

## Building Science Investigations

MDE Inc's team evaluating building science issues includes experienced civil engineers, materials and metallurgical engineers, mechanical engineers, electrical engineers, fire protection engineers, forensic chemists, industrial hygienists, fire cause and origin specialists, microbiologists and other professionals. This team approach enables each area of the building science investigation to be handled by specialists in the field. The building science team determines the cause and effect of failures due to design errors and omissions, construction methods and materials concerns (construction defects), the effectiveness of maintenance procedures, and disasters. The scope of the building science investigations include:

### Design Deficiencies

- Plan design/selection
- Material and method specifications
- Systems approach deficiencies
- Building siting
- Moisture infiltration
- Code and standard inadequacies
- Building envelope
- Plumbing
- Electrical
- Fire suppression
- Foundation/geotechnical

### Material Deficiencies

- Material incompatibilities
- Material failures
- Manufacturing defects

### Maintenance Defects

- Routine and periodic maintenance requirements
- Improper maintenance methods
- Improper maintenance materials

### Resultant Failures

- Natural disasters
- Failure analysis
- Fire and explosion origin and cause
- Water intrusion investigations
- Mold investigations and remediation consultation
- Insurance and litigation support

### Construction/Installation Deficiencies

- Improper methods
- Improper materials
- Improper conditions
- Code and standard violations
- Carpentry/structure
- Insulation
- Roof systems
- Exterior cladding
- Window and door systems
- Ventilation systems
- Electrical systems
- Plumbing systems
- Fire suppression systems
- Interior finish systems
- Fasteners

