

**Tennessee Tech University Building Green: Laboratory Science Commons Building and  
Marc L. Burnett Student Recreation and Fitness Center**

**Building Green Nomination**

**Governor's Environmental Stewardship Awards 2020**

Tennessee Technological University (Tech) is a public higher education institution, located in Cookeville, TN. Founded in 1915, the campus occupies a total of 267 acres. If you haven't visited their campus yet, I highly recommend it. It's vast and pristine landscaping and accessibility throughout the campus grounds makes it a beautiful place to explore. For several years, construction has been a big part of the campus landscape to build a state-of-the-art science building and recreational facility. A lot of people can agree that 2020 was a tough year, but Tech kept moving forward with COVID safety precautions in place and was still able to complete both buildings.

Building Green and creating a more environmentally sustainable campus is a top priority for Tech and its students. All renovated space and new construction are designed and constructed according to the conditions of the Tennessee High Performance Building Requirements (TN HPBr). Both buildings completed in 2020 were designed and constructed with a focus on preserving Tennessee's natural resources and protecting the health and well-being of occupants and visitors. Compliance was assured throughout the project by the school, designer, and contractor during all phases of a project from initiation, approval, design, and construction. Sustainable accomplishments in the areas of land, water, energy, materials, and indoor environment were completed for each building project to exemplify why Tech is deserving of the Building Green award.

The design team took into special consideration into site selection to reduce the environmental impact of both building locations. This included preventing any erosional impacts during construction. Both facilities are conveniently accessible by public transit systems, including Tech's [Bikeshare](#) program. Native plantings were utilized eliminating the need for irrigation and a high ratio of open space to the development footprint were implemented. Building products were selected that incorporate recycled content materials, thereby reducing

impacts resulting from extraction and processing of virgin materials. Additional Building Green accomplishments are mentioned under each respective building.

### **Laboratory Science Commons Building**

Occupying 150,000-square-feet of space, the new science building is the largest academic building on Tech's campus. The building houses the chemistry department and a portion of the biology department. There are also labs for Earth sciences, physics, and environmental sciences. In addition to being the University's largest academic building, the new laboratory sciences building is also Tech's first LEED-certified facility. The additional costs required for the Silver certification were funded by Tech's Student Green Fee. LEED, or Leadership in Energy Efficient Design, is a widely used green building rating system overseen by the [US Green Building Council](#). Certified buildings must meet strict efficiency and sustainability criteria.

### **Marc L. Burnett Student Recreation & Fitness Center**

In the recently completed Burnett Student Recreation & Fitness Center Tech's Student Green Fee paid for an upgraded pool filtration system, that is estimated to save over \$10,000 in annual operating costs and 700,000+ gallons of water annually. This regenerative media filtration system is an improvement over the typical sand filter in that it not only saves water but also reduces chemicals required for water treatment and saves energy. The reduction in waste water from the backwash process of the regenerative media filter reduces the need for potable water to fill the pool, reduces the purchase and handling of chemicals to treat additional pool fill water, and reduces the quantity of water that must be processed as waste water by the local sewer facilities.

### **Other Major Renovations Completed in 2020**

With the completion of Cooper-Dunn Residence Halls renovation, all of Tech's 14 Residence Halls and the entire Tech Village apartment complex have been renovated in accordance with TN HPBr. In addition, Bruner Hall, which is approximately a 58,000 sf academic building underwent a full building renovation, in accordance with TN HPBr, and HVAC upgrades to include OA units with automated dampers controls; new energy efficient windows; LED lighting; and bottle-fill water stations.

Tech is a member of AASHE (Association of the Advancement of Sustainability in Higher Education), which hosts the STARS (Sustainability Tracking & Rating System) program. Through STARS, the University is evaluated on sustainability in Academics, Engagement, Operations, Planning & Administration, Innovation & Leadership. Tech's hard work and dedication resulted in being rated as a Silver STARS University. The concept of Building Green takes a lot of consideration and a full appreciation and awareness for what it means to build green. Tech exemplifies these efforts with the awareness that this is part of their obligation as a university to educate students on the importance in Green building and living to prepare them for expanding these practices into the world, both in their professional and personal lives.