

## STRUCTURAL ENGINEERING

### [Hidden Creek Estates – Copper Canyon, TX](#)



Engineering construction documents were prepared for an 80-foot span vehicular bridge. The hydrological/hydraulic aspects of the project included preparing a FEMA Conditional Letter of Map Revision (CLOMR) and further a Letter of Map Revision (LOMR) associated with the construction of the new bridge.

The hydrological modeling employed the use of HEC-RAS software to reflect existing and proposed conditions of the creek's hydraulic profile (Poindexter Branch). The complete scope of engineering services also included geotechnical investigations for roadway designs. The structural engineering portion of our scope included the design of bridge abutments, pier support systems and truss system design.

Soil embankment stabilization employed "reinforced earth" technology, geotextile fabrics, geogrid material and the "gabion" retaining wall's anchoring system.

### [Grand Prairie Public Library, Grand Prairie, TX](#)



Designed reinforced concrete foundation systems to support concrete structural features for public library branch facility. Services included obtaining geotechnical data, performing topographic surveys and designing the required foundation support systems. Other areas of responsibility consisted of providing construction observations and construction administration services.

### [Spur Parking Garage Forensic Investigation – San Angelo, TX](#)



Retained by the City of San Angelo to perform forensic engineering investigation of an existing four (4) level parking facility with approximately 32,000 square feet. Forensic analysis focused on the structural integrity of the facility's primary steel framework members. Specific attention was given to the rate of deterioration of structural steel members resulting from chemical corrosive effects acting on the steel framework. The complete forensic investigation consisted of determining the point source of chemically induced corrosion; evaluating load capacities; structural computations; preparing remedial activities and related costs (cost-effective analysis) and reporting.

Based on conclusions and recommendations outlined in the forensic investigation, the city directed JEA HydroTech to prepare complete construction documents (plans and specifications) for the remediation of the parking facility. Construction documents included structural remediation plans; traffic control and maneuverability plans; pedestrian safety structures; and, interior lighting layout plans.



#### **Church at Burleson - Burleson, TX**

Engineering professional design services consisted of the structural design and layout of a new 70 ft. span steel frame pedestrian bridge. JEA HydroTech also performed construction management services extending from the initial frame fabrication to final assembly and placement of the bridge. Other aspects of the project included site utility layout and coordination, storm drainage detention facilities, and channel hydraulic numerical analysis.



#### **Greenville Airport - Greenville, TX**

Structural plans for the construction of a storm drain discharge pump station prepared. Structural plans included pump sizing and storm drain discharge pipe design. Plan documents developed in coordination with Raytheon E-System, Inc.



#### **Dallas/Forth Worth International Airport - Dallas, TX**

Developed and initiated a "Bridge Inspection Program". Evaluated the structural integrity of existing bridge structures within the airport facility.