# Civil and Structural Failure Analysis and Consulting

**S-E-A** has investigated thousands of civil and structural losses.

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## THE TEAM

The team is comprised of top professionals in a range of disciplines, including: civil, structural, mechanical, electrical and materials engineering, as well as architecture. They are also experienced in demonstrating and explaining the results of their investigations and testing with a clarity that brings understanding and objectivity back in the aftermath of a disaster.

## A SWIFT, INTEGRATED RESPONSE

S-E-A's multi-disciplined team moves rapidly to reveal the cause of the event

## DATA COLLECTION

Begins with an extensive site visit, a scene evaluation and comprehensive photographic documentation. Precise field measurements may be taken, diagrams drawn and interviews conducted.

## ANALYSIS

S-E-A team members have the ability to initiate systematic investigations in their respective specialized areas using the scientific method. Civil engineers may conduct analysis of the original design specifications, the soil and foundation, moisture levels, construction materials, wastewater, and the influence of external and/or natural forces. Mechanical engineers can probe possible mechanical failures. Materials engineers might conduct material composition and stress tests, comparing data they acquire to original design specifications. In addition to these investigations, finite element analysis can be performed to determine the cause of a structural failure.

## TESTING

The S-E-A laboratory has the resources to conduct construction materials failure analysis as well as chemical analysis. The laboratory can determine if explosives were used at the scene of a structural failure or if some other damage-causing phenomenon occurred.

## CAUSAL VALIDATION

Causation and conclusions are corroborated with extensive data collection, analysis, testing, technical searches, simulations and in-depth reporting.

S-E-A