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Beyond Failure Forensic Case Studies For Civil Engineers

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Engineering failures get a lot of attention - inciting morbid curiosity and fueling concern over the condition of our infrastructure. But every engineering loss is the start of a forensic investigation into how, why, and what can be done to prevent future failures. As with scientific failures, engineering failures can be very instructive in teaching us what does not work.

Beyond Failure presents the circumstances of important failures that have had far-reaching impacts on civil engineering practice. Each case study narrates the known facts: design and construction, the failure, subsequent investigation or analysis, and, where appropriate, additional issues such as technical concerns, ethical considerations, professional practice issues, and long-term effects. The case studies are organized around eight common topics of undergraduate engineering courses and include teaching points and a reading list, so this book is useful to engineering faculty and students. With more than 40 full cases, including the Silver Bridge collapse in Point Pleasant, West Virginia; the levee breaches in New Orleans; and the Challenger space shuttle explosion, this book will also appeal to practicing engineers with an interest in forensic investigations or the analysis of historic failures.

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