Late in 2014, a resolution was passed by the International Association of Firefighters to completely rebuild the Fallen Firefighter Memorial in Colorado Springs. The charge was to incorporate granite walls etched with the 6,700 names of those who have lost their lives in the line of duty as well as dedicated space for an additional 5,000 names. What’s more, new sculptures had to be incorporated and existing ones relocated, and all new energy efficient lighting that can be centrally controlled throughout the National Monument was to be installed. The work had to be completed in time for the annual remembrance ceremony in September 2015 while the monument remained open to visitors.

Colorado-based electrical contractor, Dynalectric, was up for the challenge of a complex lighting project combined with an aggressive timeline. What the team didn’t realize initially was how much the work they were about to perform would mean to so many people.

During the first days of demolition, a gentleman came to the job site carrying boxes of donuts for the entire project crew. This man thanked the crew for their dedication to the project and expressed his personal connection to what was taking place; among the many names, which were etched on the existing walls, was the name of his son. That day, the significance of this project was made clear to the project team and they truly understood the importance it held as a place of remembrance for family and friends.

The Fallen Firefighter Memorial was founded in 1976 within the International Association of Firefighters Charitable Foundation. A symbol of courage and bravery, the Memorial stands for firefighters and emergency medical personnel who lost their lives in
the line of duty. In an effort to maintain the memory of those first 2,976 names that humbly graced the original granite walls, the walls were removed, repurposed, and incorporated in the new family band, which defines the outer ring of the memorial space.

**Construction Innovations/State of the Art Advancement:**
Due to the unique elements and sequencing of the project, the project team implemented a Pull Planning method. Each trade was able to visualize what steps needed to take place, how their scope might overlap or affect the overall schedule, and how every team played a significant role in getting the project completed on time. Each trade provided input for solving potential overlap of trade installation and discussed resolutions prior to hitting the jobsite for complete project team buy-in.

**Excellence in project execution, team approach:**
The sheer nature of this project invoked a sense of pride for every team member. As the project progressed, each individual understood the importance of the work they were performing on the Memorial, which led to a greater sense of responsibility to collaborate with other trades for the success of this project. The teams worked closely during the Pull Planning process so that the installations for each trade scope was planned to help the next trade in line and avoid any rework and delays.

One example of this coordination, collaboration, and communication was around the statue, “Somewhere, Everyday,” the focal point of the Memorial, which would remain in place throughout the project. The bronze statue, created by local sculptor Gary Coulter, depicts a firefighter descending a ladder carrying an infant. As demolition, core drilling, stone removal, and other trade scopes were performed around the existing housing of the statue, there was extra care in ensuring work was done without disturbing this symbolic piece of art.

**Technical Solutions to Achieve Proper Atmosphere:**
Proper lighting was critical to highlight the “Somewhere, Everyday” statue as a focal point. To accomplish this, Dynalectric installed four LED module fixtures with adjustable lighting for flood distribution. Four rows of granite walls in varying height featuring the
6,700 names are the sculpture’s backdrop. These walls are illuminated by 70 evenly spaced LED 4’ x 3 ½” inlaid fixtures. To further mark the significance of the monument and statues located strategically around the Memorial, additional up lighting is used to highlight statues and the bronze guardians positioned at the ends of the walls.

Dynalectric faced some special challenges, as maintaining illumination on every aspect of the project was critical for the overall desired feel of dignity and reverence for the Memorial. Lighting was installed starting at the entry of the Memorial with the illumination of another work by Gary Coulter called “Lamenations” with three LED 2’ x 3 ½” inlaid fixtures. Proper lighting to highlight the Lamenations sculpture was essential, as the statue poignantly depicts a firefighter mourning the loss of a comrade.

As visitors walk through the park, lighting from three LED 12-foot pole fixtures light their path. LED fixtures are situated throughout the landscaping on the backside of the granite walls, illuminating the exterior structures. These fixtures provide the ability for the Parks Service to adjust the light distribution based on the area being highlighted.

Power for the site fixtures was fed from a relocated in-ground junction box and fed back to the electrical panel. To save time and cost, the original design was to refurbish the existing electrical panel. After investigation, Dynalectric determined that replacing the panel altogether would be most effective and improve the electrical system integrity and provide for the longevity of the memorial. Since this was not in the original budget, Dynalectric donated the new panel. Each breaker in the panel feeds power to 15 lighting fixtures distributed throughout the Memorial. To provide new power feeds to the “Somewhere, Everyday” statue, Dynalectric core-drilled from the new underground and up to the new fixtures. Providing for future growth, 2-inch PVC was installed under the center monument circle and extended out past the edge of the concrete and left with pull strings installed.

To maintain safety throughout the life of the memorial, Dynalectric installed four runs of 6-inch and 8-inch conduit for media outlets to pull their cable feeds through under the concrete, landscaping, and walkways, to limit surface cabling and increase patron safety.
Each run of conduit includes an equal length of pull string so that the media outlets can tie their cables to one end and pull the string through the run and access power and communications via multiple in-ground j-boxes, including one behind the center statue.

**Weather Challenges:**
The weather in Colorado is unpredictable and this spring proved to be no different. With an outdoor project with full exposure to the elements, the Dynalectric team expected to encounter a few days of rain, sleet, and even snow. However, they did not expect to receive more than double the average rainfall, including record-setting rainfall of 8.13" during the month of May.

This unexpected rainfall affected many phases of work. First, water had to be pumped out of areas where electrical lines needed to be run and where junction boxes were to be installed. Next, Dynalectric used pea gravel to create drainage in lighting bases and to divert water so the forms did not flood.

Lay-down and storage on site was scarce to begin with, and now, with much of the project under water, all fixtures and underground boxes had to be stored at Dynalectric’s Colorado Springs office and delivered to the jobsite as needed to minimize potential damage to the fixtures. The team worked efficiently and effectively with the drainage of the flooded site to minimize time delays on the project and ensure that it would still be completed in time for the September ceremony.

**Environmental/Safety:**
The wet conditions of the site required additional vigilance to maintain a safe working environment and practices. These efforts paid off with 1,365 man hours worked on the project with zero safety incidents. Dynalectric’s site-specific safety program incorporated the team’s accountability and commitment to the safety of the Memorial project. Daily project safety meetings were held to include the entire project team and Dynalectric held separate scope-specific meetings prior to starting each day, which were revisited again at the end of every lunch break. Extra attention was paid to keeping the site safe as Firefighters, EMT workers, and visitors from Minnesota, Iowa, Arizona, and many other
states visited the Memorial throughout construction. To remind the project team of the importance safety played on the project, General contractor JE Dunn Superintendent Mike Hamline ended safety meetings by saying; “We are doing this for the 6,700 names on the wall.”

**Excellence in Client service:**
On a project such as the National Fallen Firefighters Memorial, Dynalectric’s client base went beyond those we were contractually bound to the project, extending to the Colorado Springs Professional Firefighters Local 5, the community, and those throughout the country who will visit the Memorial every year. Dynalectric is proud to have been a part of building The Fallen Fire Fighters Memorial to serve as a reminder of the courage and bravery given by so many and who are never forgotten.