



# **MATC Intern at JEO Consulting Group**

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After my graduation in early May, I had an internship set up with the JEO Consulting Group through the MATC Program and with this opportunity, I was able to experience for myself what Engineers do regularly and met great engineers from all disciplines. JEO is a large company with offices in Nebraska, Iowa, and Kansas and for this internship, I worked in the Omaha office with Pat Byrd (Manager), PE, PTOE and Jacob Thiele (Colleague), Engineer in Training (EIT). I interned in the Traffic and Technology Department as a Traffic Intern. During this time, I worked on different projects like traffic studies and speed studies just to name a few. But I also did some work with Traffic Management Plans (TMP) for projects that JEO was undertaking. Besides that, I was also involved in an intern project that JEO gives to their interns to learn the process of how a typical project begins. It was an interesting summer, and I will be discussing it in this piece of writing.

The first week, I was involved in a speed study in the City of Bennington, Nebraska where neighbors were concerned about drivers speeding along their streets. JEO was selected to review this issue and given to our team in the Omaha office to investigate. My manager decided to send me to collect the data & analyze it and take the lead in writing the report for this specific project. It was a great experience where I got feedback and I learned how to professionally present and write a report as an engineer would. Besides this project, I was also sent to do traffic counts with MioVision cameras for NDOT monthly requests. I remembered that when I was working on my senior design project for my last semester, I was always wondering how NDOT was able to collect traffic data to create ADT maps of the whole state. Now, I know it is a collective effort that NDOT makes with different companies throughout the state of Nebraska and their employees.

As mentioned before, I was also involved a bit with Traffic Management Plans (TMP) that JEO was producing for the Kansas Department of Transportation to help in three different projects that are in Kansas City, De Soto and Topeka. These projects that KDOT was undertaking require a TMP since the construction would disturb the daily traffic of many that used these streets. So, it was necessary to determine how this construction would affect the traffic and have a clear direct plan of how to manage it. I did some of the writing and concept figures that illustrate detouring routes and the location of variable message signs & queue detectors that would help to manage the traffic during the construction of the project. From the TMP reports, I learned how important preparation and planning are key to any big project that occurs in our cities throughout the country.

Lastly, I want to talk about the summer internship program that JEO has for its intern program, where I was grouped into a team of four to work on one of the engineering projects of the summer. JEO does these projects for local communities and small cities at no cost. My team and I were assigned a project in the city of Norfolk, Nebraska. Where we had to design a connection between the existing trail system along the levee and the existing sidewalk along Norfolk Avenue on the east side of the city as seen in the figure below.

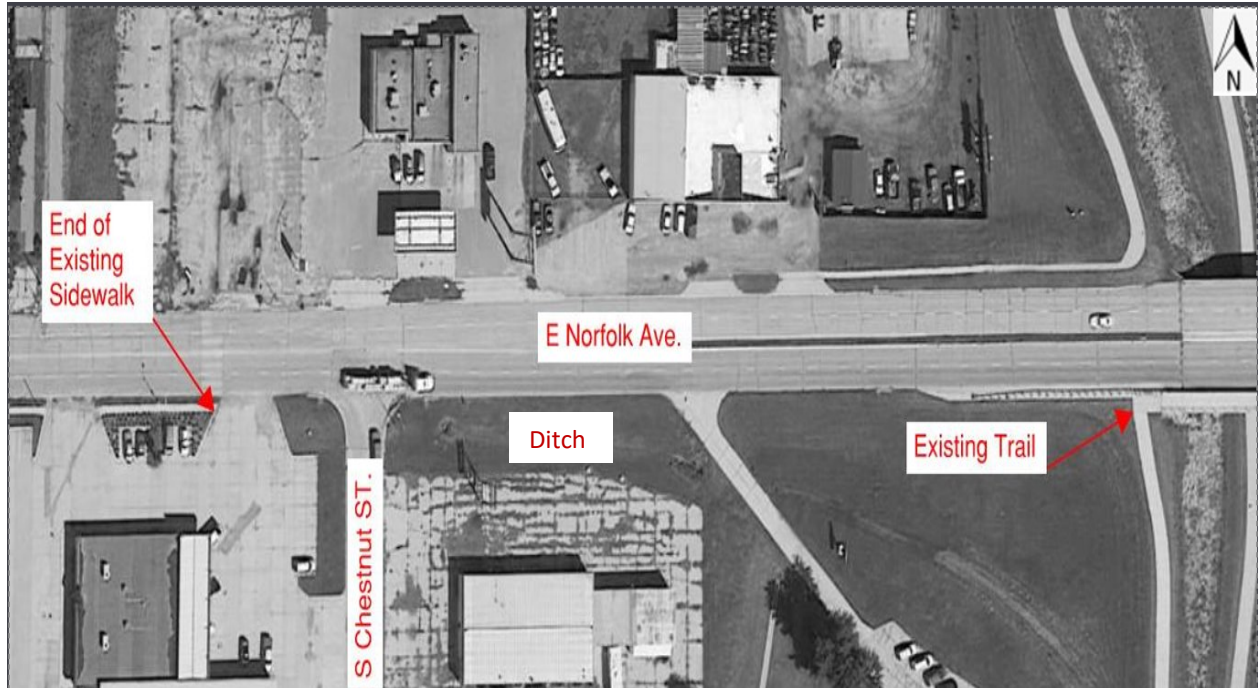


Figure 1. Vicinity Map of Norfolk Trail Connection

The first step in our project was to set up a meeting with the city and schedule a survey of the site as soon as possible. We set the meeting and the survey to be done on the same day. At this meeting, we met the assistant city engineer and parks and recreation department director. From this meeting, it was determined that the trail connection would be 10 ft wide, 6-inch depth of concrete, and 4 ft grass verge. After the meeting, we determine our roles within our team. I was responsible for the storm pipe and drain connection design. So, I gained the opportunity to gain some knowledge in water sources outside of college and to design pipes in Civil 3D. I asked for help from Benjamin Baugher (EIT) an engineer working in the Omaha office since I did not have any prior experience. He was helpful and patient in teaching me how to draw an alignment and set my pipe storm in the CAD file. Besides working by ourselves, we also have weekly meetings where we talked about our process and goals as a team for the next week to keep the project moving forward. At the time of

writing this paper, we are getting to 50% completion design plans that would be sent to Q&A for review. It was a great project where I learned to work with a team. I also learn that communication is an important part of any project or team to succeed in any problem that they are taking on.

In conclusion, being an intern at the JEO Consulting Group through the MATC Intern Program was an amazing experience that I will remember as I move forward in my career. I met great engineers who were dedicated to their work and took some of their time to mentor and share their knowledge in engineering with me. I was always curious about many things, and I asked many questions, especially of Jacob who was seated on the other side of my desk. He was always nice to talk to, and he took the time to answer all my questions. Pat my manager was also a supporting and respectful person which made my intern experience at JEO amazing. I also met Benjamin, a great engineer whom I spend time learning from when I was working on my intern project. For future interns, I would recommend them to ask questions and be willing to learn from the engineers that are mentoring them. They are a walking library of knowledge, and they like to share their knowledge so take advantage of these opportunities that an internship offers you and learn as much as you can.