Category: 2 - Meeting the Challenge of a Difficult Job – Specialty Contractor
Contractor: ICI, LLC
Project Name: Pikes Peak Visitor Center

Pikes Peak, America's Mountain, is one of the most visited mountains in the world and a top attraction for the State of Colorado. The peak is the 30th tallest peak out of Colorado's 53 peaks over 14,000 feet, soaring high at 14,115 feet. The Pikes Peak Visitor's Center was first erected in 1873 and then upgraded and expanded in 1900. After a fire destroyed the building in 1953, a new center was opened in 1964. While it served its purposed for several years, the mountain deserved a Visitor's Center that matched the majestic beauty of its surrounding environment. The new $45 million building sitting on top of America's Mountain does just that. This impressive 38,000 square foot building features new ways to enjoy the great outdoors while visiting Pikes Peak, including high tech exhibits that allow visitors to bring the mountain to life, world famous donuts from the new kitchen and dining area, and a spacious gift shop. The Visitor Center also houses a High-Altitude Research Laboratory, which allows the United States Army to carry out medical research and prepare soldiers for battle. Due to all the special planning and unique engineering that went into the building, it is bound to highlight majestic Pikes Peak and impress guests for many years to come.

During the three years of construction, the Pikes Peak Visitor Center was the highest active construction site in North America. There is a reason that few things are built at 14,000 feet. Battling nature and material logistics combined with the altitude make it a formidable challenge.

The Pikes Peak highway is 19.26 miles of intense grade and switchbacks that offer the perfect scenic drive and views of mountains, lakes, and wildlife. Starting at 7,400 feet in elevation, the highway takes travelers all the way to the top of the peak at 14,115 feet. Now imagine this being your drive to work every day. Crews would meet at the gate at 6:00am each morning to form a convoy to the top so everyone could look out for each other, sometimes traveling directly behind a snowplow. The same process would happen at the end of the day. After three years of countless trips to the top and back, there were no reported accidents.

As you approach the timberline, cell phone service is almost nonexistent. To overcome this challenge while on the peak, ICI purchased 2-way radios to allow the crew and Superintendent's, Jiri Schanil and Mike Newhuis, to better communicate. The thick concrete walls made this method spotty at best, but it still greatly helped drive production times due to the improved communication.

Once on top, the crew still had to deal with another extreme condition, the altitude. Due to the effects that altitude can have on a person, every single employee was required to pass a specific fit test exam that would deem them physically able to work at 14,115 feet. Even once the exam was passed, symptoms of altitude sickness still affected everyone at some point while on the peak. Dehydration, light-headedness, fatigue, nausea, and vomiting were regular symptoms and were a constant reminder that these conditions were not to be taken lightly. Medical personnel were in-house and a required part of the crew for this site because of the seriousness of the elevation. A buddy system was put into place so if someone were to go down there would always be someone right there to get immediate help.

Pikes Peak often experiences weather conditions that are much different than the lower elevations around it and can be home to some of the most extreme weather in Colorado. Because of the mountain's elevation, it can create its own weather causing thunderstorms with intense lightning, heavy snowstorms and severe winds that have been recorded as high as 200 mph. During the winter months crews would have days cancelled on a regular basis. The temperature, wind and road conditions would be examined in the early morning hours and communication would be sent out to update the team on the decision for that day. They also had to be ready to pack up and get to the vehicles immediately if a snowstorm, severe wind or heavy lightning had moved in as they would want to get the crews off the mountain as quickly as possible. Production time was negatively impacted, and the weather had to be factored into everything from material deliveries to whether crews could navigate to the jobsite. Before crews could begin each day, they would have to clear paths in the snow for material and chop ice in order to move around what they needed. The goal was to limit the amount of time that was spent outside the building once the exterior portion was secure.

