

Fransen Pittman General Contractors
CU Boulder IPHY Addition
Awarded 2018 | Completed Summer 2020

Fransen Pittman builds for communities. When asked what he loves about this company, our president, John Pittman replied, “Two things – our culture, and the projects we build. We don’t perform projects that tear down the communities they are built in. Its why I love that we do libraries, churches, and especially why I love building for higher education.” It is no coincidence that Fransen Pittman has built the most libraries in the front range region, nor that we have become a familiar presence at universities across the state. We believe that we can change the world with the built environment, and this is especially evident within higher education. Universities are spaces that further research and understanding and form students to meet the challenges ahead. This made completing the IPHY Addition to Ramaley at CU Boulder more than just a project and added a higher purpose to every element of design and construction.

In 2018, Colorado University awarded Fransen Pittman, along with Hord Copland Macht, the contract to complete an addition to the Ramaley biology building for an integrated physiology wing. This project required special considerations from day one. Located in the heart of campus, the project site had to be carefully considered to minimize impacts to students and ensure that deliveries were efficient. All the students were rerouted as the project necessitated working through the academic year. The project team coordinated and managed material deliveries to avoid high traffic times to ensure an extra level of safety. One of the most challenging considerations our team had to overcome was matching the existing architecture style of the campus. CU Boulder’s campus features a Tuscan Vernacular Revival style that is iconic to the school. Since this project was an addition to an existing building built in 1946, it required several measures to ensure that it blended seamlessly. In the design phase, a clear plan to blend the addition with the existing wasn’t fully developed. Once it became clear it was going to take a lot of coordination, the team at Fransen Pittman took charge. We brought in the university inspector, roofing contractor, carpenter foreman, field engineer, superintendent, metal wall panel contractor, campus architect and the HCM architects for weekly meetings on the roof of the addition to plan the tie-ins and how to match the exteriors. On the vertical edge, we shaved the

block down to saw cut a line and insert 90 metal. In the weekly meetings the team discovered that the building already had fire rating on the interior, so we were able to eliminate fire rating on the exterior which made for a cheaper assembly and aided in the tie-ins. Our team also redesigned the flashing to ensure that the final addition was a clean separation from the existing Ramaley building.

The Fransen Pittman estimating team utilized value engineering to its fullest on this project. During the original design phase, the estimate for this project came back around fifteen percent over the maximum budget. Colorado University was prepared to scrap the project after this initial design estimate came back. Rather than canceling the project, Fransen Pittman worked with the subcontractors and designers to develop several options for each of the components of the building to bring it back in budget. We involved the owners at CU Boulder in this cost modeling so they could pick the options that made the most out of their budget and met their specific needs best. The original building was intended to be poured out of concrete; however, our team discovered that using structural steel rather than concrete would be a huge cost reduction. By implementing our value engineering process, we were able to save a total of eight million dollars on this project bringing it in budget and delivering on time.

The site and scope of this project required a new perspective on how to accomplish this addition, as well as incorporating new ways to save on construction. This project was an addition, so it was critical to match floor heights of the building. Ramaley's ceilings were too low to match the first floor and still fit all MEP into the above grid space so it was necessary to sink the building into the ground by building a half basement. This insured that each floor of the addition was at the same height as the original. We added all of the mechanical equipment into the ceilings and created an attic addition to fit the HRM and HRV. Our team utilized BIM to model the variance heights of the addition to match the original to ensure that all of those moving parts resulted in a seamless and functional building. As another cost saving and environmental protection feature of this project, our team salvaged all the landscaping and pathways. All the trees, concrete, and plants were left intact which saved about \$90,000 on the project. To manage working around the project site with heavy machinery, our team came up with a solution unique to this project. We overlaid recycled conveyor belt on the routes we needed to drive the equipment over. From

there, they overlaid mulch on the belt as an extra layer of protection. At the end of the project all the existing road pavers and tree roots were undamaged. This not only aided in keeping the project in budget but gave the project less of an impact on the environment by protecting and utilizing the landscaping that already existed.

Working on an occupied campus meant that there was an added layer of safety concerns. To mitigate these our project superintendent took our safety plan extremely seriously. We fenced off the project site to ensure that students couldn't access the site. A construction staff member was stationed at the only gate to ensure that only authorized personnel were admitted to the site. Campus deliveries needed to be rerouted, and we also stationed a flagger at the new delivery spot to manage the new route with pedestrians. Along with that we scheduled deliveries around high traffic times to minimize safety concerns. By taking these measures seriously our team completed the project with no incidents and no lost time. As well as ensuring the safety concerns were addressed our team also worked to minimize the environmental impact of the project. Sustainability is an element that Fransen Pittman incorporates into every project. Beginning in the design phase, our goal for this project was to earn a LEED Gold certification. Throughout the construction process our team tracked materials, waste, and recycling and managed the health of the building including making sure that any dust was mitigated. To truly ensure that our finished site was safe and clean we took the mitigation one step further. After the cleaning of the above lid was inspected and ceiling tile put in place, we removed tile on one end of every room and corridor at the plenums. We reversed a negative air machine to work the trunk as a vacuum and installed it into the grid, and then we worked from one end of the room/corridor toward the negative air machine with small battery powered blowers. This ensured all of the dust that couldn't be reached with rags or vacuums was stirred up and sucked out. Currently, the project is in the process of certification.

Working in higher education always involves the community whether it is the immediate community of the college or the communities these students will serve when they graduate. We involved students, professors, and staff to add input to ensure that the resulting addition would serve the needs of those who will use it. A theme through our project was creating a building that would allow students to learn to the best of their ability and aid professors in the providing that

education. All of this is to enhance the world class education CU Boulder provides. Not only did we involve the community in the initial design, we invited the community to see the progress of construction as well. Our team scheduled tours with any interested faculty and students so that they could be informed on their building. We wanted to ensure that the final addition was something that the college would be proud of as well as the university as a whole. The CU Boulder project manager, Peter Nelson states:

“Fransen Pittman completed the University of Colorado’s new Integrative Physiology Addition on the Boulder Campus recently. It is a wonderful new addition to the Campus’ fabric and infrastructure. This building addition could not have been built without Fransen Pittman’s determination and hard work. Their dedicated team along with their subcontractor partners and the architect, worked tirelessly to help the University strategize how to build this project, which started out severely over budget. Their team from the ownership down through the estimating department, project management and construction supervision were top notch and truly a pleasure to work with over the last two plus years.”