamante, PE

Senior Vice President, Managing Director – Building Envelope, Forensics & Restoration

Houston, TX

Al is an expert with more than 18 years of experience in the evaluation, non-destructive testing, and design repairs of a variety of structural, architectural, and material distress related projects. His experience includes nondestructive testing of concrete structures, computer modeling and analysis of steel and masonry structures, design of repairs for steel structures, and building envelope assessments.

Education

Master of Science, Civil Engineering (with a Structural Engineering emphasis), University of Illinois Urbana-Champaign

Bachelor of Science, Civil Engineering, Old Dominion University

Registrations

Registered Professional Engineer in LA and TX

Certified Construction Documents Technologist

Technical Expertise

Failure/Damage Investigations
Facade Access
Structural Engineering
Structure Load Rating
Concrete Structures
Structural Metals
Facade Assessment
Parking Restoration
Dimension Stone Cladding
Masonry Construction

Representative Projects

Multiple Residential and Commercial Properties in Texas and Louisiana
Provided litigation support services in over 100 properties and and expert testimony in a dozen properties in Texas and Louisiana.

Jesse Jones Hall (Houston, TX)
Condition assessment of 1966-built exterior travertine stone wall connected to several different types of back-up wall systems.

Lancaster Hotel (Houston, TX)
Designed replacement ornamental cast stone panels using 3-D photometrics for historic 12-story hotel built in 1926.

Park Square Condominiums (Houston, TX)
Slab-on-grade evaluation, below-grade waterproofing, deck coating, and parking structure evaluation, design repairs, abnd construction phase services.

Mandalay on the Lake Parking Structures (Irving, TX)
Assessment of foundational movement, repair recommendations, and opinion of probable cost.

University of Houston - Clear Lake Cooling Tower (Houston, TX)
Structural condition assessment of cooling tower foundation, development of 3-D analytical model, repair design, and construction phase services.

Charles Hammond, PE, SE

Senior Consultant – Building Envelope, Forensics & Restoration

Austin, TX

Charles Hammond has more than 14 years of experience providing structural engineering services both domestically and abroad. Charles' design and forensic experience has included various structure types such as stadiums, medical facilities, high-rise buildings, residential buildings, pavements, retaining walls, marine structures, industrial structures, and parking structures. The structures have utilized a variety of materials including structural steel, wood, soil, and concrete. Charles' diverse international and domestic background has included restoration projects, new design projects, forensic investigations, and litigation work among others. Services provided on these projects include structural analysis, construction administration, repair design, load testing, non-destructive testing, failure investigation, peer review, identification of construction/ design defects, and expert witness services.

Education

Master of Science, Civil Engineering, The University of Texas at Austin

Bachelor of Science, Civil Engineering, Texas Tech University

Associate of Science in Archaeology, Austin Community College

Registrations

Registered Professional Engineer in AR, FL, GA, LA, MD, NC, NY, SC, TX and District of Columbia

Registered Structural Engineer in IL, OK

LEED Accredited Professional

ACI Concrete Field Testing Technician

AWS Certified Welding Inspector

PADI Divemaster

Technical Expertise

Structural Analysis

Collapse Investigations

Damage Investigations

Construction Administration

Repair Design

Concrete Distress

Welding

Non-Destructive Evaluations

Corrosion

Expert Report Writing

Evaluation of Existing Structures

Representative Projects

Arbitrations for DeMars & Associates, Ltd. (Various Locations)
Served as an arbitrator in 3 cases with claims related to structural and/or civil engineering issues between homeowners and homebuilders.

Luxe Mercer Parking Garage Assessment (Dallas, Texas)
Developed construction documents to address erection deficiencies observed during the new construction of a garage at a multifamily development.

Mahogany Bay Cruise Ship Pier (Roatan, Honduras)
Investigation into design and construction defects at a cruise ship pier including assessment of exposed concrete durability, evaluation of existing concrete distress, and evaluation of repair options.

The Cellars (San Antonio, TX)
Investigation of slab failure at luxury apartment building during construction within the Pearl Brewery Complex.

Williamson County Parking Garage at Justice Center Complex (Georgetown, TX)
Forensic investigation at a precast concrete parking garage which included assessing observed concrete distress, structural modeling, non-destructive testing, and evaluation of repair options.

Anurag Jain, PhD, PE

Vice President, Director – Forensics

Los Angeles, CA

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ajain@walkerconsultants.com

Dr. Jain has more than 25 years of experience designing, analyzing and investigating structures for extreme loads. His expertise is in the area of earthquake and wind engineering and structural dynamics. He has completed numerous investigations for damage caused by extreme winds, earthquakes, fire, ground movement, construction-induced vibrations, construction defects, design omissions and corrosion. Dr. Jain also uses computer modeling to determine the cause of structural failures.

Education

Ph.D., Johns Hopkins University, Structural Engineering, Wind Engineering Emphasis

M.S.E., Johns Hopkins University, Structural Engineering

B.Tech., Indian Institute of Technology, Banaras Hindu University, Civil Engineering

Registrations

Licensed Civil Engineer in CA

Licensed Professional Engineer in FL, LA, MS, NJ, and TX

Record, National Council of Examiners for Engineering Surveying (NCEES)

Safety Assessment Program (SAP) Evaluator, Post-Earthquake Evaluation of Buildings, California Emergency Management Agency (Cal EMA)

Technical Expertise

Technical Structural Design
Seismic Rehabilitation/Retrofit
Wind Engineering Studies
Peer Review
Risk Assessment
Building Collapse
Construction Defect
Extreme Winds
Earthquakes
Vibration Assessment and Mitigation
Fire and Lightning
Design Errors & Omissions

Representative Projects

Hard Rock Hotel Collapse (New Orleans, LA)
Retained as an expert to investigate the collapse of this 18-story steel-framed building under construction. Lead a team of engineers to perform a site investigation, document review and structural analysis to determine the cause of collapse.

Hurricane Damage Investigations (Various Locations in United States)
Investigation of more than 2,500 buildings (steel, concrete, masonry and wood) damaged by Hurricanes Charley, Frances, Jeanne, Katrina, Rita, Wilma, Gustav, Ike, Sandy, Matthew, Irma, Maria, Florence, and Michael.

Earthquake Investigations (Various Locations Worldwide)
Investigation of more than 2,500 buildings (steel, concrete, masonry and wood) damaged by the 1989 Loma Preita, 1993 Guam, 1994 Northridge, 1999 Izmit (Turkey), 2001 Nisqually, 2003 San Simeon, 2006 Hawaii, 2010 Chile, 2010 – 2011 Canterbury sequence in Christchurch (New Zealand), and 2016 Cushing earthquakes.

Professional Experience and Honors

Chair, ASCE/SEI Structural Wind Engineering Committee

Co-Chair, 12th Americas Conference on Wind Engineering, 2013

Structural Engineering Excellence Award, Structural Engineers Association of California, 2005

Grand Conceptor Award, American Council of Engineering Companies, 2004

Testified in more than 60 depositions and 14 trials

Authored or co-authored more than 70 peer-reviewed publications, including 4 books

Behnam Arya, PhD, PE

Senior Consultant – Building Envelope, Forensics & Restoration

Los Angeles, CA

Dr. Behnam Arya has more than 20 years of experience in analysis, design and investigation of structures during which he has directed a multiple investigation projects to determine the cause of structural damage/ failures due to earthquakes, extreme winds, construction defects and design errors. Behnam has extensive experience in destructive and non-destructive structural testing for investigation projects. He has performed numerous advanced computer models and analyses for seismic hazard mitigation and structural failure investigation.

