Project: Eagle County Regional Airport Expansion and Remodel

Category: 11 - Best Building Project – General Contractor ($10 - $40 Million)

Company: Hensel Phelps

Project Overview

The design-build Eagle County Regional Airport Expansion and Remodel two phased project was built to accommodate the demand for more gates and upgraded facilities for the existing airline terminal. Inspired by the agrarian and ranching history of the valley, the simple building form echoes characteristics found within the rural barns that dot the local landscape and complement the existing terminal.

The project team completed the entire project two weeks early to ensure the airport was fully open for their busiest time of year, ski season. The team credits their early completion date to the timely completion of phase one, which setup the second phase with adequate time for demolition, construction and applying lessons learned from the first phase to maximize the efficiencies and output of their trade partners and team.

For first phase of the project, four airline gates with new passenger boarding bridges were built to connect to a modern and new 47,000 SF two-story concourse area in the airport. Prior to construction of the new facility, temporary facilities for the concessionaire and four airline gates were built to maintain uninterrupted flight operations. The north and west elevations of the building are wrapped in 10,000 SF of aluminum curtain-wall to allow for natural lighting throughout the concourse, with a suspended wood ceiling around exposed steel beams at all gate locations to provide a genuine mountain experience to arriving and departing passengers at the Eagle County Regional Airport.

The second phase started promptly after the completion of the first phase to stay on schedule for project completion prior to the winter ski season when the airport experiences a dramatic increase in passenger volume and flight operations. The project team demolished the temporary facilities and three existing gates, then immediately started the construction of the final two additional ground loading gates which added on 4,500 SF of space to the new terminal expansion.

Intermixed between the two phases, functional spaces were constructed to upgrade the terminal that included: an expanded and relocated security passenger screening checkpoint, central hall, departure and arrival passenger holdroom areas, concessions, bar and restaurant, remodeled

Airline offices, and underside vehicle and equipment storage space for baggage handling equipment. The total area of the new and remodeled space is approximately 65,000 SF and dramatically improves the passenger experience.

Solutions of Special Projects

As with all design-build projects, the early collaboration enabled the project team to drive the design toward a facility the owner could afford within a restricted budget. This was not limited to just the architects, as the team brought on design-build mechanical and plumbing, electrical, fire protection, kitchen equipment, signage, elevators, and passenger boarding bridges trade partners. By engaging all key trade partners early, the project was able to work through intricacies of each system to move from the design to construction fluidly and work out coordination between all trades while working on an operational airport.

As a regional airport, there was a need for operational flexibility at all gates as the airlines in the existing facility operated in separate dedicated spaces. To maximize the operational flexibility in the new expansion, Amadeus' Common Use Technology was utilized which allows any airline to operate from any gate. This technology allows airlines to access the system from every gate to update screens with logos, flight details, and access passenger information. During the busy winter months, this new technology allowed the airlines to adapt to the changing flights seamlessly while providing real-time updates to passengers.

Excellence in Project Execution and Management/Team Approach

Originally, the project was started as a construction manager at risk project, but as the design and budget did not align with the owner's requirements, the owner elected to switch to a design-build project delivery. A collaborative team atmosphere was developed among the owner, contractor, design team and design-build trade partners, which led to a successful project.

With the fast-paced schedule and need for bond financing for owner approval, the design-build team developed three options to fit different budgets and scopes of work. These options included: a fully elevated six gate airport for an estimated $34.6 million, four elevated gates and two gates at ground level for an estimated $31.9 million, and a fully ground loaded program for an estimated $27.3 million. The owner selected the four elevated gates and two gates at ground level option, but the design-build team still needed to value engineer close to $3 million to meet

the program budget. With owner input and feedback, they made changes to general interior and exterior design features to modify the design and budget while maintaining design aesthetics and program requirements.

Construction Innovations/State-of-the-Art Advancement

Prior to start of construction, the existing airport was laser scanned to document locations and dimensions of existing systems to support the new building design. A drone was flown to document existing site and building conditions to help create the Site Utilization Plan and support the overall schedule.

As a design-build project, model coordination was key to working at an operational airport. The use of CAD, Revit, Recap Pro and Navisworks were used in developing a fully coordinated model and performing clash detection within the model throughout design and construction. With the fully coordinated model that was continually updated with the latest design changes, the project team located structural steel penetrations, which were critical to accurately locate during design and fabrication to achieve system and construction efficiencies in the field. In addition, renovating the TSA security checkpoint and new offices with the model allowed the team to communicate with the stakeholders and coordinate the tight nature of the existing ceiling and roof system to turnover TSA security checkpoint as quickly as possible. Another key coordination effort was determining the construction phasing of the building. As the project was required to be constructed in two phases, many of the designs and models were updated to show the phasing decision and location, which was critical in hitting turnover dates set by Hensel Phelps and the owner.

Environmental/Safety

Safety is paramount on every job, but it was especially crucial on an operational airport with planes continually arriving and departing, passengers waiting for flights, and coordinating work with concessionaires, TSA's security checkpoint, and airlines. Continual and open communication with all stakeholders was key to maintain a safe work environment while implementing a foreign object debris control specific to the airport. This was apparent when the project team worked closely with all the stakeholders and built temporary facilities for concessions and gate holdroom areas. Then, within 12 hours of the temporary space being

completed, the team safely turned over the space to the owner to ensure no disruptions to the airport, airlines and the passengers.

With the Eagle County Regional Airport located outside of the Colorado front range, the team procured several local trade partners and needed to evaluate and coordinate with their varying safety cultures. To educate the trade partners on our robust safety culture, the project team thoroughly reviewed safety processes including the proper way to document hazards and precautionary steps on the activity hazard analysis forms, developing safety plans and pre-mobilization strategies, facilitating site specific safety trainings, and ensuring the proper certification to inspect, operate and maintain aerial lifts. In addition to safety documentation, daily or weekly safety and coordination meetings were held to ensure all trade partners were accountable for safety, quality and schedule pertaining to their scope of work.

As an example, during one jobsite safety meeting, Hensel Phelps held an in-depth training with all workers at the jobsite on the use of scissor lifts, boom lifts and fall protection. The equipment three stations provided workers with detailed hands-on training on the inspection, operation and maintenance of the equipment. Everyone increased their knowledge on how to safely operate the equipment during this interactive jobsite safety meeting.

Contribution to Community

When the government shutdown occurred from December 22, 2018 to January 25, 2019, it halted work on federal construction projects across the U.S. At that time, a small business, Sky Blue Builders was working on a number of these projects. Hensel Phelps has been mentoring Sky Blue Builders through the City and County of Denver's Mentor Protégé program and saw an opportunity to assist our industry trade partner during those difficult times. In order to ensure Sky Blue Builders employees would not have to be laid off due to this expended period without payment by the government, Hensel Phelps agreed to employ several of their carpenters on the Eagle Airport project for a couple of months. Their $53,000 contract included miscellaneous rough carpentry items such as reinforcing the existing structure, backing and blocking, wood framing, concrete formwork and miscellaneous general requirements labor. This helped those individuals from losing their jobs and it also assisted Sky Blue Builders in maintaining their long-term employees, thereby strengthening the company overall for sustained success and stability.


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Personal Protective Equipment


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