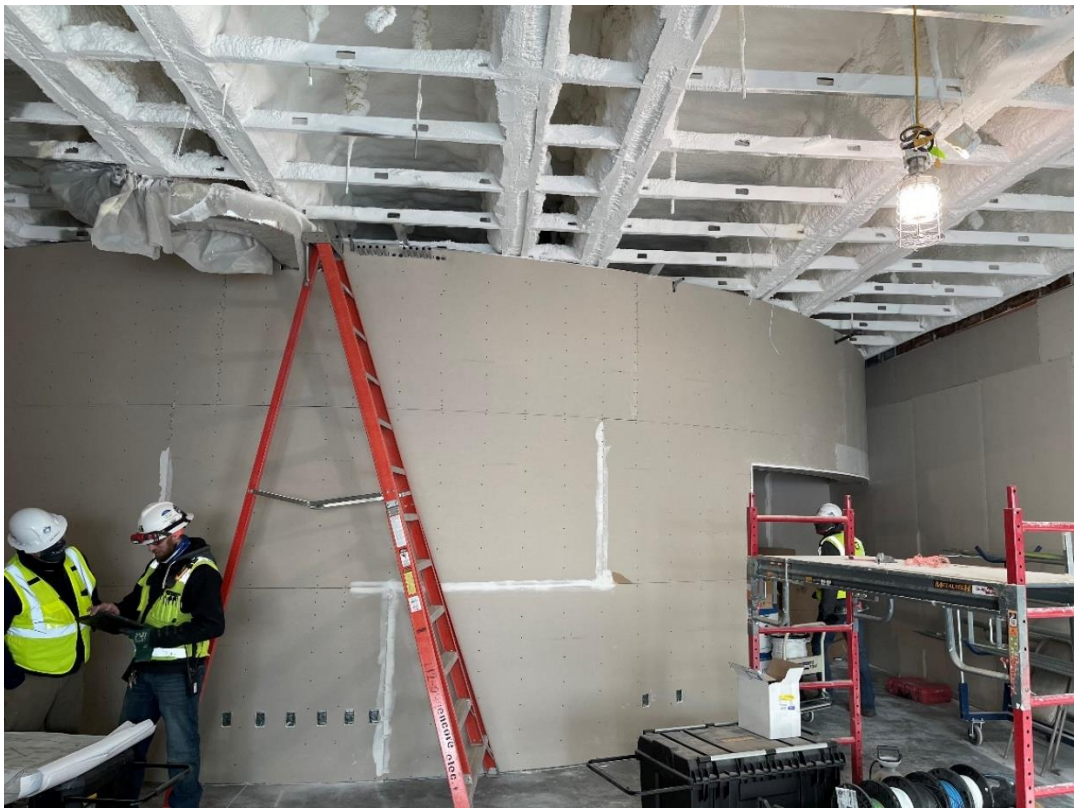
ICI's scope on this GE Johnson project included exterior and interior framing, drywall, insulation, spray foam, finishing, acoustical ceiling tile (ACT), and grid with a total contract value of just over $2.4 million. The intense engineering that went into this building was impressive on all aspects of the scope. All exterior framing had to be engineered to withstand winds in excess of 200 mph. Standard Cenco framing material was used for all the framing and USG drywall and acoustical grid was used on all the walls and ceilings. Our team had to hang multiple framing clouds under the Tectum ceiling panels that suspend from the ceiling above the visitors. These clouds are carrying the weight of heavy metal panels. It is crucial to have the correct number of wires attached to these clouds to support the weight. Our quality control team double and triple checked the work of our guys to ensure safe construction. The crew also spent many hours on the ceiling above the grand staircase that was built for a beetle kill wood ceiling.