Education

Doctor of Philosophy, Tufts University, Medford, MA, 2000, Structural Engineering

Master of Science, California State University Northridge, 1997 (with distinction)

Bachelor of Science, Iran University of Science and Technology, 1989

Registrations

Licensed Professional Engineer in CA

Structural Engineering Certification Board

Technical Expertise

Failure Investigation
Building Collapse
Non-destructive Testing
Destructive Testing
Advanced Computer Modeling and Structural Analysis
Seismic Rehabilitation Retrofit
Damage due to Adjacent Construction Vibration and Activities
Vibration Assessment and Mitigation
Construction Defects and Design Errors
Technical Structural Design
Peer Review
Earthquakes
Extreme Winds
Risk Assessment

Representative Projects

World Trade Center (New York, NY)
Major contributor to the World Trade Center damage investigation team, performed static, dynamic and wind analysis, simulated damage configurations to find the cause of collapse.

Royal Palm Resort (Tumon Bay, Guam)
Engineering support for plaintiff experts in $200 million litigation case on collapse of a reinforced concrete building damaged during earthquake.

Hurricanes Charley, Frances, Jeanne, Wilma, Katrina, Ike and Mathew (Florida, Mississippi, and Texas)
Project Engineer/Manager for more than 50 large residential and commercial buildings. Conducted site investigation, engineering analysis and prepared full reports to investigate damage to the buildings.

Jones Beach Theater (New York, NY)
Project Engineer, Site investigation to determine the cause of floor vibrations of at a 14,000-seat stadium theater.

4720 Lincoln Blvd Parking Garage (Marina Del Rey, CA)
Investigation of distress to a subterranean reinforced parking structure and prepare repair recommendations.

Sean Connolly, RA, RWC, CCS

Director of Building Envelope

Irvine, Los Angeles, and San Francisco, CA

Sean is the Director of Building Envelope for Walker's California offices. Sean is a licensed Architect and Registered Waterproofing Consultant with expertise in above and below-grade waterproofing, exterior walls (including windows and doors) and roofing for new construction and renovation projects. He is responsible for a wide variety of services including field investigations, design and peer review, bidding/ negotiation, plan check, construction administration, quality assurance/ quality control testing, observations related to the building enclosure, and expert witness services.

Education

Bachelor of Arts, Architecture, New York Insti tute of Technology

Registrations

Licensed Architect in CA and WA

Technical Expertise

Building Enclosure Forensics
Construction/Design Defects
Due Diligence Assessments
Air and Moisture Infiltration
Sprinkler System Freeze-up Failures
Roofing System Design/Defects
Cause and Origin Investigation
Emergency Response

Representative Projects

Detroit Zoo Penguinarium (Detroit, MI)
Expert witness support including document review, consulti ng, strategic planning and site observati ons. Project settled.

Meridian Condominiums (Newport Beach, CA)
Design, construction administration, quality assurance observations, and window water testing for the new construction of 5 buildings.

Irvine Spectrum Marriott (Irvine, CA)
Peer review and construction phase consulting for new construction. EIFS, window wall, windows low-slope roofing, rooftop terrace waterproofing.

Rosewood Miramar Beach Resort (Montecito, CA)
Peer review, construction phase consulting, quality assurance observations, and window water testing. All exterior building enclosure systems for over 20 new buildings on the coast.

8600 Wilshire Condominiums (Beverly Hills, CA)
Peer review, construction phase consulting, quality assurance observations, and window water testing for new construction. Below-grade waterproofing, deck, planter and water feature waterproofing, exterior wall assemblies, windows and doors, low-slope roofing.

Grossmont Healthcare District, Heart & Vascular Center (La Mesa, CA)
Peer review, construction phase consulting, quality assurance observations, and window water testing for new construction. Stucco, seismic joints, windows, low-slope roofing.

Ibrahim Erdem, PhD, PE, SE

Senior Consultant – Building Envelope, Forensics & Restoration

New York, NY

Ibrahim is a Senior Forensics and Restoration Consultant in Walker's New York office. Specializing in the evaluation, failure investigation, and repair of structures, his experience includes condition assessment of buildings, effects of adjacent construction, diagnosis of construction and design defects, evaluation of building components, stairs and other walking surfaces for compliance with applicable building codes and standards, and evaluation of construction sites for site safety measures. Ibrahim has over 19 years of experience in the assessment and repair design of structural systems and has developed repair techniques for masonry, concrete and steel members. He often utilizes state-of-the-art computer modeling to determine the behavior of complex structural systems under extreme loading.

Education

Doctor of Philosophy, Structural Engineering and Biomechanics, Cornell University, 2008

Master of Science, Structural Engineering, Middle East Technical University (Turkey), 2003

Bachelor of Science, Civil Engineering, Middle East Technical University (Turkey), 2003

Registrations

Licensed Professional Engineer in CT, NY, NJ, PA, NC

Licensed Structural Engineer in IL

Technical Expertise

Adjacent Construction
Building Collapse
Condition Assessment
Construction/Design Defects
Construction Accidents
Failure Investigation
Hurricane Investigations
Peer Review
Structural Repair
Trip/Slip and Fall

Representative Projects

Construction/Design Defect Cases

As project engineer or lead engineer, assisted attorneys to investigate construction and design deficiencies. The cases included defects related to construction or design of bridges, concrete slabs and beams, parking structures, pools, roof mounted solar panels, roof/window assemblies and stairs.

Hurricane Investigations

Performed damage assessment for more than a dozen residences in Brooklyn, Long Island and Jersey Shore after "Super Storm" Sandy in 2012. The scope included differentiating wind-related damage from water-related damage.

Trip/Slip Fall Investigations

As lead engineer, investigated numerous trips/slips and fall accidents to determine the cause of the incident and to evaluate the walking surface for compliance with the applicable building codes and standards to assist attorney clients.

Insurance Investigations

As the lead engineer, investigated more 50 insurance claims reported by property owners. The claims include damage due to fallen tree, vehicle impact, wind, snow, hail, adjacent construction, water intrusion and roof conditions.

Brian Faith, AIA

Principal, Director – Building Envelope, Forensics & Restoration

Denver, CO

Education

Bachelor of Science in Advanced Technical Studies (Architecture), Southern Illinois University

Associate of Applied Science in Architectural Technology, Southern Illinois University

Registrations

Licensed Architect in CO, IL, and TX

Technical Expertise

Building Envelope Materials & Systems
Waterproofing Systems
Damage Investigations
Corrosion
Air & Water Leakage Investigations
Condensation Issues
Glazing Non-performance Investigations
Field Testing
Repair Design

Brian Faith has more than thirty years of experience in the investigation, evaluation, testing, design, and renovation of various building types throughout the United States. Brian provides expertise in the areas of building envelope and structural evaluation, testing and design.

Brian has performed investigations of building non-performance, including air and water leakage, condensation, and material and system failures. He has prepared repair documents for hundreds of buildings and structures experiencing deterioration and/or non-performance issues. Brian's experience covers a wide range of construction materials and systems including concrete, masonry, terra cotta stone, exterior insulated finish systems (EIFS), glass, panel systems, windows, curtain walls and skylights, waterproofing, coatings, and roofing.

His projects include new, existing, and historic buildings and structures for universities, municipalities, single and multi-family residential, commercial buildings, hospitals, hotels, and theaters.

Representative Projects

DePaul University (Chicago, IL)
Oversaw the assessment of more than 50 building facades and roofing systems, including new and vintage (80 to 100 year old) buildings in the Loop and Lincoln Park campuses. Investigated non-performance issues including water infiltration on select buildings. Repair design and oversight included restoration repairs to brick, stone, terra cotta, waterproofing systems, window replacements, and roof repair/ replacement.

Northwestern Memorial Hospital (Chicago, IL)
Oversaw the assessment of the hospital campus facades and parking structures and repair design for identified building envelope and parking structure deficiencies.

