PERSONNEL QUALIFICATIONS

Dean J. Deschenes | Senior Associate

EDUCATION

- Lehigh University
  - Bachelor of Science, Civil Engineering, 2006
- University of Texas at Austin
  - Master of Science, Structural Engineering, 2009

PRACTICE AREAS

- Structural Evaluation
- Failure and Damage Investigation
- Repair and Rehabilitation
- Historic Preservation
- Structural Design
- Instrumentation and Monitoring
- Litigation Consulting

REGISTRATIONS

- Professional Engineer in TX

PROFESSIONAL AFFILIATIONS

- American Concrete Institute (ACI)
- Association for Preservation Technology (APTI)
- American Society of Civil Engineers (ASCE)

CONTACT

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EXPERIENCE

Since joining WJE in 2016, Dean Deschenes has been involved in a various assessments of new and existing structures. His project work experience includes the evaluation, design and rehabilitation of a wide range of materials and structures.

Prior to joining WJE, Mr. Deschenes worked as a research associate and manager at both commercial and university laboratories. His research focused on the behavior, strength and aging management of reinforced and prestressed concrete structures. His research was geared toward improving code predictions of prestress loss and shear strength. Mr. Deschenes also extensively studied the structural implications of alkali-silica reaction and delayed ettringite formation, both concrete internal distress mechanisms.

REPRESENTATIVE PROJECTS

Failure and Damage Investigation

- Liquefied Natural Gas Tank (LNG) Foundations - Cameron, LA: Investigation of reinforced concrete damage due to cryogenic LNG exposure
- University of Texas at Austin (UT Austin), Dell Medical School, Health Discovery Building: Investigation of stress corrosion cracking in brass components of hydronic piping system
- Texas Instruments - Sugar Land, TX: Investigation of exterior, adhered limestone veneer failure; design of mechanical pinning repairs
- Multiple Boutique Hotels - Charlotte, NC and Austin, TX: Investigation of breakage in architectural glass components, including curved glass guardrails and shower enclosures

Repair and Rehabilitation

- Mustang Island State Park - Port Aransas, TX: Assessment of corrosion-related distress in reinforced concrete structures; design of concrete and coating repairs
- Parking Garage - Midland, TX: Assessment of double-tee beam stem distress, design of fiber-reinforced polymer repairs, and repair observations
- Nails Creek State Park - Sommerville, TX: Assessment of vehicle-impact damage to wood-framed building; design of framing and envelope repairs; repair observations

Historic Preservation

- Texas State Capitol (c. 1888) - Austin: Assessment of terrace waterproofing systems; design and observation of masonry, cast iron, waterproofing, and encaustic tiling repairs
- Goliad County Courthouse (c. 1894) - TX: Design and observation of multi-ply, wood girder jacking system to relieve distressed masonry walls
- Texas A&M University, Jack K. Williams Administration Building (c. 1932) - College Station: Assessment of cast stone masonry facade and Carthage stone staircase
- UT Austin, Battle Hall (c. 1910) - TX: Assessment of large roof overhangs supported by timber brackets and twisted galvanized wire pairs

Structural Design

- La Frontera Village - Round Rock, TX: Design and observations of structural modifications to merge two independent tilt-up concrete structures into one contiguous space
- ICON 3D Printed Homes - Tabasco, Mexico: Laboratory materials evaluation of hardened, printed material characteristics, and design of wall system for one-story, prototypical home

Instrumentation and Monitoring

- Texas State Capitol - Austin: Development and installation of wireless, crack monitoring system following evaluation of through-cracking in massive granite lintel
- Sam Houston Ship Channel Bridge - Houston, TX: Development, installation, and administration of girder-bearing monitoring systems at north and south extents

Litigation Consulting

- Helical Wind Turbine Failures - Addison, TX: Investigation of composite turbine component failures from turbines mounted to an elevated storage tank
- Vehicle Barrier Failure - Austin, TX: Investigation of prestressed barrier cable system failure in multistory parking garage