Our Head of Wall team, led by Fabian Gonzalez Martinez, took great pride in this project due to the strategic importance of their insulation work, specifically the spray foam. They had very tight deadlines to get all the spray foam completed during the mountains short summer. Without the insulation, it would not have been possible to work on the interiors in the winter due to the cold temperatures. They had to overcome a lightning storm that fried most of the electronics on the mountain including key components of our largest spray rig. As you can imagine, it is hard to get tech support at 14,000 feet, so our spray foam team and our IT Department replaced the electronic components in house after having them shipped from Graco directly. Due to the cold nights, the spray foam trailers had to be heated even in the summer months due to frequent freezes. The trailers were constantly being unplugged by others using the outlets unaware of the consequences. This would cause the team to start their day with equipment frozen solid. The defrost process could take up to 5 hours on extremely cold days costing precious time. The ceiling required 8 inches of concrete, followed by 8 inches of spray foam and then another 8 inches of concrete. The concrete that it was being sprayed onto also required a temperature of 40 degrees and rising and had to be completely dry. After this process was complete, the DC315 fireproof paint was then applied.

ICI took great pride in the fact that this project was part of the LEED Building Counsel's (LBC), Living Building Challenge. These are the standards for a project to fall into their green building

rating system. All materials, including water and waste, were recycled. Multiple bins were set up throughout the site for all material to be separated in therefore it could be properly recycled. The standards also covered all the material that was used on the building. The material would have to be approved by LBC before it was ordered so they could go through all the ingredients that made it. They composed a red list of toxic ingredients and if anything was found in the material, it would have to be cancelled and re-ordered. While this added extra work on the managing and logistic side, everyone involved was happy to contribute to this project and the surrounding area in such a positive way. Not only is the building engineered to be a 100-year building, but it is also built in the safest and greenest way possible. This is such an amazing feat for the entire team to accomplish, especially at 14,000 feet.

Our entire team agrees that the Visitor Center was one of the most challenging and satisfying projects ICI has ever done. Close to one million people travel to the peak year-round, making it the most accessible mountain in the world for all ages and abilities. This incredible Visitor Center is sure to add to the natural wow-factor of this iconic National Historic Landmark for generations to come.

