



MY SUMMER AT FHU

May – August 2017

Morgan McCullough

Why civil engineering? This is a question I have been asked countless times over the last few years. Why endure all the late-night studying, the seemingly impossible test questions, and the pages upon pages of math problems? These are actually all questions I have also asked myself throughout my college career. However, this summer I was reminded of why I became so passionate about civil engineering in the first place. My time at Felsburg Holt & Ullevig has allowed me to watch projects move from conception to design to construction and finally to completion. I was also able to witness how these projects are improving communities and will continue to provide benefits for years to come. My summer internship has not only increased my desire to continue to pursue my career goals, but it has also given me a realistic idea of what my future in civil engineering could look like.

Since this was my second summer interning for Felsburg Holt and Ullevig in Omaha, Nebraska, I was able to take on more responsibilities and participate in several new tasks and projects. From the beginning, FHU made sure to include me in as many aspects of the engineering process as possible. This included attending progress meetings with city officials and other professional engineers, completing different types of engineering analysis, writing proposals and reports, and addressing redlines and comments. I was also able to gain more experience working in programs like MicroStation and Synchro which are essential tools for civil engineers. I am grateful to everyone at FHU for making sure I was exposed to a wide-range of projects and opportunities to ensure my internship was a well-rounded experience.

As the designated traffic intern, a majority of the projects I worked on were focused on traffic engineering. Even though I was able to work on multiple assignments throughout the Midwest, my most involved projects included the Whispering Oaks traffic impact analysis in Council Bluffs, IA and the Prairie Corners traffic study in Papillion, NE. For both of these

projects, new developments are anticipated to be built within the next year or so. It was my responsibility to determine how much additional traffic these new land uses would generate as well as the effects of the new traffic volumes on the existing roadway. This analysis included calculating level of service values at all the intersections within the traffic study. I also determined if signal warrants were met or turn-lanes were necessary depending on the anticipated growth in traffic. All of my analysis included using software like Synchro, Google Earth and the Highway Capacity Software (HCS).

Once the analysis was complete, I had to give my recommendations for improving the roadway's operations while still being cognizant of available time, money, and resources. All of these steps were then recorded and explained in the final report. Both of these projects allowed me to take on more responsibility and helped me better understand the process of completing a traffic analysis. These projects also required me to coordinate with others such as one of the company's graphic designers in Colorado as well as my supervisor who had to stamp the final report. I learned how essential it is to be able to effectively communicate both in person and on paper. Clear, concise, and effective communication is not something that can be easily taught, but it is one of the most important skills to have in the engineering industry. My summer internship has helped me improve both my written and verbal communication skills which will aid me in any future job.

Overall, my past two summers at FHU have consisted of learning essential skills, interacting with a variety of professional engineers, and creating fond memories. I have gained experience working with multiple traffic programs as well as developed a greater understanding of what a future in transportation would consist of. I am thankful for this internship in preparing me for a successful future in the field of civil engineering and I am grateful to everyone at FHU

for helping me feel like a part of their family. Now the next time someone asks me why I chose civil engineering as a future career, I will tell them about my summers working for Felsburg Holt and Ullevig and the irreplaceable lessons and skills that I learned.