

# Guidelines for Failure Investigation

#### SECOND EDITION





## ASCE

EDITED BY

Richard S. Barrow Ronald W. Anthony Kimball J. Beasley Stewart M. Verhulst

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#### Preface

Engineering investigations of buildings, bridges, and other constructed facilities that fail or do not perform as intended, rendering opinions as to the causes of failure or underperformance, and giving testimony in judicial proceedings are fields of professional practice often referred to as forensic engineering. Forensic engineering practices are also applied in circumstances involving defects, failures, and accidents involving manufactured products, consumer products, machinery, and vehicles of all types; however, this publication principally addresses forensic engineering for the civil/structural built environment.

The Forensic Engineering Division (FED) of ASCE, formerly the Technical Council of Forensic Engineering, was established in 1985. Subsequently, the FED and its Task Committee on Guidelines for Failure Investigation was charged with developing an overview of the functions and responsibilities of a forensic engineer during a successful failure investigation. The task committee's efforts resulted in the publication of *Guidelines for Failure Investigation* published in 1989 by ASCE. A companion document published by ASCE in 2012, *Guidelines for Forensic Engineering Practice, Second Edition*, describes aspects of forensic engineering not discussed in *Guidelines for Failure Investigation*, including standard of care, the legal forum, and ethical and business considerations.

Standards and design codes, construction safety regulations, tools of investigation and analysis, and dispute resolution rules and procedures have evolved since 1989, when the first edition of the *Guidelines* was published. More importantly, forensic engineering has matured, becoming a more accepted, organized, and active field of practice. In recognition of these changes, ASCE's Committee on Forensic Investigations reviewed the *Guidelines* and concluded that an update and revision were in order. The result of that review, update, and revision is this 2018 publication of *Guidelines for Failure Investigation, Second Edition.*  This page intentionally left blank

### Contributors

#### **Chapter Authors**

Ronald W. Anthony, Aff. M.ASCE Richard S. Barrow, P.E., S.I., M.ASCE Kimball J. Beasley, P.E., F.ASCE Randall Bernhardt, P.E., S.E., SECB, F.ASCE James S. Cohen, P.E., M.ASCE Benjamin M. Cornelius, P.E., S.E., B.AE., M.ASCE Danielle Kleinhans, Ph.D, P.E., M.ASCE Jeffrey A. Travis, P.E., S.E., M.ASCE Stewart M. Verhulst, P.E., M.ASCE

#### **Contributors and Reviewers**

Chase Anderson, P.E., M.ASCE Ken Carper, M.ASCE Shen-en Chen, Ph.D, P.E., M.ASCE Julie Mark Cohen, Ph.D, P.E., SECB James Cohen, P.E., M.ASCE Alicia E. Diaz de Leon, P.E., S.E., AIA, M.ASCE Howard Greenspan, P.E., L.S., F.ASCE Roberto J. Marte, P.E., M.ASCE Paul Mlakar, Ph.D, P.E., M.ASCE Leonard J. Morse-Fortier, Ph.D, P.E., M.ASCE Navid Nastar, Ph.D, P.E., S.E., F.ASCE David Peraza, P.E., M.ASCE Clemens J. Rossell, P.E., M.ASCE Ziad Salameh, Ph.D, P.E., S.E., F.ASCE Joshua Summers, P.E., S.E., M.ASCE This page intentionally left blank

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