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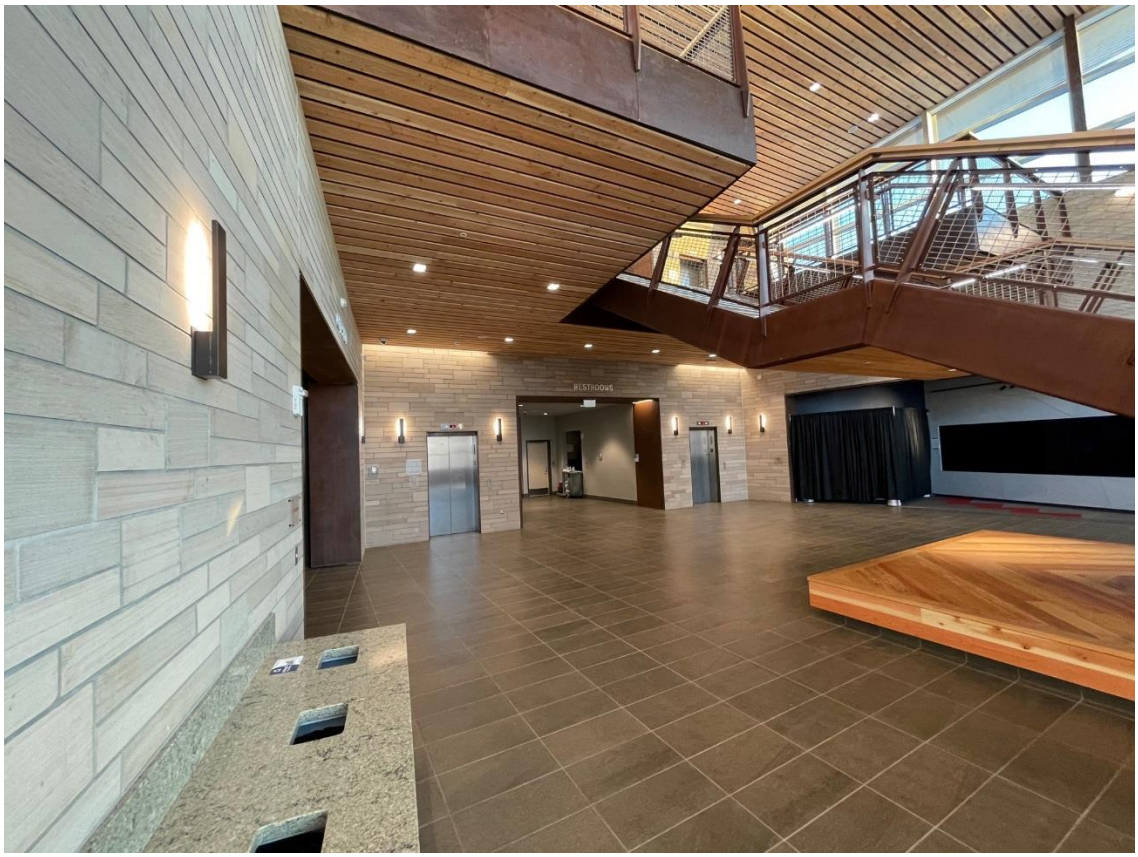
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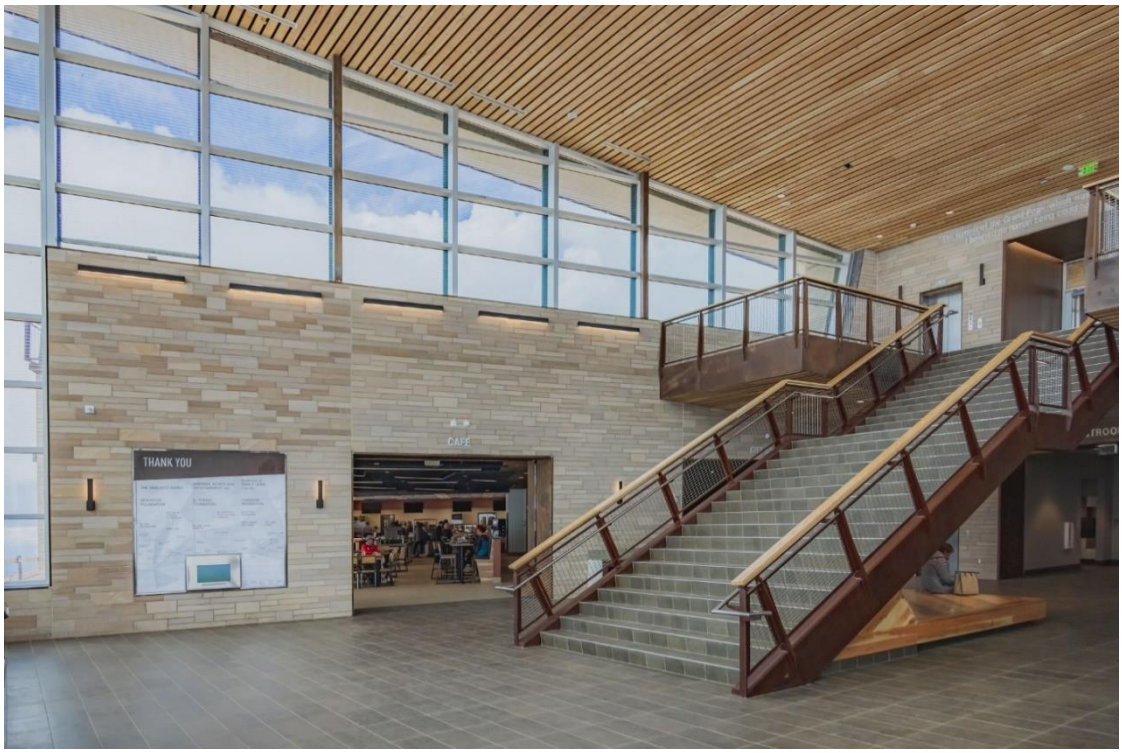
THANK YOU
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