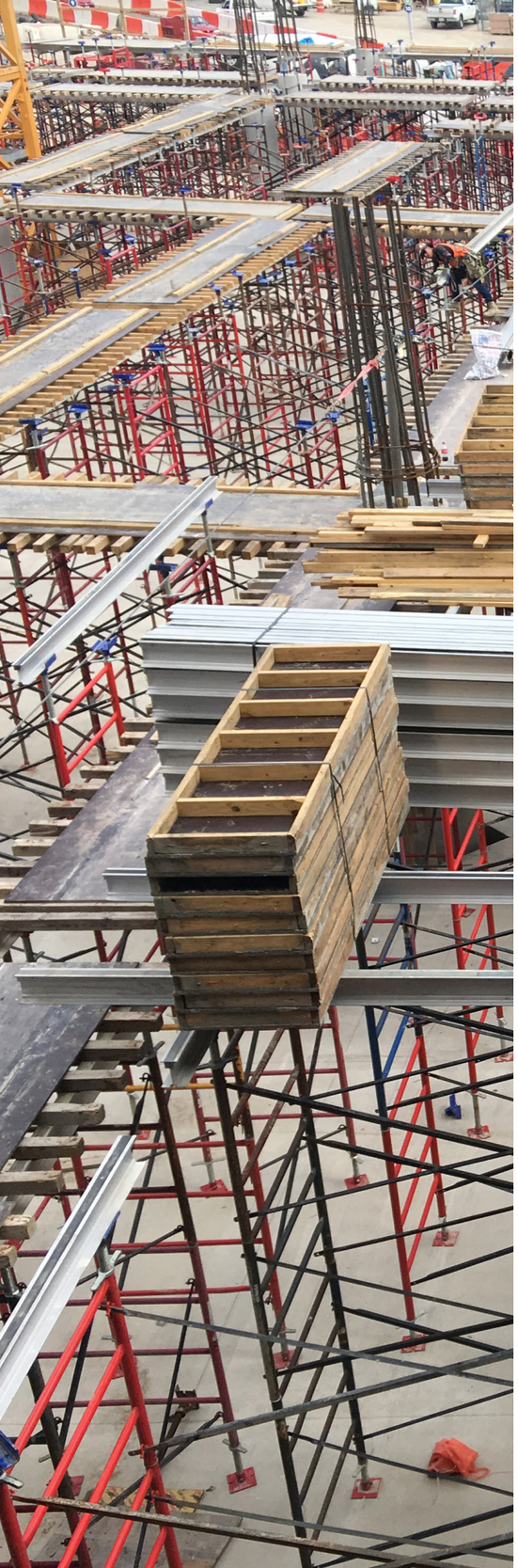


TSEN·ENGINEERING

About Us

Tsen Engineering (formerly JQ+Tsen) was established in 2010 by Gary Jaster and Stephanie Tsen and is located in Austin, Texas. Tsen Engineering is an agile group of highly trained structural engineers and Revit technicians that provides comprehensive structural engineering solutions for buildings in the public and private realms.

TYPE OF ENTITY: Limited Liability Company (LLC)
LEGAL NAME: JQ+Tsen, LLC dba Tsen Engineering
YEAR ESTABLISHED: 2010
ADDRESS: 210 Barton Springs Road, Suite 250, Austin, TX 78704
PHONE: (512) 474-4001

ABIA Blue Garage, under construction
PHOTO: Stephanie Tsen

Services

Tsen Engineering offers Structural Engineering services for new construction, additions, renovations, and other services such as peer reviews, assessments, and windstorm inspections.

