THANH DO, PHD, PE

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SUMMARY

Dr. Thanh Do is a structural engineer, forensic investigator, and technical storyteller who helps clients untangle complex construction and infrastructure challenges. His work centers on investigating structural failures, evaluating design and construction defects, assessing the standard of care of design professionals, and identifying root causes of performance issues in the built environment.

Dr. Do brings deep expertise in design-build delivery, collapse investigations, and technical dispute resolution. He has experience spanning a wide range of structures, including base-isolated buildings, aerial guideways and bridges, below-grade station buildings, support-of-excavation systems, marine structures, tunnels, and refineries. He routinely assists attorneys, insurers, general contractors, and design professionals in resolving disputes. He is increasingly involved in early dispute resolution, helping clients address technical concerns before they escalate into formal claims or litigation.

In addition to his forensic work, Dr. Do specializes in visual storytelling, using physics-based animations and technical illustrations to distill complex engineering concepts into clear, compelling narratives for courtrooms, mediations, and negotiations.

Dr. Do also has hands-on experience in the design of new buildings and seismic retrofit of existing structures. He is a frequent speaker and author on topics including structural failures, construction defects, standard of care, risk mitigation, and advanced simulation techniques. A former adjunct professor at the University of California, Berkeley—where he also earned his doctorate in structural engineering—Dr. Do continues to advance thought leadership through both education and practice.

EDUCATION

Ph.D., Structural Engineering	University of California, Berkeley
M.S., Structural Engineering	University of California, Berkeley
B.S., Civil Engineering	University of the Pacific

PROFESSIONAL CERTIFICATIONS AND REGISTRATIONS

Professional Engineer (PE), CA, NV, WA, OR, GA, VA, MO, FL
Safety Assessment Program Evaluator (Cal OES)

PRESENT EMPLOYMENT

Director, Construction & Real Estate, Berkeley Research Group (BRG)

PREVIOUS INDUSTRY & ACADEMIC POSITIONS

Structural Forensic Engineer, Thornton Tomasetti

Adjunct Professor, Structural Engineering, Mechanics, and Materials Department, University of California, Berkeley

Reviewer, ASCE Journal of Architectural Engineering

Editor, American Bar Association's Forum on Construction Law, *The Dispute Resolver* Blog

PROFESSIONAL EXPERIENCE

Buildings and Foundations

- Airport Structure Investigation, CA. Evaluated the structural design deficiencies, including post-tensioned floor framing, concrete shear walls, and structural steel framing, of a parking garage and airport station, and analyzed causes of material overruns.
- Floor & Balcony Defects Evaluation, GA. Conducted a forensic investigation into construction defects affecting the floors and balconies of a high-rise condominium.
- Parking Garage Cracking Investigation, CA. Evaluated an underground parking garage that experienced deflection and cracking in the reinforced concrete elevated slabs.
- Steel Framing Investigation, HI. Performed forensic evaluation of the structural steel framing and connection designs in a transit station structure.
- Dissimilar Metals Evaluation, HI. Performed forensic evaluation of design deficiencies involving dissimilar metal connections in a transit station structure.
- Building Collapse Investigation, LA. Investigated the cause of collapse of a high-rise structure under construction.
- Light Rail Stations Investigation, CA. Evaluated the design defects of light rail stations to determine the cause of material quantity overruns.
- Residential Remodeling Defect Investigations, CA. Performed forensic structural evaluations of multiple remodeled residences, identifying deficiencies in wall and roof framing, foundations, floor diaphragms, structural connections, and framing at openings.
- Water Intrusion Investigation – Multi-family Development, CA. Investigated the causes of water intrusion affecting 81 detached single-family homes within a residential development and evaluated the appropriate scope of repair.

