Sustainable Mechanical Design

- The mechanical system has been designed to utilize a ground water cooling system without the use of a mechanical cooling system. It utilizes a high performance VAV system incorporating demand controlled ventilation and a high efficiency condensing boiler system.
- Energy efficient lighting and a high performance building envelope have also been designed into the building.
- The building will produce approximately 54% less carbon or only 96 tons of carbon vs. 206 tons of carbon that an equivalent higher education building would produce.

Sustainable Electrical Design

- There are daylight override controls in perimeter spaces, to allow lights to be turned off when there is ample daylight penetration into the space.
- There are daylight override controls in the main lobby and adjacent corridor, to allow lights to be turned off when there is ample daylight.
- Occupancy sensors in all spaces will automatically turn lights off when no one is in the space.
- Networked lighting control system will automatically turn interior corridor lighting off and exterior lighting on, based on time.
- There are energy efficient, low mercury content fluorescent lamps.
- NEMA premium, high efficiency, solid-state electronic ballasts will reduce lighting wattage of fluorescent luminaries.

Sustainable Architectural Design

- Behind the masonry columns of the entry pavilion, a two story glass wall encircles the main lobby. The two story glass wall has been designed with sustainable goals. A majority of the glass faces north to reduce solar gain. The atrium glass is also situated under the pavilion, further reducing heat gain.
- Longer-lasting and better-functioning products have been selected for the School of Business building. The products will have to be replaced less frequently, reducing the impacts of producing replacements.
- The building is positioned to benefit from the existing grove of trees. Trees on the west side of a building will dramatically reduce cooling loads in the warmer months.
- The overall design goal was to produce an energy-efficient building. The building has high levels of insulation, high-performance windows, and tight construction.
- The project will protect trees and topsoil during site work. We are going to protect trees from damage during construction by fencing off the "drip line" around them and avoiding major changes to surface grade.
- The project has optimized the use of interior space through careful design so that the overall building size—and resources used in constructing and operating it—are kept to a minimum. In addition, we are utilizing existing classroom space keeping the resources and life cycle cost low.
- When possible, the project team members have minimized waste by designing for standard sizes. This practice reduces waste in the construction phase.
Sustainable Architectural Design (continued)

- The landscape design incorporates drought resistant native plants and perennial ground covers.
- Provisions have been established for storage and processing of recyclables. Recycling bins will be located in the corridors and atrium to make it easy for the occupants to recycle waste.
- Water fountains have a built-in bottle filling station reducing the dependence on plastic bottles.

Sustainable Plumbing Design

- The building has been designed to conserve and use water efficiently.
- The new building will have low flow fixtures keeping water use to a minimum. In some cases, low flow fixtures can reduce water usage significantly, to around 45 gallons/person/day.
- High efficiency tankless water heaters have been incorporated into the design. These systems can be 22% more energy efficient on average than the gas-fired storage tank models.

Sustainable Interior Design

- The carpeting, metal studs, and ceiling products used in the project have a high value for recycled content.
- All products used in the School of Business are formaldehyde free.
- Products approved by the Forest Stewardship Council (for stainable wood products) are used in the building.
- Products with low VOC’s have been selected for this project.