New Construction

- Foundation Design
- Structural Framing Design of Buildings & Other Structures
- Design of Retaining Walls and Other Site Structures
- Design for Sustainability
- Transportation Structures

Additions + Renovations

- Analysis of Load Capacity and Design of Retrofits for existing Structural Framing
  - to support new usage/relocation of existing material storage
  - to support revisions to vertical circulation systems
  - to support MEP renovations
- Foundation & Structural Framing Assessment and Design
- Condition Assessments and Rehabilitation of Existing Structures
- Analysis of Deteriorated Structural Framing Members
- Analysis of Structural Framing to Conform to Governing Building Code

Other Services

- Peer Review
- Windstorm Inspection Services
- Structural Feasibility Studies for Master Planning
- Structural Condition Assessments/Pre-Purchase Surveys

Certifications

- Historically Underutilized Business (HUB) by the State of Texas, VID #1272005823400
- Minority/Women-Owned Business (M/WBE) by the City of Austin #VS0000033389

DESIGNING LEARNING ENVIRONMENTS

ACCELERATE Computer Lab at ACC Round Rock

WINN ES LIBRARY EXTERIOR

K-12 Education

ROUND ROCK ISD

Round Rock Elementary School #35

This project is a new elementary school for about 900 students, approximately 119,000 square feet. It is two-stories tall, with vaulted spaces in the main corridor, media center, maker space, café, and gym, and one-story at the administration area. The structural system is a structural steel frame with a composite steel and concrete second floor. The soils are expansive and the foundation is slab/beam over void forms with pier-supported point loads.

LAGO VISTA ISD

Lago Vista High School New Campus

This new high school was built to accommodate at least a 3A-sized number (700) of students. It includes a two-story classroom building, a main building with a library, cafeteria, and a grand stair, a competition gymnasium and a practice gymnasium, a vocational shop, band hall, and a performing arts center. The athletics facilities includes a fieldhouse that is carved 12 feet into the land, with a weight room, concessions, and roof deck that looks over the football fields. The main structural framing systems of the buildings are structural steel and load-bearing CMU.

AUSTIN ISD

Winn Elementary School New Library

The new library addition is a single-story building, of approximately 5,000 square feet. The library connects to the existing building via an open-air covered walkway.

ROUND ROCK ES 35 EXTERIOR

LAGO VISTA HS PERFORMING ARTS CENTER

Higher Education

UNIVERSITY OF TEXAS AT AUSTIN

Bureau of Economic Geology Building & Courtyard

This project included a 13,000 square-foot research building addition and a new courtyard for the Bureau of Economic Geology complex at the J.J. Pickle Research Campus. The courtyard created a visual roadmap of the geological regions within Texas, used existing trees, mitigated sound and provided evaporative cooling with water features, and provided water infiltration for the roof drainage with a dry creek bed. The structural scope for the courtyard included designing the foundation and framing of a tall gabion wall, benches, entry signs, and other landscape structures.

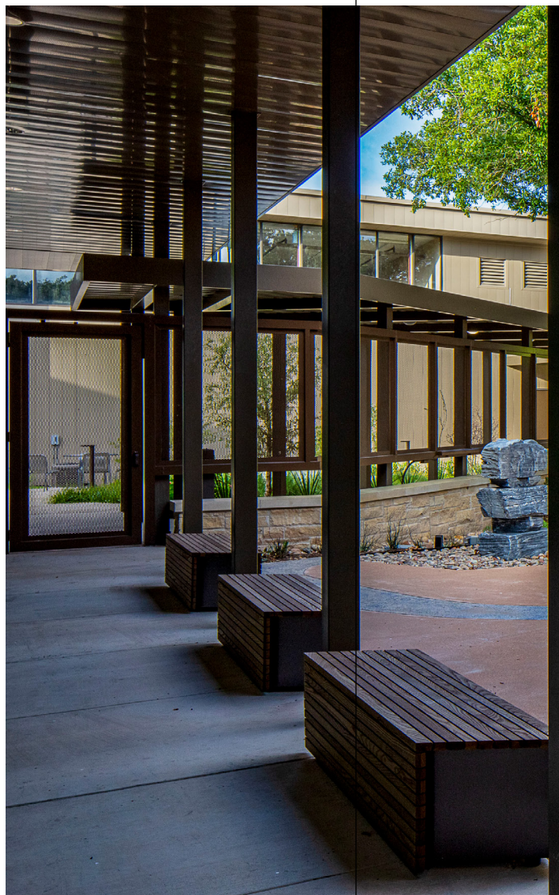
AUSTIN COMMUNITY COLLEGE

Round Rock Campus Phase II New Academic Building

This project is a new three-story, 45,00 square foot academic building for Phase II of the Austin Community College District Round Rock Campus. The structural system minimized the use of interior columns to allow for large, open spaces and maximum flexibility. The building, its systems, and a portion of the sidewalks are isolated from the negative effects of expansive soils at the site. The foundation system consists of piers supporting point loads with a ground floor that is suspended over a crawlspace. The facility was designed to achieve a LEED Silver Certification level.