- **Roof Renovation Water Intrusion Investigations, CA.** Conducted forensic analyses of water intrusion at multiple properties undergoing roof renovations, assessing performance during various rain events and identifying failure mechanisms.
- **Corrosion Evaluation, CA.** Forensic evaluation of corroded building components and clogged deck drains due to swimming pool defects.
- **Walter Pyramid Ceiling Collapse Investigation, California State University Long Beach, CA.** Conducted forensic engineering evaluation of a suspended ceiling collapse at a university facility, including site assessment, structural analysis, and review of as-built conditions, installation practices, and code compliance.
- **Pasadena Unified School District Fire Damage Evaluation, CA.** Performed structural evaluations of multiple school campuses impacted by the Eaton Fire. Assessed fire-related damage, determined necessary repairs, and identified code-required upgrades for reconstruction.
- **Cathedral of Christ the Light, Oakland, CA.** Forensic evaluation of the Cathedral and Dependency Building to verify the adequacy of the structural systems of this historic base-isolated structure.
- **Lift-and-Slide Door Defect Investigation, CA.** Forensic evaluation of lift-and-slide door defects of a residential property.
- **Egress Evaluation, CA.** Evaluated the noncompliant egress stairs of an airport building.
- **Earthquake Damage Assessment, AK.** Conducted post-earthquake damage assessment of several schools and churches.
- **Deep Foundation Evaluation, CA.** Investigated the integrity of a deep foundation system supporting a high-rise building.
- **Airport Facility Foundation Evaluation, CA.** Investigated the design deficiencies and constructability issues of foundation piles and grade beams.
- **Excavation Evaluation, CA.** Investigated excavation issues related to uncertified fills and expansive soil.
- **Slope Failure Investigation, CA.** Investigated the cause of slope failure and damage to structures and foundations, including buildings, retaining walls, decks, and seawall.

Bridges and Marine Structures

- **Bridge Girder Investigation, CA.** Investigated the design and construction issues of several post-tensioned concrete girders.
- **Bridge Foundation Evaluation, CA.** Investigated the structural impact of ongoing construction of bridge foundations on an adjacent existing outfall sewer.
- **Light-Rail Aerial Guideway Evaluation, CA.** Investigated the design and construction issues of several post-tensioned bridges, including their superstructure and foundation.
- **Bridge Seismic Expansion Joint Investigation, CA.** Investigated the design deficiencies of bridge seismic expansion joints.

- **Bridge Bearing Evaluation, HI**. Conducted forensic analysis of the mechanical uplift bearing and anchorage systems of several post-tensioned bridges, focusing on alleged design errors and omissions, and delays in design deliverables and extended design approval.
- **Wind Stability Assessment of Segmental Bridge, CA**. Evaluated the construction-stage wind stability of a tall, long-span segmental balanced cantilever bridge.
- **Pile Design Evaluation, VA**. Forensic assessment of pile design and alleged design deficiencies contributing to driving resistance and capacity discrepancies.
- **Pedestrian Bridge Investigation, CA**. Investigated the design deficiencies of several pedestrian bridges to determine the cause of material quantity overruns.
- **Aerial Guideway Appurtenance Evaluation, CA**. Evaluated the structural integrity and code compliance of appurtenances of several post-tensioned bridges, including support structures and emergency platforms.
- **Hegigio Gorge Pipeline Bridge and Oil Refinery Seismic Evaluation, Papua New Guinea**. Evaluated the structural damage and repair alternatives of this pipeline bridge and an oil refinery after an earthquake.
- **Pinole Bridge, CA**. Inspected cracks in bridge deck and substructure and prepared retrofit options.
- **Marine Trestle Investigation, VA**. Investigated the design deficiencies and constructability issues of a marine trestle structure.
- **Cofferdam Investigation, VA**. Investigated the design deficiencies of a sheet pile cofferdam.
- **Port of Santa Cruz, CA**. Investigated the tsunami damage to the port infrastructure and opined on the scope of repair.

