



ALEX NELSON, P.E.

CM ASSOCIATES ENGINEERS, PLLC - SENIOR ELECTRICAL ENGINEER

Alex began his career in coding and automation during his undergraduate studies. After graduating from the University of Nebraska at Lincoln with a Bachelor of Science degree in Electronics Engineering, Alex focused his career in the architecture, engineering, and construction field. With 7 years of experience in the A/E/C industry, Alex joined CM Associates Engineers in 2023 where he leads the electrical engineering department. Alex has handled various responsibilities, including design and construction administration for power distribution, lighting, fire alarm systems, and special systems. Using his programming background and deep understanding of engineering concepts, Alex continues to develop Revit databases to streamline efficiency at CM. Alex has a strong background in electrical design for assembly, business, educational, data centers, multifamily and institutional facilities.

Professional Licensing

Electrical Engineer, Arizona Registration #79866
Electrical Engineer, Nebraska Registration #E-19470

Professional Affiliations

- Institute of Electrical and Electronics Engineers (IEEE)

Education

University of Nebraska-Lincoln
B.S. Electronics Engineering

Experience

Total: 7 Years With Firm: 1 Year

Project Experience Summary

Lincoln Airport Authority Redesign; Lincoln, Nebraska

The “LNK Next” project at Lincoln Airport involved a significant expansion and renovation effort, encompassing 38,500 square feet of new construction for two gates and six jet bridges, as well as the renovation of approximately 57,000 square feet of the existing facility. This multi-phase project posed challenges due to the need for continuous operation during construction and the involvement of seven sub-consultants. Alex played a key role in the project, overseeing the MEP Revit model and design, as well as managing the electrical power distribution. The project’s phased construction necessitated a thorough analysis of the existing electrical distribution system. This analysis was essential not only for replacing existing loads but also for sequencing the replacements accurately. The project involved adding a new terminal addition while retaining the existing constrained electrical infrastructure. Additionally, some electrical panels from phase 1 needed to be removed, despite feeding areas in phase 3, presenting a complex challenge that required careful navigation. This experience provided valuable insights into coordinating with airport-specific electrical concepts, such as accommodating various aircraft, jet bridges, and on-site staff vehicles, enhancing his expertise in this specialized field.

Proprietary NDA Lab Facility; Lincoln, Nebraska

In the 12,000 sqft project, Alex emphasized confidentiality in the design process, making strategic decisions to share information with the contractor without disclosing proprietary layouts or sensitive details. The project’s unique occupancy type and utilization, such as the hydrogen chamber, demanded thorough research and strict design standards.

Madonna Rehabilitation Expansion; Lincoln, Nebraska

Alex’s primary responsibility on this \$57 million tenant improvement healthcare project was to analyze the existing fire alarm infrastructure and bring it up to code with the latest standards. In this complex project, Madonna had two separate fire alarm systems operating within the building that had been piecemealed together over the last 20 years, which needed to be condensed into one system. The building also had different building occupancies that required each one to be tailored to its specific code and meshed, including fire separation between each.

City of Lincoln Gold 4 Garage; Lincoln, Nebraska

Alex designed the electrical systems on this four story 266,000 square foot parking garage that connects to an adjacent housing facility.

O-Neill Junior-Senior High School; Lincoln, Nebraska

This \$17M project involved over 63,000 square feet of new construction and nearly 10,000 square feet of renovation, encompassing a renovation of existing classrooms and cafeteria, alongside a new addition featuring an administrative area, 8 new classrooms, a new commons area, and a new gymnasium. Alex played a pivotal role in site coordination with the owners group, managing the existing electrical infrastructure, and leading the Revit model development. Leveraging his expertise in Revit automation, he independently executed the electrical Revit design. His responsibilities included overseeing a complete overhaul of existing light fixtures and lighting controls, transitioning to energy-efficient LED lighting. Alex also calculated new lighting layouts for both interior and exterior spaces, collaborated with the owner on control strategies tailored to educational settings, and ensured compliance with energy regulations using COMcheck. Additionally, he orchestrated a significant revamp and coordination of special systems, particularly the communication infrastructure for the building—such as the data closet infrastructure using Cat6 cabling—and all downstream drops. Alex also designed and coordinated other special systems, including access control and fire alarm systems.

East Campus Building#4(ECB4) Government Facility; Fort Meade, Maryland

This was a 850,000 square foot critical operations government facility that had a budget of \$802M. Alex managed the power distribution in the Revit model for the facility, was responsible for the entire mechanical power related systems, and helped mentor younger engineers on best design practices within Revit.

Elkhorn Gym Sports Complex; Elkhorn, Nebraska

Alex oversaw the electrical design aspects of an 8,000 sqft project, overseeing the expansion of the facility while adhering to the limitations of the current power distribution system. He designed the power distribution and lighting systems, and drafted performance specifications for the fire alarm and special systems. Additionally, Alex managed project communication and coordination with the team and owner to ensure project deadlines were met.

Other Experience Includes

Southwest Village Apartments; Phoenix, Arizona
West Gate Bank; Lincoln, Nebraska
3D Self Storage; Omaha, Nebraska
City of Lincoln High Security Prison, Lincoln, Nebraska
City of Lincoln Low Security Correctional Facility Expansion; Lincoln, Nebraska
Fremont Airport; Fremont, Nebraska
Eagle Garage; Lincoln Nebraska
BBQ Restaurant Remodel; Lincoln Nebraska
Abbott Projects; Casa Grande, Arizona
Veterinary Build-Out; Lincoln, Nebraska