Littlefield Building (Austin, TX)
Performed an assessment of the historic Littlefield building façade and developed repairs for the terra cotta, masonry, wood and steel windows to restore deficiencies and extend the life and functionality of the building façade in accordance with historical preservation standards.

Vladimir Ivanov, PE, SE

Managing Principal

Seattle, WA

Vladimir is the Managing Principal of our Seattle office, and has over 20 years of forensic engineering and structural design experience with multi-family residential, commercial, industrial, healthcare facilities, stadiums, and bridges. He has worked with building owners, property management companies, insurance companies, healthcare facilities, and government agencies. He has served as an expert witness and provided litigation support. He has investigated brick building façades, deteriorating high-rise buildings, parking garages, stadiums, arenas, steel building collapses, prestressed concrete slabs, and precast concrete.

Education

Master of Science, Structural Engineering, University of Architecture, Civil Engineering and Geodesy, Sofia, Bulgaria

Registrations

Registered Structural Engineer in CA, WA, AZ, AK, HI, NV, ID, and OR

Registered Civil Engineer in CA, WA, and OR

Technical Expertise

Damage Assessments
Construction Defect Analysis
Structural Repair Design
Litigation Support
Expert Witness Testimony
Deposition Services

Representative Projects

Harbor Steps Apartments (Seattle, WA)
4-tower high-rise façade and structural repairs (CDs, CA, and inspection).

Centennial Apartments (Seattle, WA)
High rise façade repairs.

Skagit Valley Hospital (Mount Vernon, WA)
Concrete façade evaluation.

Northtown Mall Parking Structures (Spokane, WA)
Condition appraisal, asset management plan, capital improvements.

Westfield Malls Parking Structures (Multiple locations, WA and CA)
Condition appraisals, asset management plans, capital improvements at 11 malls.

Housing Authority County of Santa Clara (San Jose and Palo Alto, CA)
Residential platform condition assessment and water intrusion source isolation for 36 platforms in 6 buildings, and waterproofing repair design.

Gonzaga University Watermark Parking Garage (Seattle, WA)
Condition assessment of waterproofing and precast concrete slabs, hazard identification, and 5-year asset management plan (AMP).

Kirby L. McCleary, PE

Principal, Director – Building Envelope, Forensics & Restoration

Washington, DC

Kirby McCleary is the Director of Building Envelope, Forensics and Restoration in the Washington, DC office. Mr. McCleary has more than twenty years of experience in the evaluation, design, and associated consultation of new and existing building structures of all types, uses, and construction materials. Kirby's responsibilities include forensic investigation, evaluation, and remediation of existing building defects and deficiencies related to a variety of building envelope and structural systems, building envelope consultation for new construction, as well as expert witness and litigation support services.

Education

Bachelor of Science, Civil Engineering (with a Structural Engineering emphasis), The Pennsylvania State University

Registrations

Registered Professional Engineer in the MD, VA, and the District of Columbia

Technical Expertise

Construction / Design Defects
Thermal System Evaluation
Community Association Projects
Contract Administration
Due Diligence Assessments
Cladding System Design/Defects
Air and Moisture Infiltration
Sprinkler System Freeze-up Failures
Transition Studies
Construction Observation
Fire Damaged Concrete
Roofing System Design/Defects

Representative Projects

Herauf v. Elmont Condominium (Baltimore, MD)
Qualified expert witness testimony based on forensic evaluation of structural wall connection failures.

Silverbrook Farm Condominium (Owings Mills, MD)
Mediation/litigation support services related to building envelope repair construction defects that contributed to sprinkler pipe freeze-up conditions; forensic investigation, repair design, and construction phase services.

USPS L'Enfant Plaza HQ Garage (Washington, DC)
Forensic evaluation and consultation regarding concrete repair defects.

Hilton Garden Inn (Arlington, VA)
Director of Restoration Building envelope evaluation and testing related to air and moisture infiltration conditions.

Edgewater Condominium (Reston, VA)
Director of Restoration Building envelope evaluation related to sprinkler freeze-up conditions.

Longmead Crossing (Silver Spring, MD)
Director of Restoration Emergency response to structural stair collapse and emergency evaluation of 25 similar stair structures.

Daniel E. Moser, SE, PE

Vice President, Director – Building Envelope, Forensics & Restoration

Chicago, IL

Dan has more than 25 years of experience with specialized expertise in structural evaluations, engineering design and restoration on a wide variety of structures ranging from 800' tall reinforced concrete chimneys to buildings and bridges, as well as façades and parking structures. He has worked with numerous types of clients including property management companies, building owners, institutional facilities, government agencies, insurance companies, attorneys, architects and contractors. Dan has experience providing litigation support and has served as an expert witness.

Education

Bachelor of Science, Civil Engineering, University of Illinois, 1989

Registrations

Registered Structural Engineer in IL

Registered Professional Engineer in IL

Technical Expertise

Structural Evaluation
Technical Structural Design
Post-Tensioning Design
Post-Tensioning Investigation, Repair, Strengthening
Load Testing
Rapid Structural Assessment
Construction Troubleshooting
Repair and Rehabilitation Design
Nondestructive Evaluation
Structural Analysis
Parking Structures
Foundation Failures/Remediation
Steel Structures
Wood Structures

Representative Projects

College of DuPage (Glen Ellyn, IL)
Plaza walkway repairs, building elevator, plaza waterproofing.

DePaul University (Chicago, IL)
Investigation of façade ornamental cast iron grillage failure and repair recommendations.

200 East Delaware Condominium (Chicago, IL)
Parking structure restoration.

Greyhound Elevated Roadway (Chicago, IL)
Condition appraisal and probable cost opinion.

City of South Bend (South Bend, IN)
Detailed condition assessment, structural analysis, emergency PT slab repairs, multiyear phased restoration program.

Universal Studios Orlando (Orlando, FL)
21,000 parking spaces: Condition Appraisal, beam seat replacement design, PT slab tendon failure evaluation.

Ravi Mullapudi, PhD, PE, PEng

Senior Consultant – Building Envelope, Forensics & Restoration

Houston, TX

Ravi Mullapudi is a senior consultant with a focus on forensics, analysis, design, and strengthening of residential, commercial, onshore, nuclear, petrochemical, parking and environmental structures for normal design loads, and extreme loads such as blast, fire, seismic and high wind loads. Ravi has also spent several years in research and development working on inelastic finite element models under static and dynamic loads for structural systems subjected to combined axial, shear, flexure and torsional loads, and models for soil-structure interaction. He has conducted nondestructive testing on concrete, studied the behavior of connections between concrete and steel, and developed constitutive models for reinforced concrete structures.

Education

Doctor of Philosophy, Civil Structural Engineering, University of Houston

Master of Science, Civil Engineering, Missouri University of Science and Technology

Master of Science, Civil Structural Engineering, Indiana Institute of Technology Madras (India) and University of Stuttgart (Germany)

Bachelor of Science, Civil Engineering, National Institute of Technology Warangal (India)

Registrations

Registered Professional Engineer in CA, KY, LA, MA, NC, and TX, as well as British Columbia and Ontario

LEED AP BD+C Certified Professional

Certified Project Management Professional

Texas Department of Insurance (TDI) Certified Windstorm Inspector

City of Houston Authorized Special Inspector

Representative Projects

Root Cause Analysis of Hot Salt Tank Leak in Crescent Dunes Solar Generating Project (Tonopah, NV)
This $1 billion project was designed to produce 110 megawatts of solar thermal power. The plant operation was forced to cease operatoin due to the tank floor failure. Represented the plaintiff and critiqued the defendant's design reports. Conducted an advanced analysis to find the root cause of the failure.

Building Repairs to Withstand Blast Explosion Load (New Orleans, LA)
Strengthened the deteriorated, corroded, and/or under-designed steel, concrete, masonry, and wood structures to withstand the required blast loads.