Roadway and Pavement

- **Roadway Design Evaluations, VA**. Forensic investigations on two large Design-Build infrastructure disputes involving alleged roadway design deficiencies. Evaluated design and coordination of roadway slabs, drainage systems, median barriers and guardrails, light poles, sound walls, and retaining walls.
- **Concrete Discoloration Investigation, CA**. Forensic evaluation of concrete slab color variation across adjacent placements.
- **Pavement Slab Cracking Investigation, WA**. Investigated the cause of cracking in a concrete pavement slab, including slab design, joint detailing, concrete placement and curing, and joint saw cutting.
- **Maintenance of Traffic Evaluation, VA**. Assessed the compliance of roadway maintenance-of-traffic plans, focusing on acceleration/deceleration lanes and lane widths.

Tunnels and Cut-and-Covers

- **Tunnel Segmental Lining Investigation, VA**. Investigated the structural adequacy of steel fiber-reinforced concrete (SFRC) tunnel segmental lining.
- **Tunnel Interior Structure Investigation, VA**. Investigated the structural integrity of tunnel interior structures, including egress wall, barrier, and egress corridor.

- **Cut-and-Cover Investigation, CA**. Investigated the design adequacy of the cut-and-cover structures to determine the cause of material quantity overruns.
- **Tunnel Cross Passage Investigation, CA**. Investigated the adequacy of the tunnel cross passages to meet fire and life safety requirements.

Support of Excavation and Retaining Structures

- **Tunnel and Tunnel Approach SOE, VA**. Investigated multiple issues related to the structural design, construction sequence, and constructability of the SOE system for tunnel portals and tunnel approach.
- **Light-Rail Station SOE, CA**. Investigated the design deficiencies of the SOE structures to determine the cause of material quantity overruns.
- **Tunnel SOE, WA**. Investigated the material quantity overruns of strut and waler SOE system.
- **Mechanical Stabilized Earth Evaluation, CA**. Investigated the design deficiencies of a mechanical stabilized earth (MSE) wall structure to determine the cause of material quantity overruns.
- **MSE Wall Settlement Investigation, VA**. Forensic analysis of MSE wall design and construction that experienced post-construction settlement.
- **Slope Stability and Retaining Structure Evaluation, CA**. Evaluated slope stability and retaining wall design for a hillside residential property.

Other Forensic Investigations

- **Tower Crane Collapse Investigation, GA**. Investigated the failure of tower crane's counterweight system.
- **Pipe Support Evaluation, CA**. Investigated the structural adequacy of piping supports in a concrete slab.
- **Concrete Water Reservoir Evaluation, NV**. Evaluated the water reservoir design, including reinforcement design and watertightness.
- **Utility Infrastructure Evaluation, HI**. Assessed the engineering design of the utility infrastructure for a utility relocation project.
- **Illuminating Shell Evaluation, CA**. Investigated the explosion of supposedly dormant illuminating shell.
- **Manhole Collapse Investigation, TX**. Investigated the failure of a manhole structure associated with an alleged pedestrian injury.

Structural Design and Seismic Retrofit

- **Bridge Piles.** Animations illustrating installation methods, load transfer behavior, and failure mechanisms of large-diameter bridge piles.
- **Roadway Design**. Illustrations of roadway design elements, including guardrails, barriers, sound walls, light poles, and underground utilities.

- Richards Boulevard State Office Complex, Sacramento, CA. Structural engineering services for a Design-Build delivery of a new office complex.
- Mission Rock, San Francisco, CA. Structural engineering for new office towers.
- 144 Townsend Seismic Retrofit, San Francisco, CA. Seismic retrofit of a historic concrete building.
- City College of San Francisco, Alemany Campus, CA. Seismic retrofit of a three-story classroom building, including new reinforced concrete pile cap and micropile foundation system.
- Nob Hill Condominium Building, Seismic Evaluation, San Francisco, CA. Assessed the seismic vulnerabilities and developed conceptual seismic retrofit plans.
- State of California, Resources Building Criteria Documents, Sacramento, CA. Assessed the seismic vulnerabilities and developed conceptual seismic retrofit plans.

