



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

REGISTRATIONS

- NHI Course 130055 - Safety Inspection of In-Service Bridges
- NHI Course 130078 - Fracture Critical Inspection Techniques for Steel Bridges
- OSHA 10-Hour Construction
- TSA Transportation Worker Identification Credential

PROFESSIONAL AFFILIATIONS

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

CONTACT

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EXPERIENCE

Prior to joining WJE in 2017, Daniel Pearson worked as a structural engineering consultant where he did structural analysis, finite element analysis, failure/damage investigations, and repair and rehabilitation design on steel structures in the oil and gas industry. He gained experience in floating facilities, pipelines, chemical plants, and refineries. He has experience using finite element software including Abaqus, SAP2000, and SACS.

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

- Pipeline Support Evaluation - Tulsa, OK: Assessment of structural capacity of steel pipe supports for planned hydrotest*
- Offshore Platform Life Extension - Gulf of Mexico: Strength and fatigue assessment of topsides to evaluate extending facility life*
- Offshore Platform Flare Boom Evaluation - Gulf of Mexico: Strength assessment of existing flare boom and backup structure for updated environmental loading*
- Offshore Platform Evaluation - Gulf of Mexico: Strength assessment of topsides structure with new drilling rig*

Finite Element Analysis

- Offshore Steel Connection Design - Gulf of Mexico: Designed non-typical steel connection subjected to large impact load, validated design using elastic and elastic plastic analyses*
- Heat Exchanger Frame - Houston, TX: 3D solid element model of heat exchanger frame to determine bolt forces due to shock load*
- Offshore Platform - Gulf of Mexico: Created shell element model of semi-submersible hull for design validation*

Failure/Damage Investigations

- Hurricane Damage Assessment - Rockport, TX: Assessment of multiple buildings for structural damage due to Hurricane.
- Industrial Facility Collapse - Canada: Nonlinear finite element analysis of steel gusset connections to evaluate buckling capacity and determine repair locations.*
- Chemical Plant Explosion - TX: Investigation of structural damage caused to facility by explosion, structural analysis of damaged framing, and repair design for temporary support.*

Repair and Rehabilitation

- Port of Houston - Houston, TX: Determined structural capacities and recommended design improvements for special purpose elements
- Office Building - Houston, TX: Condition assessment of concrete tilt-up walls.
- Refinery Distillation Tower Reinforcement - KS: Evaluation of various reinforcement schemes to meet deflection criteria under wind loads*
- Chemical Plant Structure Supports - TX: Designed temporary supports for steel framing with severe corrosion*

Steel Structures

- Offshore Platform Deck Extension - Gulf of Mexico: Structural design of multiple deck extension design options, strength and fatigue assessments of topsides with deck extensions*
- Pipeline Expansion Loop Study - Alaska: Parametric evaluation of multiple pipeline expansion geometries to determine optimal layout*
- Refinery Coker Crane Sagging - Baton Rouge, TX: Review of deflection measurements and repair history to determine repair necessity*

* Indicates experience with previous firm