

Central Campus Classroom Building and the Alexander G. Ruthven Building Renovation



Project Description

Ruthven was designed by notable architect Albert Kahn and constructed in 1928. We propose the renovation and reuse of the 1928 building (approximately 135,000 gross square feet) that is well suited to house dry laboratory computational research space, an approximately 200-person capacity multipurpose room, and administrative space to house the university's central administration that is currently located in the Fleming Administration Building. We propose to demolish the 1964 addition consisting of approximately 34,000 gross square feet that does not allow for large active learning-style classrooms, and in its place construct a new building of approximately 100,000 gross square feet for active learning classrooms, including an auditorium that will seat approximately 550 students, with total building classroom capacity in excess of 1,400 students.

Energy Efficiency Measures

- The building's design and systems will include a number of energy efficient features with a stretch goal for energy cost savings of 15% in the renovated portion and 20% in the newly constructed area. The energy savings reflects the building's energy performance when compared to an energy code compliant building as defined in ASHRAE 90.1-2013 Appendix G
- Glazing U-Value and SHGC to exceed ASHRAE 90.1-2013 minimum
- Wall and roof R-values to exceed ASHRAE 90.1-2013 minimum
- Demand controlled ventilation and CO2 sensors in high occupancy spaces
- Air handling units to include enthalpy wheels that precondition outdoor air
- Chilled beam HVAC system in the Ruthven renovation
- Air handling units serving the chilled beam system will include a second desiccant wheel
- Underfloor air distribution system in large auditorium to maximize ventilation efficiency
- Low velocity air distribution systems to reduce fan energy use (also acoustics)

Other Sustainability Features

- This project is LEED® certified to the Gold level and achieved 68 points under the LEED v4 Building Design and Construction-New Construction rating system.
- Project site is located near public and U-M bus routes to encourage use of public transit
- A 20% water consumption savings beyond Michigan Plumbing Code is anticipated; savings will be obtained through the use of low floor fixtures
- Finishes and furnishings will be selected with low VOCs
- Local and regional building materials will be sought wherever possible