Technical Expertise

Structural Evaluation and Design
Repair and Rehabilitation Design
Design of Steel & Concrete Structures
Design of Masonry & Wood Structures
Structural Mechanics and Dynamics
Finite Element Analysis
Seismic and Wind Evaluations
Blast and Fire Integrity Analysis
Inspection of Damaged Structures
Engineering Failure Analysis
Stress Analysis of Complex Structural Systems
Soil Structure Interaction
Construction/Design Defect Review
Litigation and Patent project support
Field/Laboratory Testing
Shallow/Deep Foundation Design
Construction Support

Michael H. Retterath, PE

Director – Building Envelope, Forensics & Restoration

Minneapolis, MN

Education

Bachelor of Science in Architectural Engineering with a Structural Specialty, Milwaukee School of Engineering, 2001

Registrations

Licensed Professional Engineer in MN

Technical Expertise

Structural Engineering
Post-Tensioned Concrete
Building Envelope
Plazas
Expert Witness
Emergency Response
Collapse Investigation
Water Intrusion
Drone Assessment
Nondestructive Testing
Peer Review
Due Diligence Surveys
Parking Structures

Mike is the Director of Building Envelope, Forensics and Restoration at Walker's Minneapolis office and is a licensed Professional Engineer in the state of Minnesota. He is responsible for the management of building enclosure, forensic and restoration projects. Mike's expertise in building enclosure assessments includes roofing, facades, glazing, fenestrations, waterproofing, Construction Document QA/QC, and observations during construction.

His extensive background in building assessment, emergency response, expert witness, structural design, testing and construction lends to insightful contributions to the approach of projects. With Walker, he has led many successful building assessment and restoration projects including water intrusion, fire damage, structural failures, corrosion damage, and general building maintenance. He has affiliations with the International Institute of Building Enclosure Consultants (IIBEC, formerly RCI), the MN Chapter of the International Concrete Repair Institute (ICRI), Minneapolis and Saint Paul BOMA, American Society of Civil Engineers (ASCE), and more.

Representative Projects

1st Street Ramp Glazing Repair (Rochester, MN)
Assessed the existing glazing condition, provided cost estimate for repair, providde bidding/construction documents, and performed construction. The structure consists of a six supported level parking ramp, a built-in skyway, and a skyway bridge. Enhancements included: curtainwall replacement, shifting façade repair, new skyway flashing, replacement of construction joint sealants, and new diverter flashings.

Lakeview Hospital Façade Assessment (Stillwater, MN)
Provided a condition assessment and opinion of probable repair costs for the hospital building façade. Performed a visual observation, electronic thickness testing, RILEM tube testing, and an exploratory investigation of masonry. Also performed roof observations for general fall prevention and protection requirements.

Diego F. Romero, PhD, PE

Director – Building Envelope, Forensics & Restoration

Chicago, IL

Diego is responsible for evaluation, design and project management of restoration projects. He also leads the development and implementation of our photogrammetry 3D modeling and unmanned air vehicles services for restoration projects. Diego is detail-oriented and highly motivated with extensive knowledge in concrete durability assessment, structural design, project management and sustainable construction. Diego has worked in a wide variety of structures ranging from evaluating wooden roof trusses of 19th century churches to assessing the condition of 460' tall concrete power plant cooling towers.

Education

Doctor of Philosophy, Structural Engineering, University of Miami, 2013

Master of Science, Civil Engineering, University of Miami, 2011

Bachelor of Science, Civil Engineering, University of Miami, 2008

Registrations

Registered Professional Engineer in IL and TX

Technical Expertise

Structural Evaluations and Analysis
Repair Design and Strengthening
Post-Tensioned Concrete Structures
Concrete Material Durability
Fire Damage

Representative Projects

111 East Chestnut (Chicago, IL)
Condition appraisal of a conventionally reinforced parking structure for a mixed-use high rise and design of temporary shoring to cantilevered slabs.

XTO Energy, Inc. Parking Garage (Fort Worth, TX)
Condition assessment, structural repair design and construction administration of a 570 space precast parking structure.

Franklin Lake Elevator Room (Chicago, IL)
Design FRP strengthening for a floor slab cutout to allow the installation of mechanical equipment.

Scherer Cooling Towers (Juliette, GA)
Structural inspection of four 460' tall hyperbolic concrete cooling towers within a coal-fired power plant.

Hulen Mall Parking Structure (Fort Worth, TX)
Construction documents and administration services for a precast shopping center parking structure.

232 East Walton Cooperative Building (Chicago, IL)
Facade assessment and inspection of iron fire escapes and water tower for a mid-1900's residential masonry mid-rise structure.

Nam Shiu, PE, SE

Senior Vice President

Chicago, IL

Nam has more than 35 years of experience identifying contributing causes of noted distresses and construction related defects, including litigation support and serving as an expert witness. Nam has worked with building owners, property management companies, insurance companies, healthcare facilities, and government agencies. Currently, he is focusing on façade and curtain wall evaluations; building leakage evaluations; distress investigation, expert witnessing, and repair design for corrosion related deterioration.

Education

Master of Science in Structural Engineering, University of Illinois, 1976

Bachelor of Science in Civil Engineering, with highest honor, University of Illinois, 1975

Registrations

Registered Structural Engineer in IL

Licensed Professional Engineer in FL, NY, MN, CO, MI, and GA

Chartered Engineer in the United Kingdom

Technical Expertise

Condition Surveys
Structural Integrity Appraisals
Repair Plans
Prestressed Concrete Decks
Precast Concrete
Brick Building Facades
Highway & Railway Bridges
High-Rise Buildings
Non-Destructive Testing

Representative Projects

123 Market Street (Phila., PA)
Non-destructive testing of stone slabs in entrance lobby.

200 West Madison (Chicago, IL)
Slab investigation, repair documents, administration.

232 East Walton Street (Chicago, IL)
Immediate east wall repair, water leakage.

250 South Wacker Parking Levels (Chicago, IL)
Probable cost opinion.

69 W. Washington Building & Plaza (Chicago, IL)
Water leakage investigation of plaza and windows; stone panel evaluation.

Glen Town Center – Von Maur (Glenview, IL)
Pedestrian bridge condition appraisal, waterproofing, infrastructure restoration.

USPS Main Facilities (Milwaukee, WI)
Structural engineering, evaluation, testing and repairs.

North Florida Regional Medical (Gainesville, FL)
Parking structure condition appraisal.

Lutheran General Hospital (Park Ridge, IL)
Restoration design – evaluation of broken PT tendons.

C. Can Simsir, PhD, PE

Senior Consultant – Building Envelope, Forensics & Restoration

Los Angeles, CA

Can Simsir, PhD, PE has 15 years of experience in providing consulting and expert services for investigation and dispute resolution of structures damaged or collapsed by natural and man-made hazards including earthquakes, winds, fires, floods, vibrations, construction defects, design omissions, and performance failures. He provides peer review services for the design of structures and performs advanced analysis in the evaluation of existing structures. His expertise also includes performance-based seismic design and masonry structures. Can is a key member of the firm's investigations and forensic engineering team for projects nation-wide and is based in the Los Angeles office.

Education

PhD, University of Illinois, Structural Engineering, 2004

MS, University of Illinois, Structural Engineering, 2000

Registrations

NCEES (12-935-33) Professional Engineer Record Holder

NCEES (12-935-33) International Registry for Professional Engineers

CA (SAP63081) Office of Emergency Services, Safety Assessment Program Evaluator

Licensed Civil Engineer in CA

Licensed Professional Engineer in FL

Technical Expertise

Structural Engineering
Forensic Investigation
Litigation Support
Extreme loads
Structural Collapse
Earthquake Engineering
Wind Engineering
Fire Damage
Construction Defects
Design Errors
Vibration Assessment
Risk Assessment
Peer Review
Masonry Structures
Performance Based Design

Representative Projects

Several low-rise commercial and industrial buildings (Mexico City)
2017 Central Mexico earthquake damage inspection, analysis and repair.