UT BE1 ADDITION

ACC ROUND ROCK



UT BE1 COURTYARD

SHAPING THE FUTURE OF CENTRAL TEXAS

New Parking Garage & Administration Building
at the Austin-Bergstrom Inernational Airport

Aviation

AUSTIN-BERSTROM INTERNATIONAL AIRPORT

Parking Garge & Pedestrian Spine

The garage includes two (2) pedestrian bridges; a smaller 3,000 square-foot administration building, a landscaped pedestrian spine approach to the exterior escalators, canopies, a toll plaza with eight (8) drive bays; surface lot plaza, a parking garage entrance and plaza, and a new exit plaza.

AUSTIN-BERSTROM INTERNATIONAL AIRPORT

Administration Building

The new administration building houses and consolidates the administrative aviation departments including finance, properties and tenant management, enterprise business services, public information, graphic, arts, music, and air service development. The building allows airport personnel to move from the mezzanine levels inside the Barbara Jordan Terminal and make the space available for possible future development and or passenger amenities. It was designed to be LEED Gold. It is located adjacent to, and across the landscaped courtyard from, the new 6,000 car parking garage that was also by this office.

PEDESTRIAN SPINE AT THE ABIA BLUE GARAGE

ADMINISTRATION OFFICE BUILDING VIEW OF ENTRY

Main Headquarters Building of the A.B.I.A. Consolidated Maintenance Facility

AUSTIN-BERSTROM INTERNATIONAL AIRPORT

Consolidated Maintenance Facility New Campus

The ABIA Consolidated Maintenance Facility involves the development of a 15-acre tract of land into a single source for all the airport's support services. The following buildings comprise the CMF campus:

Main Headquarters Building
39,000 SF, 3 story facility that houses operations personnel. Two floors of office space with a third level mechanical penthouse. Elevated floors constructed with concrete over composite steel decking & steel beams. Roof consists of steel deck on steel bar joists & beams.

Warehouse Building
29,000 SF pre-engineered metal building with 4 bay loading dock. The building also contains approximately 2,500 SF of office space.

Motor Pool Building
22,000 SF pre-engineered metal building with vehicle lifts and overhead cranes for vehicle maintenance. The building also includes a large outdoor covered area for vehicle storage.

Trades Building
18,000 SF pre-engineered metal building with numerous work spaces and storage for each of the airports facility teams.

