

Jared A. Krupa, P.E.

Professional Civil Engineer – Structural Specialist – Amusement Attraction Enthusiast

Jared A. Krupa is a principal engineer at *K2 Engineering and Structural Design, LLC (K2)*. He holds a Bachelor of Science degree in Civil Engineering from the University of Nevada, Reno, and Professional Engineering licenses in multiple US states. Jared started his structural engineering career in 1999 and has since advanced his profession into more specialized fields such as the amusement ride industry and design/analysis of buildings damaged by fire.

Founded in January 2005, K2 is a medium-sized engineering firm located in Reno, Nevada, that focuses on the structural design of commercial buildings, residential homes, and amusement rides and attractions. K2 provides quality engineering services to architects, designers, owners, building contractors and developers with a focus on efficiency and constructability. K2's staff has over 60 years of experience in the design of projects both large and small in Northern California, Northern Nevada and Lake Tahoe. K2's expertise and experience includes designing structures with building materials of wood, masonry, concrete, steel and cables.

Jared is an active member of ASTM F24 and helps develop standard methods of test, performance specifications, definitions, maintenance, operations, and practices and guides for amusement rides and devices. Jared is the task group chair for the ASTM F2959 Aerial Adventure Course (zip line) standard and the vice chair of ASTM F24.61 Adventure Attractions Sub-Committee which oversees the development of Inflatables, Trampoline Courts, Bungee Jumping, Mountain Coasters, Para-Sailing and Indoor Skydiving standards.

Jared is also an active member of the National Association of Amusement Ride Safety Officials (NAARSO), which represents jurisdictional agencies, insurance companies, private consultants, and federal government agencies, as well as safety professionals from amusement ride facilities and travelling shows; the Association for Challenge Course Technology (ACCT), which is an organization recognized by many as the world leader in setting the minimum safety and design standards for the zip line and challenge course industry; a member of the American Society of Civil Engineers (ASCE), which is a nationally recognized society for professional engineers responsible for legislating engineers in the US; and an International Code Council (ICC) member, which is the internationally recognized standard for building codes. He is registered with the National Council of Examiners for Engineers and Surveyors (NCEES), which is a nationally recognized registration council aiding Professional Engineers (PE) for licensure in all 50 states in the United States.

Jared is listed by Clark County, Nevada, and the City of Las Vegas as an Amusement Ride Quality Assurance Inspector (ARQAI), a California Division of Occupational Safety and Health (DOSH) Amusement Ride Qualified Safety Inspector (QSI), a board-certified ACCT Level II Aerial Adventure Course Inspector, and a NAARSO Level II Amusement Ride Inspector.

Jared Krupa is a proud member of the Benevolent and Protective Order of Elks and has actively served in numerous charity and veterans events across the USA.

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Professional Civil Engineer
ACCT Level II Aerial Course Inspector
California (USA) Amusement Ride Inspector
City of Las Vegas, Nevada, Amusement Ride Inspector
USGBC LEED Green Associate
ATC-20 Post-Earthquake Building Evaluator
NAARSO Level II Amusement Ride Inspector



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Education:

University of Nevada, Reno
Bachelor of Science, Civil Engineering, 2000

Continuing Education:

- Structural Analysis
- High Strength Cable Design
- Concrete Design
- Metal Building Design
- Timber Design
- Steel Design
- Masonry Design
- Open Channel Flow
- Earth Anchor Design
- Simpson Strong-Tie Lateral Systems and Connector Technology
- IBC Wind and Seismic Design
- RISA Technologies
- AutoCAD / Revit / Robot
- Structure Fire Repair/Design/Evaluation
- Amusement Ride Inspections
- Environmental Law

Experience:

Principal Engineer K2 Engineering and Structural Design Reno, NV

February 2005 – Present

- Analyze high strength cable profiles for various rider and environmental loading requirements
- Analyze existing structures for seismic resistance and design seismic retrofit elements.
- Complete structural design and detailing of residential structures using wood, concrete, CMU, and steel.
- Complete structural design and detailing of commercial structures using wood, concrete, CMU, and steel.
- Perform all necessary engineering calculations and structural design for all projects, including foundation design, seismic & wind, lateral load resisting systems, and framing for vertical load resistance.
- Perform civil engineer design and analysis for site, grading, drainage, and utility plans.
- Perform structural design and analysis of retaining structures using concrete, CMU, and rockery walls.
- Perform structural design and inspections of aerial adventure courses, adventure attractions and zip lines.
- Perform amusement ride and devices inspections.
- Supervise engineering work of employees.

