



Department of
ENGINEERING
TECHNOLOGY

Senior Design Day 2020



CONSTRUCTION ENGINEERING TECHNOLOGY

Collin College in Celina Texas

NTE Construction

Team Members:

- Justin Gray
- Ha Tran
- Manuel Lira
- Ricardo Reynoso
- Hanan Shaltaf

External Sponsors/Mentors:

- Mario Melendez – Project Manager –
J.T. Vaughn Construction
- Cade Tremie - Project Engineer –
J.T. Vaughn Construction

Internal Sponsors/Mentors:

Aloysius A. Attah, Ph.D., P.E.

Abstract:

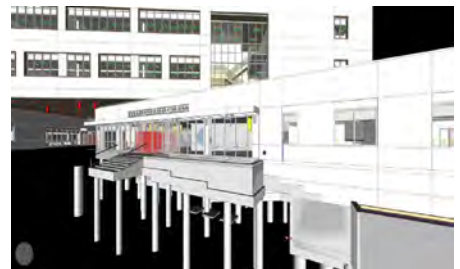
Collin Community College is a higher education center in Celina, Texas. The program will include the construction of seven buildings consisting of a welcome center, educational buildings, workforce building, and instructional buildings. The first phase of the program will include educational facilities with classrooms, computer labs, science labs, and a library. This phase will consist of a 4-story building with approximately 96,000 square feet of building construction.

NTE Construction was tasked with developing a site logistics plan, schedule, budget, quality control plan, and a safety plan for the new building. Additionally, our team provided a sustainability assessment, value engineering, and BIM assessment for the Collin College project.

NTE anticipates this project to take 484 working days and cost \$37,475,621. There are currently 38 days of float in our schedule and 1% of the contract cost is being utilized for design contingency to reduce our risk on this project.

NTE will utilize our in-house BIM coordination team to mitigate as many problems as possible during the preconstruction phase of construction to allow for the building phase to minimize RFIs and maximize efficiency.

Special thanks to the College of Engineering, Department of Engineering Technology, J.T. Vaughn Construction, and all the professors involved with the Construction Engineering Technology program.



Cue Galatyn Station

New Vision Construction



Team Members:

Rosa Peña, Mario Ponce, Eduardo Rodriguez,
Eric Sandoval, and David Valdez

External Sponsors & Mentors:

TX-Morrow Construction, INC.
Breck Landry (APM)

Internal Sponsors & Mentors

Aloysius Attah, PhD, P.E.

Abstract:

New Vision Construction is a close partnership with TX-Morrow Construction in specifying, planning, and performing management analysis during the construction of “Cue Galatyn Station” apartment complex in Richardson, TX. The location of this construction project is near U.S. Route 75N and President George Bush Turnpike, on Galatyn Parkway. The work of this project will include the general construction, site development, plumbing, HVAC, electrical, fire protection, security &



communications. The contract for Cue Galatyn Station is a design-build project and will be performed under multiple subcontracts. This project will be composed of two buildings with podium/wrap, a precast garage in the middle with a pool deck on top, and a total of 372 apartment units. Structural components of this project consist of wood stick framing, and structural steel. Its interior finishes will consist of EPA certified water fixtures, CRI certified flooring, DAPc certified tiling.

Special thanks to the College of Engineering, alongside the Department of Construction Engineering Technology, and Tx-Morrow Construction.

TCU Administration Building

DTX Construction



DTX Construction
Building the future.

Team Members:

- David Alvarez
- Kevin Maldonado
- Ricky Rojas
- Travis Block
- Million Mulugeta
- Ulisses Valdez

External Sponsors/Mentors:

- Kyle Featherston

Internal Sponsors/Mentors:

- Aloysius A. Attah, Ph.D., P.E.

Abstract:

Our Senior Design project was in a close partnership with our project mentor Kyle Featherston; PM for Vaughn Construction. Our tasks consisted in specifying, planning and performing management analysis during the Texas Christian University Administration Building construction project. The location of the project is 3200 W. Berry, Fort Worth, TX 76129. The project consists of 86,254SF of new construction in three stories. Program includes offices, meeting rooms, break rooms, washrooms and other support spaces. Site improvements are included in the scope of work which consists of utilities, landscape, and hardscape. The building's aesthetic does an excellent job of adapting with the unique TCU atmosphere. Covered with a brick exterior, and a luminous amount of cast stone pieces around each window - the building is a definite sight to see. Capital improvement program is what brought Vaughn to TCU, where they're able to sell against competition when presenting. Relationship criteria is Vaughn's number one priority; this being their first project with TCU, they strive to provide quality work, while working efficiently to stay on top of the contract schedule. Overall, a great learning experience for us to see how Kyle and his team navigate through their first project with TCU.



Special thanks to the College of Engineering, along side the Department of Engineering Technology, the Construction Engineering Technology Program, and Vaughn Construction

CRYPTIC Construction LTD



Team Members:

- Robert Nierman
- Chikezie Azogu
- Paul Quinteros
- Kaleb Moore
- Timothy Popoola

External Sponsors/Mentors:

- Dan Weir – Sr. Project Manager
- Ben Berard – Asst. Project Manager

Internal Sponsors/Mentors:

- Aloysius Attah, P.E.

Abstract:

Our Senior Design project is a close mentorship between TDIndustries in which we assist with the construction, modification, and management of the DFW-4 office building. The project is located in Westlake, off Highway 170, Fort Worth, Texas. The construction project is comprised of a core and shell 8-story building and is part of the second phase of the new Charles Schwab campus. As subcontractors we are dealing with the mechanical and plumbing aspect of the DFW-4 project. TDIndustries is working with DPR Construction in the construction of building DFW-4. Phase 2 is currently ahead of schedule and is looking to be substantially completed on October 7, 2020.

TDIndustries is aiming to help construct a sustainable and energy efficient building by using pre-fabrication and BIM modeling.





Thrower Construction LLC.

SRT Highway Expansion (Preston Bridge)

Team Members:

- Cody Joe Muenzberg
- Alex Piland
- Nathan Jones
- Kam Logan Barnes
- Jonathan Cortes

External Sponsors/Mentors:

- Lee Pelton / Assistant Project Manager at Austin Bridge and Road

Internal Sponsors/Mentors:

- Aloysius Attah

Abstract:

Our senior design project with Austin Bridge and Road covers the expansion of Sam Rayburn Tollway from Dallas North Tollway to State Highway 75. This includes one lane each way and 13 bridges. Our focus on this project is the bridge at the intersection of Sam Rayburn Tollway and Preston Road. due to an increased population in cities surrounding the project, there is a demand for infrastructure growth and therefore requires roads and highways to grow with it. Austin Bridge and Road is helping to solve that problem with this project by expanding the Tollway an extra lane both ways allowing for more traffic to flow through the area. This project will help the company build revenue and expand Austin Bridge and Road's reputation. This project is unique in the fact that it is a tollway expansion and not just a highway expansion which means there is more requirements from the NTTA (North Texas Tollway Authority).

