UNIVERSITY OF LOUISVILLE.

BELKNAP ACADEMIC BUILDINGSustainable Design Achievements:

- Reduces the negative impacts of construction on the environment by being constructed on a previously developed site.
- By being located in the densely populated Belknap Campus with access to public transportation, the building promotes walking and reduces the negative impact of motor vehicle use.
- Utilizing the efficiencies of its location and surrounding parking facilities results in 40% less parking surface and decreases the volume of rainwater runoff.
- Encourages building users to interact with the environment and get physical activity by having an associated large open green space.
- To reduce the heat island effect, the building reduces energy consumption by using low heat absorption building and site materials.
- Rainwater harvesting for landscape irrigation reduces 50% of rainwater runoff volume and reduces water consumption.
- Significantly reduces rainwater runoff (and dependence on the MSD system) by using an infiltration basin to collect storm water from the BAB site and 3 surrounding buildings.
- Reduces building water consumption by using low-flow plumbing fixtures.
- Cooling tower water use is controlled by minimizing contaminants (microbes, corrosion, scale) in the condenser water system. Cooling tower cycles are being maximized without exceeding concentration limits.
- Supports water conservation efforts by separately metering irrigation and domestic hot water use.
- Reduces energy consumption by commissioning mechanical, electrical plumbing and renewable energy systems for optimal efficiency.
- Reduces energy consumption by providing a tight thermal envelope to ensure mechanical system efficiency.
- Reduces negative impacts of HVAC systems on the environment by relying on the existing University chiller plant using low-impact refrigerants.

- Ensures good air quality and controls VOC loads by using low VOC emitting building and finish materials.
- Minimizes energy consumption by utilizing occupancy sensors to turn off lights when not in use.
- Ensures good air quality by using CO2 monitors throughout the building.
- Maintains good indoor air quality by routinely performing building HVAC flush-outs.
- Light pollution, and its negative impact on people and wildlife, is reduced by the specification of full cut-off site lighting fixtures.
- Reduces building heat load, and therefore energy consumption, by using electrochromic glazing that tints on demand for the building's southern exposures.
- Reduces energy use by using LED lighting throughout.
- Target energy use reduction is 21.7% better than ASHRAE 90.1-2010 baseline cost.
- Target EUI IS 76 KBTU/SF-YR.
- Reduces HVAC driven energy loads by using a demand-controlled ventilation system and a dedicated outside air system.
- Provides enough renewable energy to offset 5.1% of the total building energy usage by harvesting energy from solar panels on the penthouse roof.
- Reduces impact of the building on the environment by specifying building products that have environmental, economic, and socially preferable life cycle impacts.
- Reduces construction and demolition waste disposed of in landfills and incineration facilities by recovering, reusing, and recycling materials.



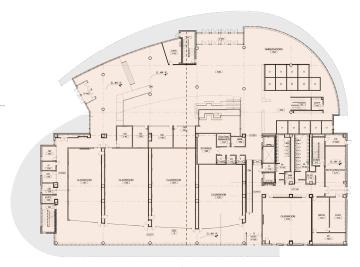


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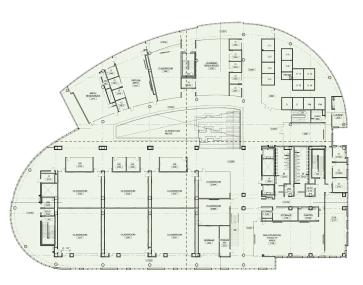
BELKNAP ACADEMIC BUILDING



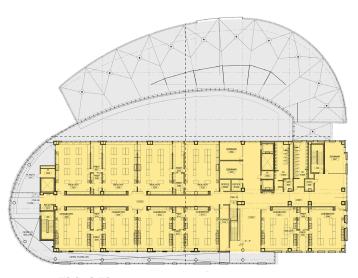




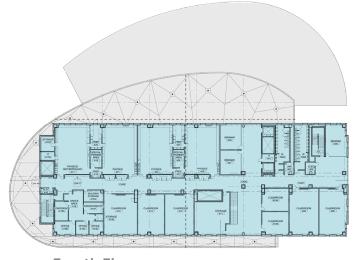
First Floor



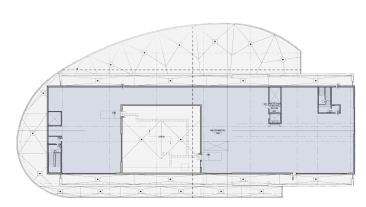
Second Floor



Third Floor



Fourth Floor



Penthouse