#### FAILURE ANALYSIS ACCIDENT RECONSTRUCTION



Steve F. Sokol, P.E., J.D.
Registered Professional Civil Engineer

# **CURRICULUM VITAE**

# **BUSINESS INFORMATION:**

 Office Address: 11620 Arbor Street, Suite 202, Omaha, NE 68144

Office Phone: 402-572-9164

Email: ssokol@faarconsulting.netWebsite: www.faarconsulting.net

### **EDUCATIONAL BACKGROUND:**

**Creighton University School of Law**, Omaha, Nebraska Juris Doctor, *cum laude* May 2007

**Iowa State University**, Ames, Iowa Bachelor of Science, Civil Engineering, May 2001

### **PROFESSIONAL REGISTRATIONS:**

# **Registered Professional Civil Engineer**

State of Nebraska - Registration Number E-13148

#### **Certified Traffic Accident Reconstructionist**

Accreditation Commission for Traffic Accident Reconstruction, ACTAR Registration Number 2235

### **Member of the Nebraska State Bar Association**

Attorney Number 23685 (Inactive)

# **Certified Crash Data Retrieval System Technician and Analyst**

Collision Safety Institute, San Diego, CA



### PRIVATE INDUSTRY ENGINEERING EXPERIENCE:

# FAAR Consulting, LLC, Omaha, Nebraska

2003 to Present

#### Civil Engineer/ Accident Reconstructionist

Responsible for the investigation and analysis of vehicle accident reconstructions and industrial accidents. Reconstructed motor vehicle accidents involving automobiles, motorcycles, commercial motor vehicles, bicycles and pedestrians. Evaluated transportation systems and roadway signage as it pertains to vehicle accidents. Performed vehicle and site inspection. Analyzed site distances related to accident reconstruction. Calculated pre-impact vehicle speeds. Causation analysis, accident avoidance maneuvers, vehicle and motorcycle braking analysis, collision analysis.

Prepared roadway plan and profile drawings. Retrieval of event data from vehicle Airbag Control Modules and Engine Control Modules. Analyzed roadway traffic control plans and construction work zone signage.

Investigations of various types of industrial accidents. Scissor lifts, ladders, and construction equipment. Analyzed Uniform Building Code and OSHA regulations as they apply to industrial accidents.

# Northern Natural Gas, Omaha, Nebraska

2003

### <u>Civil Engineer / Project Engineer</u>

Assessed gas pipeline projects, including shallow / exposed pipe remediation, horizontal directional drilling, maintenance of existing pipeline systems, and pipeline system integrity. Estimated project costs, coordinated with subcontractors, prepared preliminary and bid drawing packages, and worked with project managers to produce project scopes and schedules.

### CH2M Hill, Denver, Colorado

2001, 2002

#### Civil Engineer / Transportation Engineer

Developed design alternatives and roadway plan and profile sheets. Prepared cost estimates and quantity calculations for roadway projects. Provided engineering services during the construction phase of roadway projects. Prepared traffic control plans, grading plans, and preliminary design plans for roadway projects.

### Burns and McDonnell, Kansas City, Missouri

2000

### <u>Civil Engineer / Transportation Engineer</u>

Designed aircraft terminal markings and engine danger zones. Verified the location of existing fuel pits and isolation values. Evaluated the current fuel pit layout for the terminals and made recommendations on the placement of proposed fuel pits.



### Kiewit Construction Co., Omaha, Nebraska

1998 & 1999

#### **Construction Engineer**

Assisted with the foundation layout of 90-inch diameter drilled shafts and the daily site log. Coordinated drilling schedule with drilling subcontractor.

Reviewed construction drawings, prepared RFI's (Request for Information), and reviewed shop drawings. Assisted with job site safety program and performed job site inspections to ensure compliance with OSHA regulations. Communicated daily with subcontractors, and gained knowledge of construction industry.

