

Arlo J. Gough Jr., PE

Forensic Engineering Specialties

Building Pathology

The building pathologist relies on an in-depth knowledge of building design, construction, use, and changes as well as assessing the environment of use and the materials and how these interrelate to systematically identify, investigate, and diagnose defects in a building. Past work includes design and specification of repairs.

Structural Engineering (Analysis and Design)

Review appropriate documents, including project plans and specifications as it relates to the building structure for purposes of failure analysis and extent of resulting damages. In addition, being a licensed professional engineer, replacement designs are provided upon request. Examples of past work includes failure analysis of collapsed structures (concrete, steel, wood, masonry) and various building components (windows, doors, glass, piping, roofing, exterior and interior cladding) as well as damage assessment of building structures after a fire.

Origin & Cause

Determine the source and responsible party or element related to water entry into a building whether it be through the building envelope or caused within the building interior. Examples of past work include failure of roofing and wall cladding causing moisture entry, humidity and condensation related losses, and groundwater entry.

Building Fenestration/Building Envelope

The building envelope is a building's first line of defense to moisture entry. Identifying the type of system (single versus multiple barrier) and how the various adjoining materials' water and air barriers connect is key to effective moisture management. Examples of past work include exterior cladding specification and installation of roofing materials.

Inspection and Evaluation of Roofing Systems

This includes steep and low slopes roofs as well as various types of roofing materials including both common and unique roofing applications. Past work involved offering opinions and repairs related to installation deficiencies and storm-related damages including for hail and wind.

Qualifications & Training

- IIBEC Conference and Tradeshow, Houston, TX, 2023
- IIBEC/AEI Building Enclosure Symposium, Milwaukee, WI, 2022
- IIBEC Conference and Tradeshow, Phoenix, AZ, 2021, 2024
- Expansion Joints: Types and Uses, IIBEC Webinar, November 2020
- Resilient Roofing, Meeting the ASCE 7-16 Standard, IIBEC Chicago Webinar, October 2020
- Electronic Leak Detection Testing, Standards, Science, and Practical Applications, IIBEC – Chicago, September 2020
- Composite Sub-Framing and How it Benefits Building Envelope Design, IIBEC – Chicago, August 2020
- Avoiding Ethical Pitfalls in Failure Investigations, ASCE #8108W2020, March 2019
- Experience involving inspections of commercial, industrial, and residential structures
- Experience performing structural design and consulting in structural engineering
- Shear Exhilaration, ICC Course No. 22134, APA, December 2019

- Decoding the Roofing-Related Code Requirements, Mid-Century Thin-Stone Veneers: Balancing Preservation and Public Safety, CAC-IIBEC, May 2019
- Wind Design for Low Slope Roofs Part II - FM Global Guidelines and Best Practice Considerations, RCI, May 2019
- RCI Convention and Trade Show, RCI, March 2019
- Roof Drainage Design, RCI, February 2019
- Wind Warranties vs. Wind Uplift Requirements for Roofing Systems, Managing Project Specific Details, CAC-RCI, November 2018
- Architectural Sheet Metal Flashing Design, RCI, April 2018
- After the Storm, Webinar, March 2018
- Roofing/Waterproofing Testing and Monitoring, Window Condensation Problem; Why Now?, ASCE 7-16: An Overview of Changes Pertaining to Roof Systems and Rooftop Equipment, The Proper Way to Specify an Air Barrier to Meet ASHRAE 90.1, IECC-2015, IGCC, and LEED v4.0, CAC-RCI, January 2018
- Roof Systems Thermal and Moisture Design, RCI, September 2017
- Cedar Grading and Inspection Seminar, Topics in Liability for Roofing Contractors and Consultants, RCI Wisconsin Chapter, August 2017
- Engineering Investigations of Hurricane Damage: Wind versus Water, American Society of Civil Engineers, February 2016
- Mold/Indoor Air Quality/Industrial Hygiene Workshop, EMSL Analytical, Inc., October 2015
- Professional Building Consulting, RCI, September 2015
- HAAG Engineering – Residential and Commercial Roofing Class
- Engineering Ethics and Professional Responsibility, University of Wisconsin – Madison, June 2013
- CAC RCI Seminar – Roofing Adhesives, Roof Flashing, Metal Panel Wall Systems and Clay Roof Seminars
- Indoor Air Sciences – Certified Indoor Environmentalist and Indoor Air Quality Course
- Water Entry Prevention and Moisture Control in Buildings--Roofing Systems, Exterior Walls, Plaza Decks, Below-Grade Waterproofing, University of Wisconsin-Madison, November 2011

Education

Bachelors in Architectural Engineering/Structural System Design
Milwaukee School of Engineering, Milwaukee, WI, 2000

Masters in Structural Engineering
Milwaukee School of Engineering, Milwaukee, WI, 2004

Licenses & Certifications

PE - Professional Engineer

Licensed by the State of Illinois – Number 062.073125

Licensed by the State of Wisconsin – Number 40764-6

Licensed in the State of Missouri – Number 2021002499

Licensed in the State of Iowa – Number P26527

Licensed in the State of Minnesota – Number 59029

Applied Microbial Remediation Technician (AMRT), Certified by the Institute of Inspection Cleaning and Restoration Certification (IICRC), April 2022

Applied Structural Drying Technician (ASD), Certified by IICRC, August 2022

HCRI-R - Certified Roof Inspector, Certified by HAAG Engineering (2010-2014)

HCRI-C - Certified Roof Inspector, Certified by HAAG Engineering (2013-2014)

RRC – Registered Roof Consultant, International Institute of Building Enclosure Consultants (IIBEC) #0883, March 2020

WRT – Water Damage Restoration Technician, Certified by IICRC, March 2022

Employment History

Forensic Engineer

Nederveld, Inc.