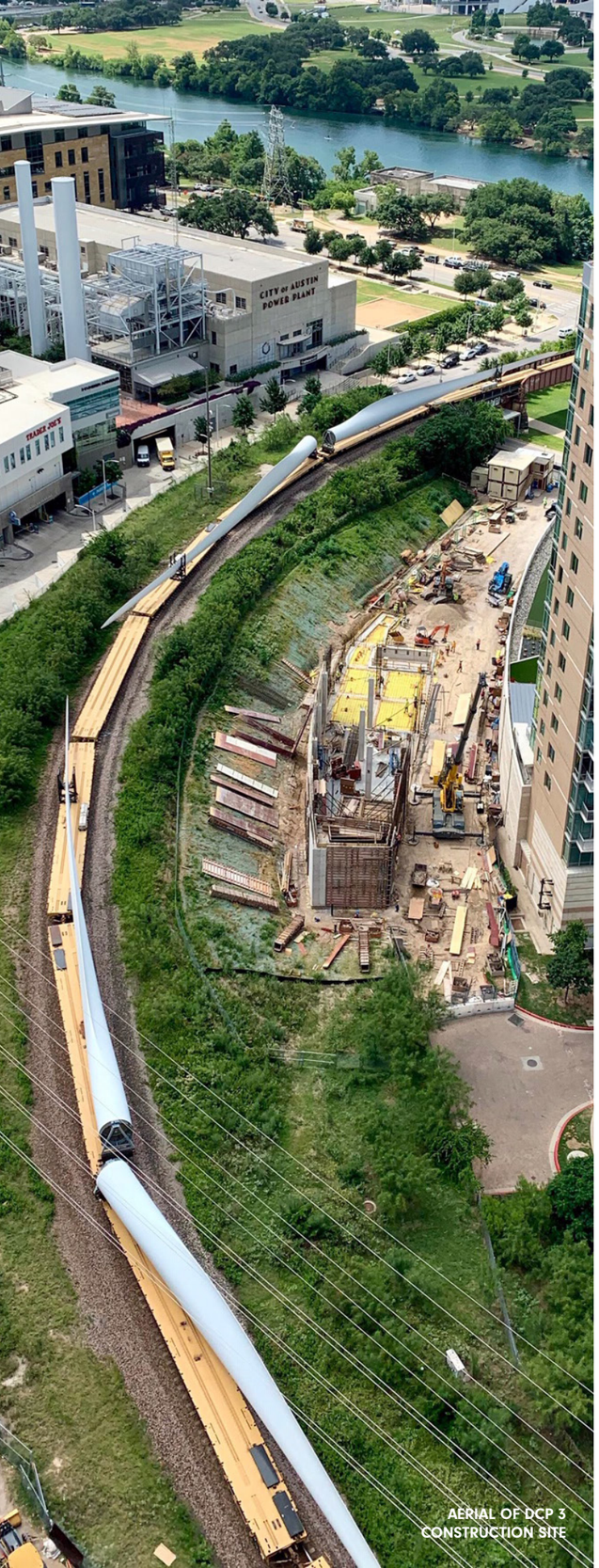
Airport Police Unit
15,000 SF, single story building that includes office space, weapons storage and a K-9 facility. The roof consists of steel deck on steel bar joists and beams.

De-Icing Building
5,600 SF pre-engineered metal building. This building is located inside the secure perimeter of the airport and is used by the airport de-icing crew.

Truck Wash Building
4,800 SF stand alone truck wash building. The super structure consists of a pre-engineered metal building.

Recycling Building
2,500 SF pre-engineered metal building that houses the recycling storage bins for the campus.

Covered Open-Air Walkway that connects all of the occupied campus buildings.
2 Enclosed Garages that consist of pre-engineered metal building structures.
2 Parking Canopies to provide covered parking for a portion of the parking lot.
Fuel Canopy that covers the refueling station at the edge of the site.
Pavilion Canopy that provides a shaded area for site occupants gathering outside.
Concrete Push Walls for gravel storage and loading.



AERIAL OF DCP 3
CONSTRUCTION SITE


GROUND VIEW OF DCP3
CONSTRUCTION SITE


ACC HIGHLAND
CONSTRUCTION SITE

Industrial

AUSTIN ENERGY

Downtown District Cooling Plant #3

The downtown District Cooling Plant #3 (DCP3) will provide an additional 10,000 tons of cooling capacity utilizing four 2,500-ton water-cooled centrifugal chillers and nine cooling tower cells. The project makes use of a small, infill parcel that is considered undevelopable for other uses, and creates a municipal purpose that serves the public downtown.

AUSTIN ENERGY + AUSTIN COMMUNITY COLLEGE

Highland District Cooling Plant

This project is satellite chilled water plant for the Austin Community College Highland Campus. The 4500-ton Austin Energy chiller plant includes a plant building with a 5-cell cooling tower on the roof, a 1.6M gallon thermal energy storage (TES) tank, and a chemical storage shed. It is adjacent to a new 6-level parking garage that was constructed concurrently. This project complies with ACC's Highland Campus Design Handbook. Tsen Engineering provided full structural engineering services for the plant building and piers for the TES tank.

AUSTIN ENERGY

Domain District Cooling Plant

This project is the design phase for the replacement of the existing cooling towers at the Domain District Cooling Plant. The existing towers were in the mechanical yard west of the plant building. This project provided a new field-erected fiberglass cooling tower located in the Building B location on the north side of the plant. The new 4-cell cooling tower has an elevated basin and supports the plant's expected future chiller condensing load. The cooling tower basin, condenser water piping, electrical distribution, and related infrastructure were designed to accommodate the addition of one (1) future cooling tower cell to allow chilled water capacity growth..

