

Daniel T. Pearson | Associate III



EDUCATION

- Texas A&M University
 - Bachelor of Science, Civil Engineering, 2013
 - Master of Engineering, Civil Engineering, 2014

PRACTICE AREAS

- Structural Analysis
- Finite Element Analysis
- Failure/Damage Investigations
- Repair and Rehabilitation
- Steel Structures
- Instrumentation/Monitoring/Load Testing

REGISTRATIONS

- NHI Course 130055 - Safety Inspection of In-Service Bridges
- NHI Course 130078 - Fracture Critical Inspection Techniques for Steel Bridges
- OSHA 10-Hour Construction
- Professional Engineer in OR and TX
- Structural Engineer in LA and OK
- TSA Transportation Worker Identification Credential

PROFESSIONAL AFFILIATIONS

- American Society of Civil Engineers
- Structural Engineers Association of Texas

CONTACT

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EXPERIENCE

Since joining WJE in 2017, Daniel Pearson has been involved in the evaluation and repair of concrete, masonry, steel, and wood structures. He has experience performing finite element analysis on a wide range of structures and is experienced with several software packages including Abaqus, SAP2000, and SACS. Prior to joining WJE, Mr. Pearson worked as a structural engineering consultant in the oil and gas industry.

Mr. Pearson's graduate research at the Texas A&M Transportation Institute focused on evaluating roadside barriers and related hardware. He performed dynamic, nonlinear finite element analysis of vehicle impacts with roadside barriers using LS-DYNA to determine the dynamic response of the roadside system and vehicle.

REPRESENTATIVE PROJECTS

Structural Analysis

- Food Production Facility - Houston, TX: Structural analysis of open web steel joists
- Steel Aircraft Hangar - Houston, TX: Structural analysis of steel aircraft hangar to determine design loads for foundation elements
- Offshore Production Facilities - Gulf of Mexico: Strength of fatigue analyses for various offshore production facilities*
- Pipeline Supports - Tulsa, OK: Structural capacity evaluation of pipe supports for planned hydrotest*

Finite Element Analysis

- Wastewater Treatment Plant - Houston, TX: Three-dimensional finite element analysis of reinforced concrete tank to determine expected deflections
- Potash Mine - Canada: Nonlinear finite element analysis of steel gusset connections to evaluate buckling capacity and determine repair locations*
- Offshore Steel Connection Design - Gulf of Mexico: Design of nontypical steel connection subjected to large impact load; validation of design using elastic and elastic plastic analyses*

Failure/Damage Investigations

- Pedestrian Bridge - Houston, TX: Investigation of pedestrian bridge soffit collapse
- Hurricane Damage Assessment - Rockport, TX: Assessment of multiple buildings for structural damage due to hurricane
- Chemical Plant - TX: Investigation of structural damage caused by explosion, structural analysis of damaged framing, and repair design for temporary support*

Repair and Rehabilitation

- Port of Houston - Houston, TX: Structural analysis and design for structural retrofit of wharf to support new gantry cranes
- Historic Hotel - Houston, TX: Repair design for corroded steel framing
- Office Building - Houston, TX: Condition assessment of concrete tilt-up walls
- Refinery - KS: Evaluation of distillation column reinforcement schemes to meet deflection criteria under wind loads*

Steel Structures

- PSA Aircraft Hangar - San Antonio, TX: Main Truss and secondary member analysis and strengthening design for wet and foam fire protection retrofit
- Manufacturing Facility - Houston, TX: Structural assessment of damaged steel framing due to impact
- Offshore Production Facility - Houston, TX: Feasibility study for various topside deck extension layouts, included strength and fatigue evaluations*
- Pipeline Expansion Loop Study - AK: Parametric evaluation of multiple pipeline expansion geometries to investigate optimal layout*

Instrumentation/Monitoring/Load Testing

- Marine Facility - Puerto Rico: Instrumentation and load testing of reinforced concrete pier
- Football Stadium - AR: Instrumentation and load testing of precast concrete stadium riser

**Indicates experience with previous firm*