Select Demonstratives and Trial Graphics

- Pump Lift Station. Animation of a pump lift station that experienced a failure that led to a flooding event.
- Retaining Structure. Illustrations of a slope supported a hillside property and a retaining soil nail wall.
- Industrial Plant. Stills and animation of industrial plant, manufacturing process, and comparison of piping scope in pre-bid and post-bid designs.
- Illuminating Shell. Animations of illumination shell's composition and operating mechanism.
- Cracked Slab. Animations comparing the allegedly defective design to a typical design to explain the causes of cracking.
- Building Façade. Animation displaying wind speed distribution in the vicinity of building façade that was damaged due to impact in a high-wind event.
- Structural Steel. Visualization of steel frames, bracing, and connections, comparing the details in the original defective design and in the subsequent retrofit.
- Water Intrusion. Animations of defective waterproofing system of an underground parking garage, a timelapse of reported water intrusion incidents, and an explanation of water intrusion causes.
- Home Remodeling Defects. Animation of common construction and design defects in home remodeling.
- Deep Foundation Construction. Animation of excavation and foundation construction sequence, and clashes between new and existing foundation elements.
- Bridge Construction. Animation of construction sequence of a precast segmental bridge, comparing proper and improper excavation phasing.
- Support of Excavation. Visualization of support of excavation system for bored tunnel, portal, tunnel approach.
- Pavement Isolation Joints. Visualization of isolation joints between new and existing concrete pavement slabs, and explanation of causes of slab cracking.

- **Bored Tunnel Segmental Lining**. Visualization of tunnel ring, radial and circumferential joints, and lining reinforcement.

PUBLICATIONS

(1) "You Are Fired!" Legal and Technical Challenges of Terminating a Designer in Design-Build Project," Construction Super Conference, Bonita Springs, FL, December 2025 (panelist)

(2) "Behind the Curtain: Ethics, Experts, and Internal Strategy in Complex Construction Claims," Construction Super Conference, Bonita Springs, FL, December 2025 (panelist)

(3) "Not By Design: Legal and Technical Challenges in Terminating a Designer on a Design-Build Project,", American Bar Association's Forum of Construction Law, Construction Lawyer Magazine, October 2025 (co-author)

(4) "Hidden Design Risks: Construction Defects in a Tariff-Driven World," 8th Annual Construction & Design Risk and Claims ExecuSummit, October 2025 (presenter)

(5) "Caught in the Upgrade: Code Triggers and Legal Risks in Construction Projects," Orange County Bar Association webinar, October 2025 (panelist)

(6) "Reshaping Early Dispute Resolution in the New Era of Construction: Trends, Challenges, and Future Directions," Society of Construction Law North America, San Diego, CA, July 2025 (panelist)

(7) "When Cost-Cutting Backfires: The Hidden Technical Risks of Material Substitutions in Construction Litigation," American Bar Association, Division 1, The Dispute Resolver: Consultant Corner, July 2025 (author)

(8) "Pullout Behavior of Stainless Steel Straps Embedded in Concrete," 2025 Engineering Mechanics Institute Conference, Anaheim, CA, May 2025 (co-author)

(9) "Legal and Technical Challenges When Terminating a Designer in a Design-Build Project," American Bar Association, 2025 Annual Meeting Presentation, Austin, TX, April 2025 (panelist)

(10) "When Collaboration Bites Back: Common Design-Build Pitfalls," Construction Management Association of America (CMAA) Focus 25 Conference, Las Vegas, NV, February 2025 (co-presenter)

(11) "A Checklist for the Investigation of Concrete Slab-on-Grade Cracking," Proceeding of ASCE Forensic Engineering Congress, Seattle, WA, November 2024 (author and presenter)

(12) "A Picture is Worth a Thousand Words: Effective Use of Visualization in Forensic Investigations and Construction Litigation," Proceeding of ASCE Forensic Engineering Congress, Seattle, WA, November 2024 (author and presenter)