#### **PROFESSIONAL SOCIETY AFFILIATIONS:**

Member - Society of Automotive Engineers, SAE

Member - Midwest Association of Technical Accident Investigators, MATAI

Member - National Society of Professional Accident Reconstruction Specialists, NAPARS

Member – Nebraska State Bar Association (Currently Inactive Member)

Fellowship – Claims and Litigation Management Alliance

#### **HONORS AND AWARDS:**

Chi Epsilon National Civil Engineering Honor Society

Cum Laude Graduate, Creighton University School of Law, 2007

### **UNIVERSITY COURSES TAKEN RELATING TO ACCIDENT RECONSTRUCTION:**

Alc	gebra

Trigonometry

Analytical Geometry

➤ Calculus I, II, III

Computer Programming

➤ Physics I, II

Engineering Statics

Computer Aided Drafting

Route & Engineering Surveying

Mechanics of Materials

Structural Analysis

Transportation Engineering

Materials Testing

Structural Steel Design

Concrete & Pavement Structures

> Highway Design

Engineering Dynamics

Engineering Design



#### <u>SEMINARS & TRAINING ATTENDED RELATING TO ACCIDENT RECONSTRUCTION:</u>

Recon-3D Online Course, ai2-3D Forensics, June 6, 2022.

Advanced Crash Reconstruction Utilizing Human Factors Research, Crash Safety Solutions LLC, October 11-15, 2021.

Cloud Compare Software Course, ai2-3D Forensics, July 8-9, 2021.

Click 3D Photogrammetry Course, ai2-3D Forensics, June 28-29, 2021.

Applying Automotive EDR Data to Traffic Crash Reconstruction, Society of Automotive Engineers, Troy, MI, November 20-22, 2019.

Drone (sUAS) Training - Oracle Aviation, Omaha, NE, August 30, 2018.

Advanced Crash Reconstruction Utilizing Human Factors, Northwestern University Center for Public Safety, Evanston, Illinois, May 14-18, 2018.

MUTCD: Work Zone Traffic Control, CED Engineering, Omaha, NE, April 9, 2018.

I.DRR User Forum, Austin, TX, February 23-24, 2018.

FARO Zone 3D CAD Software, FAAR Consulting, LLC, Omaha, NE, November 7, 8 and 10, 2017.

Aerial Mapping and Modeling Workshop, Dart Drones, Fremont, CA, October 28-29, 2017.

Part 107 Test Preparation Course, Dart Drones, Kansas City, KS, October 22, 2017.

Phantom and Inspire Flight Training, Dart Drones, Kansas City, KS, October 21, 2017.

Crash Data Retrieval - Data Analyst, Northwestern University Center for Public Safety, Evanston, Illinois, April 4-8, 2016

Energy Methods and Damage Analysis in Traffic Crash Reconstruction, Institute of Police Technology and Management at University of North Florida, Jacksonville, Florida, August 18–22, 2014.

Utilizing Human Factors in Traffic Crashes, Northwestern University Center for Public Safety, Evanston, Illinois, May 20–24, 2013.

Inspection and Investigation of Commercial Vehicle Crashes, Institute of Police Technology and Management – University of North Florida, Jacksonville, FL, February 18-22, 2013.

Motorcycle Crash Reconstruction, Northwestern University Center for Public Safety, Evanston, Illinois, September 10-14, 2012

How to Interpret Commercial Vehicle Event Data Recorders, The University of Tulsa, Tulsa, Oklahoma, March 26-30, 2012.

Cummins INSITE Training, Kansas City, MO, October 4-5, 2011.

INSITE Cummins Virtual College, Omaha, NE, September 17, 2011.

Trimble M3 Total Station Training, Seiler Instrument, Omaha, NE, April 6, 2011.

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How to Interpret Commercial Vehicle Event Data Recorders, The University of Tulsa, Tulsa, Oklahoma, November 15 -19, 2010.

Advanced Crash Reconstruction, Fort McCoy, Wisconsin, October 4-8, 2010.

Human Factors For Traffic Crash Reconstruction Presented By The Crash Safety Research Center, Coralville, IA, May 26-28, 2010.

Certified Crash Data Retrieval Analyst Course, Chantilly, Virginia, February 16-19, 2010.

