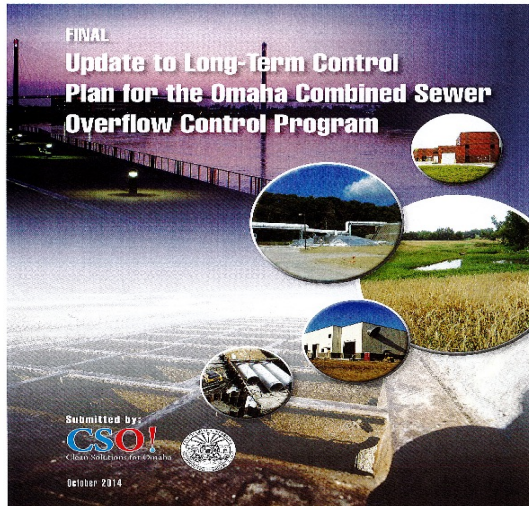




# SUMMER INTERNSHIP REPORT 2019

By Gurkirat Singh

My sophomore year ended last semester and MATC(Mid-America Transportation Center) gave me an opportunity to intern with City of Omaha – Construction Division. I was hired by Michael Kleffner as a construction Intern and I am grateful to him as well.



For the first week, I worked under CSO (Clean Solutions for Omaha) Inspector Patrick Nagle and I learned how concrete panels are laid. Due to extreme weather in Nebraska, concrete expands and contracts, and to avoid it tar is used between the panels to seal it. I also learned that a subgrade of limestones are preferably used for the long lasting

concrete roads.

Later, for more than 3 weeks I learned about separative sewer system from CSO Inspector Ethan Sundheim. I witnessed the installation of manholes and concrete storm pipes were connected to it later. Afterwards a different direction is given to sanitary pipes which are usually made up of VCP (Vitrified clay pipe) and usually these pipes are laid 6-20 feet deep, the depth may vary with different project requirements.



After backfilling, a remote controlled video surveillance is carried out to see if there are any dips, cracks, infiltration or joint offsets.

Unfortunately there was a dip and they fixed it a little bit late and the City did not pay the construction firm because it was their mistake.

I was also exposed to a modest amount of bridge inspection by Inspector Brett Carlson and we did the inspection of a huge bridge on a snooper machine. Basically, we checked the thickness



of pad sole and it was evenly 1 inch throughout 9 rows and there were no cracks under the bridge. Under the bridge I noticed it was shaking a bit as well and it was because the beams flex. The bearings underneath accommodate movements of the bridge.

I did surveying for a while under the supervision of Tom Lynam. We used the latest GPS surveying which was connected with satellite. At the surveying class of UNL, the total station was mainly taught and little bit of GPS technology. I learned boundary line surveying and some



staking for the construction site. By doing staking it made more sense how 1 station was equal to 100 feet, while in highway engineering class I struggled to understand the concept in the starting of the course. I learned about ROW (Right of way) which means that the

“City” has the right to construction till that point without the permission of the owner of



property, whereas TE (temporary easement) meant that “City” has to take permission to get rid of some part of the property of an owner and has to fix it afterwards.



Currently, I am getting educated about asphalt paving from Inspector Tony Panowicz who has been working for the City of Omaha for more than 20 years. I was informed that asphalt roads are not as long lasting as concrete ones, but they are cheap and less time consuming and the city works on at least 70 streets a year. Firstly, the old cracked road is grinded by a milling machine and then a inspector checks if there is a repair needed. Then tack (glue)

mixed with water is spread throughout the grinded road and asphalt is paved by the paving machine. It takes one day for an asphalt paved road to be properly used by traffic as compared to concrete road which usually takes 3 days.

In a nutshell, I have learned and experienced a little bit of everything and I still have one more month of the internship left. But, so far my interest has inclined more towards Sewer projects as it was more fascinating to me. Overall, my experience with the City of Omaha has been great, and I am looking forward to getting a job in the City of Omaha after graduation.