PRESERVING OUR HISTORIC PAST

Restored Exterior of the Martin County Convent

Historic

MARTIN COUNTY COVENT

Martin County Convent

Tsen Engineering provided a preliminary assessment of the Martin County Convent to identify structural deficiencies and ascertain the possible need further in-depth investigations, more detailed mathematical analysis, and scientific testing. We updated the structural portions of the previous written reports conducted in 1991, 1994, and 2014. The structure is a two-story adobe building with a rubble stone and lime mortar basement. The period of significance for the restoration is 1886 when the Carmelite friars occupied the building.
(see previous page)

FRENCH LEGATION STATE HISTORIC SITE

TEXAS STATE PRESERVATION BOARD

French Legation State Historic Site

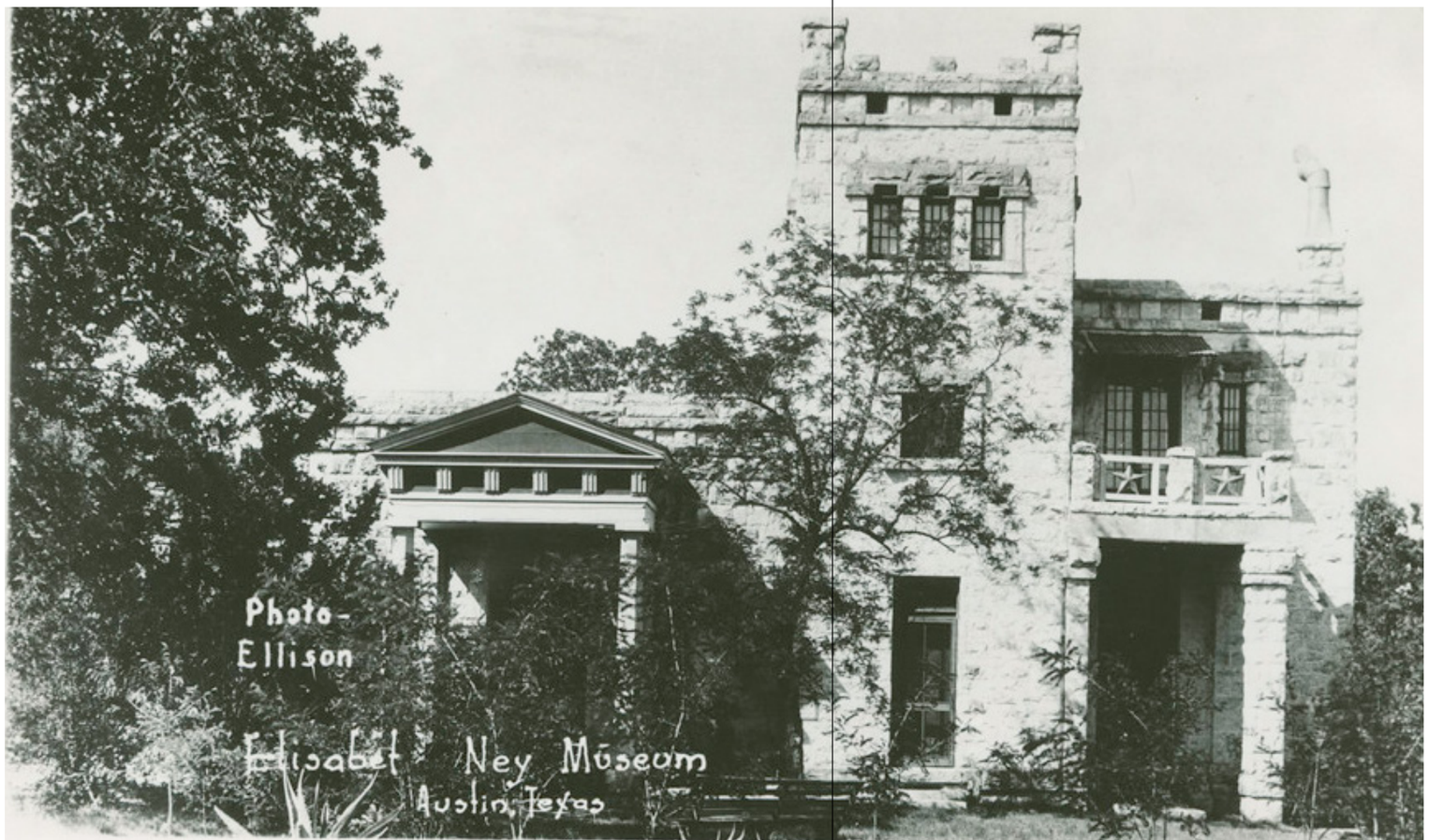
This project was the development of a master site plan and the restoration/ repair/renovation of multiple buildings for the French Legation Museum. The structural scope included structural assessment reports on the Legation House, Carriage House, Kitchen Building, and site stone walls. It also included full structural contract documents for the Legation House restoration and the Carriage House renovation into a visitor center.

