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# Colantonio Inc. completes new 104 bed dormitory within the existing Mara Village dormitory complex at Fitchburg State College

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Colantonio, Inc. of Holliston, recently completed construction of a new 104 bed dormitory within the existing Mara Village dormitory complex located at Fitchburg State College. The newest and greenest building on campus, this new dormitory at Mara Village addresses a critical shortfall in the college's inventory and serves to tie together the existing upper and lower villages.

Construction manager Colantonio, Inc. teamed up with Childs Bertram and Tseckares Architects, Inc. (CBT Architects) of Boston, on this Massachusetts State College Building Authority (MSCBA) and Fitchburg State College Design/Build construction project. It was Colantonio's and CBT Architects' substantial experience and success working on critical higher education projects throughout the Commonwealth that proved to be a key factor to ensure that this essential new dormitory for the college came in on time and within budget.

Named after the late Dr. Vincent Mara - the college's longtime president - Mara Village was comprised of a series of 7 student residence and one common building built in 1989. Mara Village's newest residence hall building is a five-story 40,000 s/f building that features 43 student suites. Each suite is home to 8 students and contains two bathrooms with a shared living space.

Encompassing a total design solution, the once disjointed Mara Village is now tied together first, by a grand stairway that serves to connect the upper village with the lower village - a change in elevation of 40 feet; second with new walkways and improved lighting; and third by the addition of a common space centrally located within the new residence hall. Each element serves to provide a cohesive and integrated look and feel to Mara Village.

The new residence hall at Mara Village is a LEED Certified Silver rated building. It was designed to maximize energy savings and reduce overall water consumption on campus. The new central residence hall also features all energy-efficient heating and cooling equipment and allows students to monitor their energy-use by room to determine how conservative they are. At the same time, carbon dioxide emissions were reduced and indoor air quality was improved with low VOC applications throughout.

In addition to low VOC materials, a combination of pre-consumer and post-consumer rated materials was used on this project. These included locally available products, poured-in-place concrete, structural steel, ornamental metals, and certified wood, carpet and impact rubber flooring materials. Dual flush toilets and low flow shower and kitchen faucets were also used. And all recyclable products were sorted and distributed to local recycling centers. Additional work completed on campus included life safety improvements to the existing 7 buildings of Mara Village, and renovations to Aubuchon Hall during summer intercessions.

One of the challenges that the team overcame during construction was directly related to the

buildings placement on the site. The new dormitory was to be situated between the seven existing Mara Village buildings and would tie the upper and lower villages together. Unfortunately, the two were separated by a 40 foot change in elevation that needed to be addressed before completion of the design documents. In addition, the proximity of the existing residence hall foundations and an above-grade city street added to the complexity of the design and construction.

Colantonio led efforts to work out the details of how the changes in elevation and stabilization of the existing infrastructure would be overcome. Colantonio worked closely with a soil stabilization engineer to determine the best method to stabilize the soils, while ensuring that the integrity of the adjacent foundations and city street were not compromised in any way.

The team determined that the most cost-effective and least disruptive (to the residence students and neighbors) that would be used was a combination of a shot-crete application with anchor ties holding back the grade. As portions of the site were excavated, a 2-foot thick application of shot-crete was put in place to hold back the hillside. In addition, 40 foot anchor ties were subsequently driven into the hill completing the stabilization effort. This new wall became an integral part of the final foundation and was completed without disrupting the students or adjacent neighbors. No other method would satisfy this requirement or allow the project to meet its occupancy deadline.

With nearly 4 months of design documents completed, the team was beset by yet another potential setback. The project scope had to be revised due to budget constraints. The team quickly reacted to the issue, eliminating the proposed annex building from the design and re-designing a major portion of the residence hall. Many of the applications such as the structural steel, MEP's and foundations were completely re-designed and re-priced. The actual allotted time for construction was reduced to only 10 months, but was miraculously completed on time due to the dedication and hard work of the project team.

This project exemplified how teamwork, coordination and planning allowed the team of Colantonio and CBT Architects to identify and manage potential challenges before they could adversely affect the project schedule, budget and material availability. Regardless of the issue, the new dormitory was ready for students to occupy in August, 2009.

Project Team:

Genral Contractor: Colantonio
Architect: CBT Architects
Fire Alarm Upgrade: Dartmouth Electrical Construction Co.
Geotechnical Consultant: Geotechnical Partnership, Inc.
Landscaping: Jewett Landscaping
Light Gage Framing & Drywall: S.M. Harrington Contract Corp.
Lighting Design: Sladen Feinstein Integrated Lighting
Survey, Site & Civil Design: Bryant Associates
Waterproofing: Folan Waterfroofing & Construction