Over 50 Commercial/Industrial Buildings (Christchurch, New Zealand)
2010-2011 Canterbury earthquake sequence damage inspection, per event analysis and repair.

Mauna Kea Beach Hotel; Hapuna Beach Hotel; King Kamehameha's Kona Beach Hotel (Kona, HI)
2006 Hawaii earthquakes damage inspection, analysis of mid-rise reinforced concrete buildings.

Over 25 High-Rise Condominiums, Low-Rise School Buildings, and Palisades Medical Center Buildings (New Jersey)
2012 Superstorm Sandy damage inspection and wind load assessment.

Residential Buildings, Shopping Mall (South Florida)
2017 Hurricane Irma damage inspection and analysis.

Gary A. Syslo, PE

Senior Consultant – Building Envelope, Forensics & Restoration

Chicago, IL

Gary Syslo is a Senior Consultant in Walker's Chicago office. He has extensive experience in building envelope consulting including new construction commissioning, existing construction evaluation and repair specification for concrete, masonry, metal and glass facades, fluid and sheet-applied waterproofing systems, and built-up and membrane roofing assemblies.

Gary is a skilled rope access technician and qualified consultant in compliance audit, design, load testing, and inspection of fall protection and façade access systems for mid and high-rise buildings.

Gary has also worked with numerous client types in the hospitality, medical, education, commercial, residential, and public/private sectors performing property and facility condition assessments, providing support in mitigating risk and planning repairs and capital improvements.

Education

Master of Science, Structural Engineering, University of Wisconsin

Bachelor of Science, Civil Engineering, University of Illinois

Registrations

Licensed Professional Engineer in IN, IL, WI

Technical Expertise

Building Envelope Commissioning

Performance Testing

Rope Access Evaluations

Water Intrusion Investigations

Repair & Restoration Design

Roofing & Exterior Wall Asset Management

Fall Protection & Façade Access Systems

Compliance Audit & Equipment Use Plans (Design & Peer Review, Load Testing, and Annual Surveys)

Construction Monitoring (Pre/Post Construction Surveys, and Vibration and Inclination Monitoring)

Representative Projects

Kohler Company Manufacturing Complex (Kohler, WI)
Facility condition assessments of multiple buildings within the Kohler Company's 1 million square foot manufacturing complex, including buildings originally built in 1920. Property systems assessed included building structure, exterior walls, roof, windows and doors, mechanical, electrical, HVAC, elevators, fire protection and security, interiors, ADA compliance features, site appurtenances and pavements.

Northwestern Mutual Towers and Commons (Milwaukee, WI)
Developed and instituted a construction monitoring program for deep foundation installation phase of 34-story mixed-use tower and underground parking. Performed a pre-construction survey consisting of high-resolution photography and video recording to document existing defects/damages of adjacent buildings. In addition, vibration/crack monitoring services were performed to document and limit construction vibration effects on adjacent buildings.

David J. Vander Wal, PE

Senior Vice President

New York, NY

With Walker for 30 years, Dave Vander Wal is a Senior Vice President and Principal-in-Charge for functional design and structural design projects in the New York metropolitan region and overseas. Working across a broad spectrum of project types, Dave sees a project through from the early planning stages (master planning, sizing studies, and conceptual design) through full design services to the final punch list.

Education

Master of Science, Civil Engineering, University of Michigan, 1977

Bachelor of Science, Civil Engineering, University of Michigan, 1976

Registrations

Registered Professional Engineer in CT, MA, MI, NJ, NY, and WA

Technical Expertise

Parking structure design and restoration

Parking structure durability

Parking functional design (flow capacity of ramping systems and entry/exit queuing analysis)

Parking Access and Revenue Control Systems

Automated Parking Guidance Systems

Mechanical valet and automated parking systems

Representative Projects

Working nationally and internationally, Dave has worked on mixed use projects such as the Burj Khallifa Tower in Dubai and International Plaza in Songdo City, Korea, transportation hubs such as JFK and La Guardia Airports and Wyandanch LIRR station, campuses including Northern Westchester Hospital and Molloy College on Long Island, entertainment venues such as Mohegan Sun Casino and the Kennedy Center for the Performing Arts, and urban municipal garages like Lyon Place in White Plains and the Boston Convention Center.

1201 Brickell Bay Drive (Miami, FL)
Functional Design Consulting for a mixed-use building with two levels of below grade parking. Project included refining parking and loading dock concepts for garage.

30 Thompson Street AVSRS (New York, NY)
Parking consulting for residential property with 4 multi-story units and a single basement level parking facility. Reviewed concepts for automated vehicle storage and retrieval system (AVSRS) for feasibility and provided recommendations.

PennFIRST Hospital (Philadelphia, PA)
Functional design and consulting for the 700 vehicle below-grade parking facility serving the new Penn First Patient Pavilion.

Publications and Presentations

Anurag Jain, PhD, PE

Sample list of publications and presentations. A full list is available upon request.

"Performance of Low-Rise Buildings with no Seismic Design in Unanticipated Earthquakes", Proceedings of the 17th World Conference on Earthquake Engineering, Sendai, Japan, September 2020 (Co-author)

"Assessment and Mitigation of Wind-Induced Vibrations in Short-Span Bridge Stay Cables", Proceedings of the 15th International Conference on Wind Engineering, Beijing, China, September 2019 (Co-author)

"Analysis, Measurement and Mitigation of Stay Cable Vibrations," Proceedings of the 8th Forensic Engineering Congress, Austin, TX, November 2018

"Wind-Induced Damage to Rooftop Solar Arrays and Roofs," Proceedings of the 8th Forensic Engineering Congress, Austin, TX, November 2018

"Impact of Adjacent Construction on Existing Building," Proceedings of the 8th Forensic Engineering Congress, Austin, TX, November 2018

"Recent Observations of Structural Damage in Non-Synoptic Wind Events," Proceedings of the 13th Americas Conference on Wind Engineering, Gainesville, FL, May 2017

"Wind Engineering," National Science Foundation, 2015 (Panelist)

"Consideration of Wet Service Conditions on the Performance of Bowstring Trusses," Proceedings of the ASCE 7th Forensic Engineering Congress, Miami, FL, November 2015 (Co-Author)

"Structural Damage Allocation from Sequential Earthquakes," Proceedings of the ASCE 7th Forensic Engineering Congress, Miami, FL, November 2015 (Co-Author)

"Hurricane Wind Generated Debris Impact Damage to Glazing of High-Rise Building," Proceedings of the ASCE 7th Forensic Engineering Congress, Miami, FL, November 2015 (Author)

"A Forensic Study to Apportion Damage due to Multiple Sequential Earthquakes," Proceedings of the 37th International Association for Bridge and Structural Engineering Symposium, Madrid, ESP, September 2014 (Co-Author)

"Performance of Mid-Rise Reinforced Concrete Buildings during the Canterbury Earthquake Sequence," Proceedings of the Tenth U.S. National Conference on Earthquake Engineering, Anchorage, AK, July 2014 (Co-Author)

Seismic Performance of Low-Rise Pre-Engineering Buildings with Tilt-Up and Masonry Façade Walls during the Canterbury Earthquakes in New Zealand," Proceedings of the Tenth U.S. National Conference on Earthquake Engineering, Anchorage, AK, July 2014 (Co-Author)

"A Simplified Approach to Quantify Damage Contribution of Individual Events in Canterbury Earthquake Sequence," Proceedings of the Tenth U.S. National Conference on Earthquake Engineering, Anchorage, AK, July 2014 (Co-Author)