Certified Crash Data Retrieval Technician Course, Chantilly, Virginia, February 15, 2010.

ARC-CSI Crash Conference, Las Vegas, Nevada, June 1-4, 2009.

Crash Data Retrieval System Operator's Certification Course, Collision Safety Institute, Houston, Texas, June 9-11, 2004.

Physics Principles Applied to Accident Reconstruction, Hawkeye Community College, Midwest Association of Technical Accident Investigators, Waterloo, Iowa, February 9-13, 2004.

#### **SEMINARS PRESENTED RELATING TO ACCIDENT RECONSTRUCTION:**

"Expert Witnesses in Trial: Vehicle Accident Reconstruction," Nebraska Association of Trial Attorneys, Omaha, NE. April 22, 2022.

"Case Study: Kozlov vs. Associated Wholesale Grocers Inc., et. al.," I.DRR User Forum, Austin, TX. February 24, 2018.

"Engine Control Module & Airbag Control Module Data," Nebraska Association of Trial Attorneys, Omaha, NE. December 9, 2016.

"Vehicle Accident Reconstruction," Nebraska Trucking Association Safety Management Council, Omaha, NE. November 13, 2014.

"Vehicle Accident Reconstruction," Lincoln/Nebraska Claims Association Fall Seminar, Ashland, NE. October 6, 2011.

"Accident Reconstruction Expert for Trial Demonstration," Nebraska Chapter of American Board of Trial Advocates Masters in Trial Seminar, LaVista, NE. August 26, 2011.

"Accident Reconstruction and Demonstrative Evidence," seminar presented to the Inns of Court, Lincoln, NE. April 12, 2011.

"Introduction To ACMs and EDRs," seminar presented to the Nebraska Defense Counsel Association, Ashland, NE. May 21, 2010.

"Introduction To ACMs and EDRs," seminar presented to Baylor Evnen law firm for the annual Baylor Evnen educational program, Lincoln, NE. April 1, 2010.

"Introduction To Event Data Recorders a.k.a. Black Boxes," seminar presented to the National Association of Trial Attorneys (NATA), Omaha, NE. October 2, 2009.

"Introduction To Event Data Recorders a.k.a. Black Boxes," seminar presented to the Nebraska State Bar Association, Lincoln, NE. August 19, 2009.

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# RESEARCH AND ANALYSIS PROGRAMS DEVELOPED RELATING TO ACCIDENT RECONSTRUCTION:

- Evaluation of braking distance from a known speed
- Research regarding edge drop-offs in construction work zones
- Reconstruction and analysis of staged collisions
- Review of current research literature relating to accident reconstruction
- > Sight Distance Analysis
- Comparison studies relating to crush damage as it relates to real accidents
- > Stopping Distance Calculations
- Low Speed Collision Analysis
- > Lane Change Maneuvers
- Post Impact Speed Calculations



# **FORENSIC TESTING:**

- Nighttime Visibility Study of Railcar Shuttlewagon, Mead, NE, September 5, 2018.
- Nighttime Visibility Study of Pedestrians, Friend, NE, November 20, 2017.
- ➤ Nighttime Visibility Study of Tractor/Trailer, Nebraska City, NE, April 12, 2015.
- Nighttime Visibility Study of Pedestrians, Ames, IA, April 3, 2013.
- Motorcycle Acceleration, Evanston, IL, September 12, 2012.
- Motorcycle Lane Change Maneuver, Evanston, IL, September 12, 2012.
- Motorcycle Intersection Turning Time From Stopped Position, Evanston, IL, September 12, 2012.
- Motorcycle Deceleration: Braking, Evanston, IL, September 13, 2012.
- Motorcycle Deceleration: Post-Impact Sliding and Tumbling, Evanston, IL, September 13, 2012.
- > Commercial Vehicle Event Data Recorder (EDR) forensic testing, Tulsa, OK, March 28, 2012.
- ➤ Nighttime Visibility Study of Pedestrians, Kearney, NE, December 14, 2010.
- > Commercial Vehicle Event Data Recorder (EDR) forensic testing, Tulsa, OK, November 17, 2010.