CITY OF AUSTIN PARKS & RECREATION DEPARTMENT

Elisabet Ney Museum

The initial phase of the restoration of the Elisabet Ney Museum site included a written report on the Museum and Lodge buildings, including photographs of potential structural concerns and updates to the 2007 Master Plan. In addition, the written report on the Lodge building included establishing the anticipated repair/replacement of structural elements with respect to retrofitting the structure for office/meeting space usage, including the possible conversion of the attic into office space. Tsen Engineering provided space planning/feasibility options with respect to structural requirements, documentation of structural concerns, and estimates of probable construction costs for structural repairs.

ELISABET NEY MUSEUM



TEXAS HISTORICAL COMMISSION

Levi-Jordan Plantation

Among the oldest structures remaining in Brazoria County, the Levi Jordan Plantation State Historic Site is new again. Under Texas Historical Commission guidance, the project included preservation and stabilization efforts on the plantation house. The house required partial demolition in order to permanently stabilize the building and preserve its exterior. As the exterior structural skin was removed, the extent of the deterioration of the structure was discovered. Wood beams were found to be severely deteriorated but were retrofitted and left as part of the structure due to their historical significance. Our team performed detailed documentation of existing conditions to provide interim and permanent building stabilizations and extensive coordination with the architect, contractor and owner to achieve structurally and historically sound processes and retrofits.

LEVI-JORDAN PLANTATION (POST-RESTORATION)

LEVI-JORDAN PLANTATION (PRE-RESTORATION)

A view of Lady Bird Lake in downtown Austin

FOSTERING SPACES FOR COMMUNITY

SEAHOLM INTAKE FACILITY (PRE-RENOVATION)

Cultural

AUSTIN PUBLIC WORKS DEPT.

Austin Studios Phase 1

Phase 1 includes the renovation of the original 1970 National Guard Armory Building and the High Hanger Building – Stage 7 into new office, public, and creative spaces. The renovation includes new exterior walls, new restrooms, and a re-roof.

AUSTIN PARKS & RECREATION DEPT.

Seaholm Intake Facility

This project is the Phase 1 Renovation of the iconic 1950's Seaholm Intake facility. This phase will make the existing intake structure habitable for public use with seamless integration into the trail system as a future phase.

Community

CITY OF AUSTIN PUBLIC HEALTH & PUBLIC WORKS DEPTS.

Montopolis Recreation & Community Center

This project is a new recreation and community center in the Montopolis Neighborhood of Austin. The new 33,000 SF facility includes a gymnasium, meeting rooms, a commercial kitchen, and community event spaces. Due to the expansive soils, the foundation system consisted of structural concrete slab over voids supported by piers. This slab also served as the tilt-panel casting bed to accommodate site constraints and also to manage tilt-panel quality. The superstructure consisted of both cast-in-place concrete and structural steel, with long-span steel trusses at the gymnasium. The facility was designed to achieve a LEED Silver Certification level.

THE SALVATION ARMY OF TEXAS

Salvation Army Corps Community Center

This project was a partial two-story, 23,807 sf office, administrative, and community center building. Facilities in the building include a chapel, classrooms, an event space, and a gymnasium. The framing consists of structural steel construction. The foundation consists of concrete slab and beam construction over a compacted structural fill building pad with concentrated loads supported by drilled concrete piers.

MONTOPOLIS RECREATIION & COMMUNITY CENTER

SALVATION ARMY CORPS COMMUNITY CENTER