"Developing Structural Analysis Models using Bayesian Methods," Proceedings of the Tenth U.S. National Conference on Earthquake Engineering, Anchorage, AK, July 2014 (Co-Author)

"Performance-Based Wind Evaluation and Strengthening of Existing Tall Concrete Buildings in the Los Angeles Region: Dampers, Nonlinear Time History Analysis and Structural Reliability," Journal of The Structural Design of Tall and Special Buildings, Vol. 23, No. 16, pp. 1256-1274, 2014 (Co-Author)

"Wind Borne Debris Impact Generated Damage to Cladding of High-Rise Building," Proceedings of the 12th Americas Conference on Wind Engineering, Seattle, WA, June 16-20, 2013 (Author)

"Performance-Based Wind Design of Tall Concrete Buildings in the Los Angeles Region Utilizing Structural Reliability and Nonlinear Time History Analysis," 12th American Conference on Wind Engineering (12ACWE), Seattle, WA, June 16-20, 2013 (Co-Author)

Publications and Presentations, continued

"Investigation of Hurricane Damage to a Condominium Building in Florida," Proceedings of the Forensic Engineering Conference, San Francisco, CA, October 31 – November 3, 2012 (Co-Author)

"Prefabricated Wood Truss Roof Failure under Wind Induced Loads," Proceedings of the Forensic Engineering Conference, San Francisco, CA, October 31 – November 3, 2012 (Co-Author)

"Structural Dynamics and Monitoring of Bridges and Flexible Structures against Wind Hazards," Texas Tech University, March 2012 (Presenter)

"Start of Structural Damage in Stucco Walls," M.S., Journal of The Structural Design of Tall and Special Buildings, Vol. 21(1), pp. 16-27, 2012 (Co- Author)

"Multihazard Design: How to Prepare for Dual Disasters," ENR.com: Engineering News-Record, October 2011 (Co-Author)

2011 U.S. Frontiers of Engineering Symposium, National Academy of Engineering, September 2011 (Participant)

"Consideration for Non-Linear Analysis of Structures Subjected to Wind Loads," Proceedings, 13th International Conference on Wind Engineering, Amsterdam, NLD, July 2011 (Co-Author)

"Engineering Evaluation of Wind Induced Damage to Pre-fabricated Wood Truss Roofs," ASCE / SEI Structures Congress, Las Vegas, NV, 2011 (Co- Author)

"Nonlinear Response of Tall Buildings Subjected to Wind Loads," Journal of the Structural Design of Tall and Special Buildings, Vol. 20, No. Supplement S1, pp. 63-65, DOI: 10.1002/tal.745, John Wiley & Sons Ltd., 2011 (Co-Author)

"International Workshop on Wind Engineering Research and Practice Current State-of-the-Art and Future Needs," May 2010 (Panelist)

"Performance of Drywall Shear Walls: UC Irvine and CSU San Jose Tests," Journal of The Structural Design of Tall and Special Buildings, Vol. 19, Issue 3, p. 309-345, April 2010 (Co-Author)

"Smart Buildings: Viscous Dampers for a Tall Twisting Tower," Journal of The Structural Design of Tall and Special Buildings 19(4), pp. 373-396, 2010 (Co-Author)

Al Bustamante, PE

Sample list of publications and presentations. A full list is available upon request.

Publications

"Building Envelope and Parking Structures Asset Management", CoreNet Global Houston Chapter

"Case Studies on Repair of Prestressed Concrete Parking Structures", ICRI Houston Chapter, November 2013

"Case Studies on Repairs of Prestressed Concrete Parking Structures", ICRI Houston Chapter, October 2009

"Design, Evaluation, and Testing of Façade Access Equipment for Tall Buildings", Building Enclosure Council (BEC) Houston Chapter, July 2010

"Design, Evaluation, and Testing of Façade Access Equipment for Tall Buildings", Gulf Coast Chapter of RCI, April 2012

"Design, Evaluation, and Testing of Façade Access Equipment for Tall Buildings", SEAoT Houston Gulf Coast Chapter, November 2012

"Forensic Engineering, the Heart in the Life Cycle of Structural Damage: From Emergency Response through Restoration to Final Repairs", ASCE Forensic Engineering 8th Congress, December 2018

"Historic Building Cast Stone and Masonry Façade Restoration Using UAV's and Photogrammetry", International Concrete Repair Institute 2018 Fall Convention, November 2018

"Maintenance 201: Lowering Costs & Improving Facility Performance", National Parking Association

"Prestressed Concrete Parking Structures Evaluation and Repairs", SEAoT Houston Gulf Coast Chapter Monthly Meeting, September 2014

Publications and Presentations, continued

"Prestressed Concrete Parking Structures Evaluation and Repairs", Texas A&M University SEAoT Student Chapter, September 2014

"Tackling Travertine Cladding Repairs", Houston/Gulf Coast Chapter Structural Engineers Association of) Texas and Gulf Coast Chapter Roof Consultants Institute

"Test Methods for Evaluating Existing Foundations", FPA Structural Committee, August 2010

"Bustamante, Alfredo, Vemuri, Lakshmi "Updated Provisions and Standards Ensure Safety of Cantilever Girder Structures". Civil + Structural Engineer Magazine, December 2018

Presentations

Bustamante, Alfredo, Fell, Douglas "Forensic Engineering, the Heart in the Life Cycle of Structural Damage: From Emergency Response through Restoration to Final Repairs", November 2018

Bustamante, Alfredo, PE "A Face-Lift Travertine Cladding and Paver Repairs" The Construction Specifier, November 2014

Bustamante, Alfredo, PE, CDT, Richard A. Dethlefs, PE, SE "The Devil is in the Details – Design and Testing of Davit Supports for Powered Platforms on Buildings" Structural Engineer, February 2009: 18-21

Bustamante. Alfredo, Michael W. Lee "Fire Damage Evaluation and Repair of Precast Concrete Garage" Concrete Repair Bulletin – ICRI, September/October 2009: 9-12

Bustamante, Alfredo, PE "A Comprehensive Approach to Travertine Cladding Repairs" The Construction Specifier, Volume 60, Number 9, September 2007: 27-40

Bustamante, Alfredo, Gerald Duhon, Denis Hanys, Ron Kelm, Gerald Lowe, Bob Newman, Michael Skoller, George Wozny and Nicole Wylie (The Structural Committee of the Foundation Performance Association). Test Methods for Evaluating Existing Foundations, Document #FPA-SC-02-0, www.foundationperformance.org., October 2010

"Restoring the Lancaster Building Façade Using Photogrammetry", Concrete Repair Bulletin

Arya Behnam

Sample list of publications and presentations. A full list is available upon request.

"Performance of Low-Rise Buildings with no Seismic Design in Unanticipated Earthquakes", C. Simsir, A. Jain and B. Arya, Proceedings of the 17th World Conference on Earthquake Engineering, Sendai, Japan, September 2020

"Impact of Adjacent Construction on Existing Building," A. Jain and B. Arya, Proceedings of the 8th Forensic Engineering Congress, Austin, TX, November 2018

Guidelines for Forensic Engineering Practice, Second Edition, 2012, ASCE Publication, ISBN: 9780784412466, Co-authored a chapter on investigation and reports.