2009 – Present

Perform forensic analysis relating to building pathology issues, fire loss damage, storm damage (wind, snow, hail, seismic), and water loss events.

Structural Designer

The Structural Shop, Schiller Park, IL

2004 – 2009

Designed structures for institutional, residential, commercial, and industrial buildings, including steel, timber, masonry, concrete, aluminum, and light-gauge metal.

Accomplishments:

- Holocaust Memorial Foundation Museum, IL
- Six Flags Tony Hawk Video Monitor Walls, TX and CA

Structural Designer

Paul-Koehler Structural Engineers, Scottsdale, AZ

2003 – 2004

Designed structure including composite steel and lateral analysis design

Accomplishments:

- Phoenix Convention Center

Structural Designer

Arnold & O'Sheridan, Brookfield, WI

2000 – 2003

Designed and drafted structure including steel, timber, masonry, concrete, light gauge metal and details and field verified existing conditions.

AutoCAD Engineer Intern

Klug & Smith, Milwaukee, WI

1999 – 2000

Drafted architectural and structural components, including shop drawings, erection plans, and details and field verified existing condition.

Professional Affiliations

Affiliate Member: International Institute of Building Enclosure Consultants (IIBEC – Formerly RCI, Inc.)

Member: Chicago Area Chapter of International Institute of Building Enclosure Consultants (CAC-IIBEC – Formerly CAC-RCI) – through 2023

Member and Director: Wisconsin Chapter of International of Building Enclosure Consultants (IIBEC-WI) - Current

Expert Witness Experience

Deposition

February 2024

Riverside Automotive Service and Parts, Inc. vs. West Bend Mutual Insurance Co

Expert Witness for West Bend Mutual Insurance Company on behalf of Leavell & Borton, S.C.

Case No. 23-CV-1627

August 2023

Holiday Village Laundromat, Inc. vs. Auto-Owners Insurance Company
Expert Witness for Auto-Owners Insurance Company on behalf of Nash, Spindler,
Grimstad & McCracken, LLP
Kenosha County Circuit Court No. 22-CV-519

January 2020

1000 Rand Road Condominium Association vs Secura Insurance
Expert Witness for Secura Insurance
United States District Court - Civil Action No. 1:19-cv-02769

February 2019

Richard Stobart vs Country Mutual Insurance Company
Expert Witness for Country Mutual Insurance Company on behalf of Condon & Cook LLC
Lake County Circuit Court No. 18L276

September 2018

James J Tyrcha vs Country Mutual Insurance Company
Expert Witness for Country Mutual Insurance Company on behalf of Condon & Cook LLC
DuPage County Circuit Court No. 17L610

September 2017

Ravinia Vogue Cleaners vs Travelers Casualty Insurance Company of America
Expert Witness for Travelers Casualty Insurance Company of America on behalf of Foran
Glennon Palandech Ponzi & Rudloff PC
United States District Court No. 16C10311

May 2016

Inderjit Viridi vs Allstate Insurance Company
Expert Witness for Allstate Insurance Company on behalf of Condon & Cook LLC
Cook County Circuit Court Case # 14 L 013295

Arbitration

July 2015

Dabney vs State Farm Insurance Company on behalf of Sudekum Cassidy & Shulruff
Arbitration Number 29934AMN

November 2012

Chandra vs State Farm Insurance Company on behalf of Sudekum Cassidy & Shulruff
Arbitration Number 22393AMN

August 2012

Potempa vs State Farm Insurance Company
Expert Witness for State Farm Insurance Company on behalf of Sudekum Cassidy & Shulruff
Arbitration Number 22136AMN

August 2012

Carpenter vs State Farm Insurance Company
Expert Witness for State Farm Insurance Company on behalf of Sudekum Cassidy & Shulruff
Arbitration Number 21444AMN

August 2012

Celmer vs State Farm Insurance Company

Expert Witness for State Farm Insurance Company on behalf of Sudekum Cassidy & Shulruff
Arbitration Number 21646AMN

June 2012

Phillips vs State Farm Insurance Company

Expert Witness for State Farm Insurance Company on behalf of Sudekum Cassidy & Shulruff
Arbitration Number 21282AMN

May 2012

Cooper vs State Farm Insurance Company

Expert Witness for State Farm Insurance Company on behalf of Sudekum Cassidy & Shulruff
Arbitration Number 21355AMN

July 2011

Echito vs State Farm Insurance Company

Expert Witness for State Farm Insurance Company on behalf of Sudekum Cassidy & Shulruff
Arbitration Number 19611AMN

June 2011

D'Ambrosia vs State Farm Insurance Company

Expert Witness for State Farm Insurance Company on behalf of Sudekum Cassidy & Shulruff
Arbitration Number 19019AMN

June 2011

Georgantonis vs State Farm Insurance Company

Expert Witness for State Farm Insurance Company on behalf of Sudekum Cassidy & Shulruff
Arbitration Number 19508AMN

May 2011

Rothenberger vs State Farm Insurance Company

Expert Witness for State Farm Insurance Company on behalf of Sudekum Cassidy & Shulruff
Arbitration Number 18357AMN

March 2011

Axelrod vs State Farm Insurance Company

Expert Witness for State Farm Insurance Company on behalf of Sudekum Cassidy & Shulruff
Arbitration Number 18462AMN

December 2010

Magarian vs State Farm Insurance Company

Expert Witness for State Farm Insurance Company on behalf of Sudekum Cassidy & Shulruff
Arbitration Number 18018AMN