



North Central College, Naperville, Illinois Residential/Recreation Center

Architectural Consulting Engineers (ACE) was a member of the design team for North Central College's LEED Silver Certified Residential/Recreation Center as the mechanical engineer. This building opened in September 2009 as the first combined residence hall and recreation center at a college. The 201,439 square foot building houses a four story, 265 bed dormitory which is wrapped around a recreation center that houses a 62,000 square foot field house.

As design engineer, ACE was responsible for the design of the building mechanical systems, plumbing and electrical design. Climate control is achieved through the use of a Geo-thermal system. The ground loop heat exchanger serves a centralized modular hot water/chilled water ground source heat pump system which serves fan coil units, radiant floor heating and domestic hot water heating. This system as well as an energy recovery ventilator and demand control ventilation system provide energy efficient heating and cooling throughout the year for both the dormitory and field house. Lighting systems utilize highly efficient fluorescent and LED fixtures with motion sensor control or multi-level local switching in the housing areas and separation of the field house lighting and controls. Innovative domestic hot water heating is accomplished through the use of local heat exchangers as well as a domestic drain water heat recovery system.

ACE was involved in this project from its conception through construction. Working with the owner, design team members, installation and construction contractors ACE provided design insight as well as construction oversight.

The design team consisting of: Buchar, Mitchell, Bajt Architects, Inc.; Architectural Consulting Engineers; Sieben Energy Associates; and Dukane Precast. was awarded the **2009 ASHRAE – Illinois Chapter – Excellence in Engineering Award** for the unique and innovative systems and their use in design of this building.