"Structural Damage Allocation from Sequential Earthquakes", B. Arya, A. Jain, C. Simsir, D. G. Reyes and M. Rahmani, Proceedings of the Forensic Engineering 7th Congress, Miami, FL, November 15 – 18, 2015

"Consideration of Wet Service Conditions on the Performance of Bowstring Trusses", B. Arya and A. Jain, Proceedings of the Forensic Engineering 7th Congress, Miami, FL, November 15 – 18, 2015

"A Forensic Study to Apportion Damage due to Multiple Sequential Earthquakes", Arya B., A. Jain, and, C. C. Simsir, Proceedings of the 37th International Association for Bridge and Structural Engineering Symposium, Madrid, Spain, September 2014

"Performance of Mid-Rise Reinforced Concrete Buildings during the Canterbury Earthquake Sequence", Simsir, C. C., B. Arya, and A. Jain, Proceedings of the Tenth U.S. National Conference on Earthquake Engineering, Anchorage, AK, July 2014

"Seismic Performance of Low-Rise Pre-Engineering Buildings with Tilt-Up and Masonry Façade Walls during the Canterbury Earthquakes in New Zealand", Jain A., C. C. Simsir, and B. Arya, Proceedings of the Tenth U.S. National Conference on Earthquake Engineering, Anchorage, AK, July 2014

Publications and Presentations, continued

"A Simplified Approach to Quantify Damage Contribution of Individual Events in Canterbury Earthquake Sequence", Arya B., A. Jain, and, C. C. Simsir, Proceedings of the Tenth U.S. National Conference on Earthquake Engineering, Anchorage, AK, July 2014

"Prefabricated Wood Truss Roof Failure under Wind Induced Loads", Behnam Arya and Anurag Jain, Proceedings of the ASCE 6h Congress of Forensic Engineering, San Francisco, California, October 31- November 3, 2012

Presentations

Impact of Adjacent Construction on Existing Building, December 1, 2018, Forensic Engineering 8th Congress, Austin, TX

"Overview of Non-destructive Testing (NDT)" Presented to Thornton Tomasetti's engineering staff nationwide (1200 employees), November 16, 2016

"Structural Damage Allocation from Sequential Earthquakes", 7th Congress on Forensic Engineering, Miami, FL, November 15-18, 2015

"Consideration of Wet Service Conditions on the Performance of Bowstring Trusses", 7th Congress on Forensic Engineering, Miami, FL, November 15-18, 2015

"A Simplified Approach to Quantify Damage Contribution of Individual Events in Canterbury Earthquake Sequence", Poster Presentation at the 10th US National Conference on Earthquake Engineering, Anchorage, AK, July 2014

Discussion Panelist (as the co-author)on the Guidelines for Forensic Engineering Practice, Second Edition, ASCE 6th Congress on Forensic Engineering, San Francisco, CA, October 31- November 3, 2012

Prefabricated Wood Truss Roof Failure under Wind Induced Loads, 6th Congress on Forensic Engineering, San Francisco, CA, October 31- November 3, 2012

Ibrahim Erdem, PhD, PE, SE

Sample list of publications and presentations. A full list is available upon request.

Publications

Erdem I, Peraza DB. A case study on construction defects of reinforced concrete walls with insulated concrete forms. Proceedings, 7th Congress on Forensic Engineering, American Society of Civil Engineers, Miami, FL, 2015.

Dolhon AM, Erdem I. Survey of the means of egress provisions in construction codes in the city of New York. Proceedings, 7th Congress on Forensic Engineering, American Society of Civil Engineers, Miami, FL, 2015.

Dolhon AM, Erdem I. Survey of stair construction codes in New York City. Architectural Engineering Institute 2015. Conference: Birth and Life of the Integrated Building- Integrated Project Delivery Session, Milwaukee, WI, 2015.

Erdem I, Peraza D. Challenges in renovation of vintage buildings. Journal of Performance of Constructed Facilities, American Society of Civil Engineers, 2015; 29(6): 04014166-1-6.DOI: 10.1061/(ASCE)CF.1943-5509.0000666.

Erdem I, Truumees E, van der Meulen CHM. Simulation of the behaviour of the L1 vertebra for different material properties and loading conditions. Computer Methods in Biomechanics and Biomedical Engineering 2013, 16(7), 736-746.

Dolhon AM, Peraza DB, Erdem I, Ratakonda R. Best practices for conducting pre-construction surveys: Lessons learned from construction claims. Proceedings, 6th Congress on Forensic Engineering, Technical Council on Forensic Engineering of the ASCE, San Francisco, CA, 2012.

Drerup MJ, Erdem I, Anthony RW. Trouble under foot —

Institute and laboratory investigation of engineered wood flooring. Proceedings, 6th Congress on Forensic Engineering, Technical Council on Forensic Engineering of the ASCE, San Francisco, CA, 2012.

Publications and Presentations, continued

Ratakonda R, Erdem I, Peraza D. Lessons learned: An investigation into a gantry crane collapse during its disassembly in the USA has produced findings that could help prevent a recurrence. International Cranes and Specialized Transport, October 2011; 53-54.

Erdem I, Akyuz U. Analytical investigation of lateral strength of masonry infilled RC frames retrofitted with CFRP. ASCE Journal of Performance of Constructed Facilities 2010; 24(4):302-310.

Ratakonda R, Erdem I. Traditional analytical methods underestimate the stresses at beam copes. Proceedings, ASCE Structures Congress, Orlando, FL, May 12-15, 2010.

Book Chapter

Erdem I, Akyuz U, Ersoy U, Ozcebe G. A comparative study on the strengthening of RC frames. Seismic Assessment and Rehabilitation of Existing Buildings, S.T. Wasti and G. Ozcebe (eds.), Vol. IV/29, pp. 407-432, Kluwer Academic Publishers, Netherlands, 2003.

Presentations

Erdem I, Peraza DB. Bridge collapse during demolition. Seminar for ASCE Structural Engineering Institute Metropolitan Section. New York, NY. November 18, 2019

Erdem I, Peraza DB. Measures to protect adjacent buildings. Proceedings, 2019 Structures Congress, American Society of Civil Engineers, Orlando, FL, April 2019.

Erdem I, Peraza DB. Case study of jet hangars collapse. Seminar for Structural Association of New York. New York, NY. January 15, 2019.

Erdem I, Peraza DB. Investigation of collapsed jet hangars. Proceedings, 8th Congress on Forensic Engineering, American Society of Civil Engineers, Austin, TX, 2018.

Erdem I, Ratakonda R, Peraza DB. An Investigation into the Collapse of a Large Scaffold. 2018 Structures Congress, American Society of Civil Engineers, Fort Worth, TX, April 2018.

Erdem I, Peraza DB. A case study on a partial collapse of a building with light gage steel framing system. 7th Congress on Forensic Engineering, American Society of Civil Engineers, Miami, FL, 2015.

Erdem I, Peraza DB. A case study on construction defects of reinforced concrete walls with insulated concrete forms. 7th Congress on Forensic Engineering, American Society of Civil Engineers, Miami, FL, 2015.

Erdem I, Peraza DB. Errors and omissions in the structural renovation of a vintage building. 2013 Structures Congress, American Society of Civil Engineers, Pittsburgh, PA, May 2013.

Charles Hammond, PE, SE

Publication

Differing Expectations: Perceptions of Concrete Cracking by Owners and Engineers, Published in DRI: The Voice of the Defense Bar, December 2016

Kirby McCleary, PE

Presentation

“Repair/Replacement Projects- A Guide to Avoiding Pitfalls,” Chesapeake Region Chapter Community Associations Institute

Ravi Mullapudi, PhD, PE, PEng, LEED AP, PMP

Sample list of publications and presentations. A full list is available upon request.

Journal Papers

Mullapudi, T.R.S., and Ayoub, A.S., “Fiber Beam Fiber Beam Analysis of Reinforced Concrete Members with Cyclic Constitutive and Material Laws,” International Journal of Concrete Structures and Materials, 2018, 12(51), 2018, pp. 1-16.

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Labib, M., Mullapudi, T.R.S., and Ayoub, A.S., "Analysis of RC Structures Subjected to Multi-Directional Shear Loads," Journal of Advanced Concrete Technology, V. 11, 2013, pp. 22-34.