Experience Cont.:

Truss Engineer Reno Truss Reno, NV

February 2005 – Present

- Calculate size, species and grade for wood members.
- Calculate maximum axial tension and compression forces, member stresses and reaction forces.
- Calculate metal-connector-plate type, size and thickness.
- Calculate truss-to-truss connections and truss field assembly requirements.
- Calculate span-to-deflection ratio and maximum vertical and horizontal deflection for live and total loads.
- Calculate individual truss member restraint locations and method and details of restraint/bracing.
- Prepare truss design drawings.

Project Engineer Aesthetic Engineering Reno, NV

June 2000 – February 2005

- Completed structural design and detailing of residential and commercial structures using wood, concrete, CMU, and steel.
- Performed all necessary engineering calculations and structural design for all projects, including foundation design, seismic & wind, lateral load resisting systems, and framing for vertical load resistance.
- Performed civil engineer design and analysis for site, grading, drainage, and utility plans.
- Structural design and analysis of retaining structures using concrete, CMU, and rockery walls.

Professional Organizations and Certifications:

- American Society of Civil Engineers (ASCE)
- ASTM International, F24 Committee for
 - o Standards on Amusement Rides and Devices, Voting Member
 - o Subcommittee on Adventure Attractions, Voting Member
 - o Task Group Chairman of ASTM F2959 Aerial Adventure Course
 - o Vice Chair of ASTM F24.61 Adventure Attractions
- American Institute of Steel Construction (AISC)
- International Code Council (ICC)
- National Council of Examiners for Engineering and Surveying (NCEES)
- American Welding Society (AWS)
- Qualified Safety Inspector, DOSH Amusement Rides Unit, State of California
- Listed in Clark County and City of Las Vegas, Nevada
 - o Amusement Ride Quality Assurance Inspector
- U.S. Green Building Council Leadership in Energy & Environmental Design (LEED) Associate
- Applied Technology Council Post-Earthquake Building Evaluator
- USPA Licensed Skydiver (inactive)
- PADI Advanced Open Water Diver
- AHA Healthcare Provider CPR Certified
- OSHA 10 Certification
- Missouri Authorized Amusement Ride Inspector
- Colorado Amusement Ride Inspector
- ASTM F24 Amusement Rides and Devices Achievement Award
- NAARSO Level II Inspector

Professional Activities:

- ASTM F24 Committee on Amusement Rides and Devices in formulating, authoring, updating and publication of numerous safety standards
- Attend society meetings concerning amusement ride safety
- Course Instructor for graduate level Design of Timber Structures at the University of Nevada, Reno (2004)
- Course Instructor for graduate level Design of Timber Structures at the University of Nevada, Reno (2011)
- Attend ACCT conferences (2012 - present)
- Attend NAARSO training conferences (2014 - present)
- Invited Guest Lecturer for graduate level Pre-Stressed Concrete Design at the University of Nevada, Reno (2014)
- PVM Lecturer for Reverse Engineering Zip Lines at ACCT conference (2014)
- PVM Lecturer for Operation Manuals for Zip Lines at ACCT conference (2014)
- Attend International Association of Amusement Parks and Attractions (IAAPA) Expo (2016 - present)
- Invited Guest Lecturer for graduate level Pre-Stressed Concrete Design at the University of Nevada, Reno (2018)
- Lectured on ASTM F24 and zip line safety at the IAAPA Latin America Summit, Costa Rica (April 2018)
- Invited Guest Lecturer for civil engineering CE426 capstone class at the University of Nevada, Reno on engineering careers in the amusement ride industry (2019)
- NAARSO Instructor (2019)

Professional Registrations:

- Arizona P.E. License No. 50304
- California P.E., License No. 67865
- Colorado P.E., License No. 47995
- Florida P.E., License No. 80287
- Hawaii P.E., License No. 16520
- Idaho P.E., License No. 12954
- Illinois P.E., License No. 062.066900
- Kentucky P.E., License No. 28035
- Michigan P.E., License No. 6201063900
- New York P.E., License No. 094248
- Nevada P.E. License No. 16874
- Ohio P.E., License No. 80399
- Oklahoma P.E., License No. 29706
- Oregon P.E., License No. 79615PE
- Pennsylvania P.E., License 83504
- Tennessee P.E., License No. 118102
- Texas P.E., License No. 109355
- Washington P.E., License No. 43933
- Wyoming P.E., License No. 11584

Personal:

- Married (1999 -), two daughters
- Benevolent and Protective Order of Elks