(13) "Shaping Perspectives: Harnessing 3D Visualization for Design, Investigation, and Legal Advocacy," American Bar Association, 2024 Fall Meeting Presentation, Pittsburgh, PA, October 2024 (co-presenter)

(14) "Navigating Technology in Construction Defect Investigations: Technical & Legal Considerations," American Bar Association, Division 4 Hot Topic Presentation, October 2024 (presenter)

(15) "New Technological Tools Aiding the Investigation and Presentation of Complex Construction Claims," Construction Lawyers Society of America (CLSA) Conference, Palm Spring, CA, September 2024 (co-presenter)

(16) "The Art and Science of Storytelling and Visualization in Construction Litigation," AGC of California Legal Advisory Committee May 2024 meeting (panelist)

(17) "A View Under the Hood – Construction Defects and Forensic Investigations," 10th California Construction Law Seminar, Marina Del Rey, CA, March 2024 (panelist)

(18) "A Picture is Worth a Thousand Words... Technical Storytelling in Construction Litigation," American Bar Association, Division 1, The Dispute Resolver: Consultant Corner, February 2024 (author)

(19) "Compelling Storytelling Using Forensic Engineering Visualization in Complex Construction Cases," Construction Super Conference, Hollywood, FL November 2023 (co-author)

(20) "Home Remodeling Claims: Legal and Technical Considerations", Orange County Bar Association webinar, May 3, 2023 (co- presenter)

(21) "Evaluation of Seismic Demand on Bridge Nonstructural Components Using ASCE 7," Fifth International Workshop on the Seismic Performance of Nonstructural Elements (SPONSE) Proceedings, Palo Alto, CA, December 2022 (co-author)

(22) "Learning from Design Busts: Thoughts in Risk Mitigation for the Design Consultant in the Design-Build Arena," 2022 DBIA Convention, Las Vegas, NV, November 2022 (co-presenter)

(23) "Design-Build Standard of Care," ABA Construction Law Division 1 Toolbox Talk, October 2022 (panelist)

(24) "Rethinking the Role of Technical Experts in Pre-Litigation Dispute Resolution," American Bar Association, Division 1, The Dispute Resolver: Consultant Corner, June 2022 (co-author)

(25) "Adjacent Construction Claims: Technical and Legal Framework in California," Orange County Bar Association Webinar, October 2021 (panelist)

(26) "Adjacent Construction Damage: Overview, Code Requirements, and Best Practices," 2021 SEAOC Convention, San Diego, CA, September 2021 (co-author and presenter)

(27) "A Versatile Numerical Model for the Nonlinear Analysis of Squat- to-Tall Reinforced Concrete Shear Walls," Engineering Structures, 2021 (co-author)

(28) "Lessons Learned from Building Performance and Earthquake Response and Recovery from 2018 Anchorage, AK Earthquake," 2019 National Council of Structural Engineers Association (NCSEA), Structural Engineering Summit, Anaheim, CA, November 2019 (co-presenter)

(29) "A Damage-Plasticity Approach for Deterioration Modeling of Steel Components", 11th National Conference on Earthquake Engineering, Los Angeles, CA, June 2018 (presenter)

(30) "A Deterioration Modeling of Steel Columns Under Variable Axial Forces," Structures Congress 2018, Fort Worth, TX, April 2018 (author and presenter)

(31) "A Damage Model for Structures with Degrading Response", Earthquake Engineering and Structural Dynamics, August 2017, (author)

(32) "Damage Assessment and Collapse Simulation of Structures under Extreme Loading Conditions," Doctoral Thesis, University of California, Berkeley, May 2017 (author)

(33) "A Damage Model for the Simulation and Assessment of Structures with Degrading Element Behavior", Structures Congress, April 2017 (author and presenter)

(34) "Earthquake Response Evaluation with a New Hysteretic Model," 16th World Conference on Earthquake Engineering, Santiago, Chile, January 2017 (co-author)