Mullapudi, T.R.S., Gao, D., and Ayoub, A.S., "Nondestructive Evaluation of Carbon-Nanofiber Concrete," Magazine of Concrete Research, ICE, V. 65 (18), 2013, pp. 1081-1091.

Moslehy, Y., Labib, M., Ayoub, A.S., and Mullapudi, T.R.S., "Influence of Fiber-Reinforced Polymer Sheets on the Constitutive Relationships of Reinforced Concrete Elements," Journal of Composites for Construction, ASCE, 2015.

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Mullapudi, T.R.S., Summers, P., Moon, I "Impact Analysis of Steel Plated Concrete Wall," ASCE Structures Congress, Chicago, IL, March 29- 31, 2012.

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Publications and Presentations, continued

Mullapudi, T.R.S., Gao, D., Mo, Y.L. and Ayoub, A.S., "UPV Method for Detecting Properties of Carbon-Nanofiber Concrete," ASCE Structures Congress, Las Vegas, Nevada, April 14- 16, 2011.

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Charkhchi, P., Mullapudi, T.R.S. and Ayoub, A.S., "Fiber Beam Formulation for Analysis of Shear-Critical Reinforced Concrete Shear Walls," ASCE & AISC Analysis and Computation Conference / Structures Congress/ North American Steel Construction Conference (NASCC), Orlando, FL, May 12- 14, 2010.

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Mullapudi, T.R.S., Ayoub, A.S., "Coupled Model for Nonlinear Analysis of Reinforced Concrete Members Subjected to 3D Loading," Earth & Space 2010, ASCE, Honolulu, HI, March 14- 17, 2010.

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Mullapudi, T.R.S., Ayoub, A.S., "Nonlinear Vlasov Foundation Model for Performance Assessment of Cyclically Loaded Structures," Earth & Space 2010, ASCE, Honolulu, HI, March 14- 17, 2010.

Michael H. Retterath, PE

Presentations

Building Enclosure Assessments
Using Drones Target Corporation

Parking Structure Design, Construction and Maintenance, Halfmoon Education, Inc. Eagan, MN

Diego F. Romero, PhD, PE

Publications

"Photogrammetry as a Tool to Replace Eroded Decorative Architectural Elements" Journal of Preservation Technology, Vol. XLVII No. 1, April 2017.

"Study on the Mechanical and Environmental Properties of Concrete Containing Cathode Ray Tube Glass Aggregate" Journal of Waste Management, July 2013

Publications and Presentations, continued

Nam Shiu, PE, SE

Sample list of publications and presentations. A full list is available upon request.

Technical Papers

Lawrence Susmarski, and K. Nam Shiu, "Five Factors to Consider When Restoring Existing Parking Facilities," Application Magazine, Sealant, Waterproofing & Restoration Institute, Spring 2015, 37.2, 6- 12 pp.

K. Nam Shiu, and Fred Goodwin, "Vision 2020 – Before and After," Concrete Repair Bulletin, September/ October 2014, Vol. 27, No. 6, pp 34 – 41.

Pawan Gupta, and K. Nam Shiu, "Effective Repair and Maintenance Strategies for Parking Structures," Concrete Repair Bulletin, July/August 2014, Vol. 27, No. 4, pp 26-34.

K. Nam Shiu, Kurt L. Salm, Jonathan Beckstrom, "Repairing and Maintaining Airport Parking Structures While in Use," Airport Cooperative Research Program (ACRP) Synthesis 47, A Synthesis of Airport Practice, Transportation Research Board of National Academies, Washington, D.C. 2013.

Shiu, K. Nam and Stanish, Kyle, "Extending the Service Life of Parking Structures, a Systematic Approach" Concrete International, April 2008, pp. 43-49.

Shiu, K. Nam and Sabnis, Gajanan M., "Historic Development and Use of Testing/Monitoring Tools", American Civil Engineering History – The Pioneering Years, ASCE, Washington, D.C., November 2-6, 2002, pp. 109-125.

Bhuyan, Sam, Sabnis, G.M., and Shiu, K.N., "A Systematic Approach to Extending Service Life of Parking Structures", the Indiana Concrete Journal, Vol. 75, January 2001, No. 1. pp. 58-63.

Shiu, K. N., "Concrete Repair of A High-rise Building in Chicago," Structural Faults + Repair – 1999, 8th International Conference and Exhibition, July 13-15, 1999, Commonwealth Institute, London, U.K.

C. Can Simsir, PhD, PE

Sample list of publications and presentations. A full list is available upon request.

Papers

Simsir, C. C. and A. Jain, "Wind-Induced Damage to Rooftop Solar Arrays and Roofs", Proceedings of the 8th ASCE Forensic Engineering Congress, Austin, TX, November 2018

Jain, A., C. Simsir, and P. P. Sarkar, "Analysis, Measurement and Mitigation of Stay Cable Vibrations", Proceedings of the 8th ASCE Forensic Engineering Congress, Austin, TX, November 2018

Hart, G. C., C. Simsir, and M. Rahmani, "Using Reliability to Incorporate Monotonic Test Data for Code Compliant Masonry Long Wall Design Criteria", Proceedings of the 16th World Conference on Earthquake Engineering, Santiago, Chile, January 2017

Hart, G. C., L. Joseph, C. Chamberlain, C. Smith, R. Wong, and C. Simsir, "Performance-Based Design: Supplementary Damping for Retrofit of a Steel Moment Frame Building", Proceedings of the 16th World Conference on Earthquake Engineering, Santiago, Chile, January 2017

Hart, G. C. and C. C. Simsir, "Why We Love ATC-63: Part II, Technology Transfer", Journal of The Structural Design of Tall and Special Buildings, Volume 25, p. 1031-1054, June 2016

Arya B., A. Jain, C. C. Simsir, D. G. Reyes, and M. Rahmani, "Structural Damage Allocation from Sequential Earthquakes", Proceedings of ASCE's 7th Congress on Forensic Engineering, Miami, FL, November 2015

Arya B., A. Jain, and, C. C. Simsir, "A Forensic Study to Apportion Damage due to Multiple Sequential Earthquakes", Proceedings of the 37th International Association for Bridge and Structural Engineering Symposium, Madrid, Spain, September 2014

Publications and Presentations, continued

Simsir, C. C., B. Arya, and A. Jain, "Performance of Mid-Rise Reinforced Concrete Buildings during the Canterbury Earthquake Sequence", Proceedings of the Tenth U.S. National Conference on Earthquake Engineering, Anchorage, AK, July 2014

Jain A., C. C. Simsir, and B. Arya, "Seismic Performance of Low-Rise Pre-Engineering Buildings with Tilt-Up and Masonry Façade Walls during the Canterbury Earthquakes in New Zealand", Proceedings of the Tenth U.S. National Conference on Earthquake Engineering, Anchorage, AK, July 2014

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Jain A. and C. C. Simsir, "Investigation of Hurricane Damage to a Condominium Building in Florida", Proceedings of ASCE's 6th Congress on Forensic Engineering, San Francisco, CA, October 2012

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Hart, G. C., A. Jain, A. Dumortier, C. Simsir, and M. S. Barnes, "Start of Structural Damage in Stucco Walls", Journal of The Structural Design of Tall and Special Buildings, Published Online: April 20 2010

Ekwueme, C. G., G. C. Hart, K. Ozegbe, C. Simsir, and G. Brandow, "Using Viscous Dampers On A 42-Story High-Rise Building", Proceedings of the 2010 Annual Meeting, Los Angeles Tall Buildings Structural Design Council, May 2010

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David Vander Wal, PE

Presentations

"Shared Parking Strategies for Retail Mixed-use Projects,"

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