

University of Colorado Boulder Music Imig Addition

Adolfson & Peterson Construction

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12 - Best Building Project – General Contractor (\$40 - \$70 Million)

Why this project should win an ACE Award and why this project is unique:

A 64,000-sf addition to the Imig Music Building expanded and updated the facility to keep music programs thriving. More than an expansion of space, the new recital hall, ensemble rehearsal, dance studio, practice rooms, wellness and entrepreneurship spaces help students and faculty flourish—intellectually, physically, emotionally and musically.

The project required a 12,000-sf partial demo of the existing south wing while the remainder of the building, including performance halls, remained functioning – making construction logistics complex. This required building without noise or vibrations and coordinating construction around the theater usage and requiring full shut-downs during performance times.

Solutions of Special Projects:

After disconnecting the south portion of the building slated for demo, the team created temporary walls with spray-foam insulation as a thermal and acoustical barrier from the active construction site.

Once demo was complete, preparations for excavating the new basement to serve as the mechanical room for the addition were underway with caisson installation. The team faced groundwater challenges with the basement level excavation, working 25 feet below ground-level. The team installed a dewatering system, pumping water 24/7 which required a special permit to check and treat the water routinely.

Because of the extent of the excavation, equipment was hoisted in and out of the hole with the crawler crane at grade level; a portion of the foundation wall was also left out to ramp out the drill rig after caissons were installed.

Mechanical systems had to be highly coordinated with multiple stakeholders involved, many of which were supplied by campus steam. Unlike a typical building, the mechanical systems and piping coming out of the mechanical basement had very specific requirements regarding vibration isolation and sound attenuation. Even in rehearsal spaces, acoustical elements were addressed to limit sound dead spots with angled walls and installed sound clouds in the ceiling – requiring careful installation since many were placed within inches to the vertical walls.

To pull the massive foundation construction off, it was also a requirement to shore the existing facility with micro piles. The new foundation included a shoring and lagging soil retention system with shotcrete foundation walls; the shotcrete walls delivered a better finished product.

Stones from the demolition were salvaged, stored and repurposed for the new addition. Each stone was hand-laid and cut to fit perfectly in place, requiring eight months of masonry. The CU Planning department reviewed the masonry weekly for the correct color, size and distribution of the stones. Great care was taken to ensure the aesthetic quality met the campus standards and expectations as the team had to incorporate all elements to marry the old structure and the new addition to have an appearance of a single structure.

Excellence in Project Execution and Management/Team Approach:

This building contains many acoustical details that made the construction very technically challenging. An acoustician (acoustical engineer) visited the site throughout construction to ensure the details were being executed according to plan.

The building incorporated “box in box” construction throughout the project to eliminate any acoustical transfer between rooms. Part of eliminating sound transfer includes isolated and floating concrete topping slabs over structural slabs.

Each wall required three to six layers of drywall for acoustical benefits and STC doors – 40 of them throughout the addition – were 500 lbs each and had to be coordinated with the size and the depth of the walls.

Due to the acoustical nature of the building, some of the floors contain multiple jack-up slabs; slabs that were poured over springs and then jacked up to create sound and vibration isolation.

This was a very labor-intensive process to implement, as once the concrete was cured, each spring was hand-cranked a few millimeters at a time to avoid cracking. Once completed, the 2” air gap provided the necessary sound absorption between floors.

The team had to fully understand the multiple disciplines the spaces would be use for – from presentations to rock concerts, the design details had to account for the program flexibility. This affected the stage, seating, catwalks, sound and control/recording booths. Acoustical, lighting, rigging, AV, HVAC and electrical coordination was a huge interworking of complexity to maintain the flexibility and strict acoustic quality.

Everything from ceiling to below-grade was modeled through BIM and mockups to plan for the pinpoint-accuracy required prior to construction. The theater was then 3D laser-scanned to ensure the precise quality for coordination of shop drawings of seating, diffuser and architectural steel tubing location and aisle light junction boxes and to validate the accuracy of the precise wall shaping for sound.

Construction Innovations/State-of-the-Art Advancement:

The new Imig building provides innovative teaching, performing and practice spaces, opening a new era of growth and innovation for CU Music. Bringing music students together for the first time under one roof creates new opportunities for interdisciplinary partnerships across campus.

Equipped with state-of-the-art distance learning technology and audio-visual equipment, the new large classroom serves as a learning space to provide instruction for students across all areas of the college.

The choral rehearsal room enables the college’s choral ensembles to rehearse, perform and collaborate with fellow students in the Imig building in ways they haven’t been able to before.

The Musician’s Wellness Center promotes healthy and effective music making and develops the health of the whole musician. Students can use the center’s services to learn about injury prevention, performance anxiety management, mental health and wellness, and the Alexander Technique (a way to feel better, and move in a more relaxed and comfortable way) in the rejuvenating new space overlooking the beautiful flatirons.

The LEED-Gold project had sustainability in mind throughout design and construction, from re-purposing the exterior bricks to installing permeable pavers into the walkway, the building is designed to be a showcase facility for the next 100 years of the Music program.

The construction team hired three interns from CU, directly supporting the construction and engineering industry and CU. In addition, the team conducted many tours for the school and music enthusiasts in the community to further support the goals of the showcase facility and give back to the community.

Environmental/Safety:

In the 943 days of project construction, one safety incident occurred of an ankle injury from a trip.

The site was located as a gateway to campus with hundreds of students walking around between classes. To manage the high traffic and safety, a dedicated person was onsite as a flagging and traffic control worker.

The team built two connected connexes that created a tunnel for students to pass through, providing public protection from overhead work.

The project, including demolition and a three-story addition, required a 160-ton crawler crane onsite. The location of high winds complicated the safety management, and therefore everything had to be tied down when on the roof.

With the COVID-19 pandemic, the construction team built their own hand-washing station on site. The design was implemented to other AP jobsites.

The team responded to the delays from COVID-19 by creating storage off site and pre-purchasing materials early. Because of the tight site logistics, the original plan was to use a just-in-time delivery methodology, however with the onset of COVID-19, the team procured any materials necessary as soon as they were able to in order to avoid unnecessary and unexpected delays. This included the telescopic seating, a very rare form of seating that was procured from Slovakia.

Once students were able to return to campus, the school limited access to the building – including construction personnel. Therefore, the team had to complete the construction working only night and after hour shifts.

Contribution to the Community:

A new venue for the community, the new building is a landmark for music in Boulder. It provides a beautiful new gathering place for students, faculty and music lovers in the community. Innovative rehearsal halls that convert to performance spaces help strengthen the college's deep ties to the community through College of Music events.

The College of Music, through its music+ campaign, continues to work with prospective benefactors and industry partners who are interested in supporting the world-class people and programs who will benefit from the new addition. Such support is critical to sustaining a top music program that drives innovation and produces the next generation of musicians who will impact humanity through their art.

Excellence in Client Service

“I wanted to thank you and your team for an outstanding job. Throughout the entire process I was impressed with professionalism and quality of work from the entire AP team. I have been involved with countless projects and this team performed well above the other general contractors that I have worked with in the past. AP ensured that everyone stayed informed and impacts were minimized as much as possible. I absolutely look forward to working with this team on future projects at our University.” - Blake Guyer, Project Manager, University of Colorado Boulder









