PROJECT The Kendeda Building

YEAR
2019

LOCATION
Atlanta, GA, United States

USE
Education

CONSTRUCTION
New Construction

ARCHITECT
Miller Hull, Lord Aeck Sargent

ENGINEER
Uzum & Case

DEVELOPER
Georgia Tech University

BUILDER
Skanska

SUPPLIER

SPECIALISTS
Newcomb & Boyd, PAE Engineers, Biohabitats, Sonja Bochart Wellbeing+Design

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GROSS AREA
37,000 sq-ft

MEAN ROOF HEIGHT
40 ft

STORIES ABOVE GRADE
2

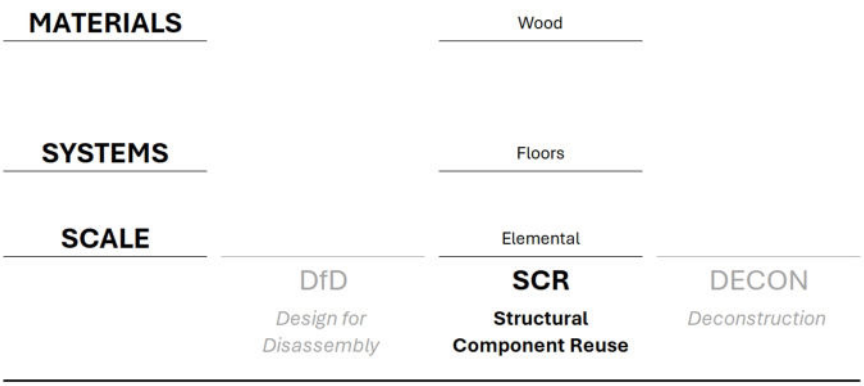
STORIES BELOW GRADE
1

RISK CATEGORY
II (all buildings and other structures)

COST INFORMATION
Partially available

LCA INFORMATION
Unavailable

Credit: Jonathan Hillyer



SUMMARY

The Kendeda Building is Georgia's first Living Building and an example of deeply sustainable design for Georgia Tech and for the Southeast Region.

SUSTAINABILITY GOALS

The building aimed for Living Building Certification and to serve as an example case for the region. The non-profit Kendeda Foundation contributed the funding for construction, as well as for operations and education after opening. The building also achieved LEED v4 Platinum certification, as well as LEED Zero Energy and LEED Zero Water. Workforce development was also important to the project.

CIRCULAR ECONOMY STRATEGIES

Some of the lumber used in the nail-laminated timber floor assemblies was sourced from deconstructed movie sets. The NLT assemblies utilize an alternating sequence of 2x4 reclaimed lumber and 2x6 virgin lumber to create assemblies with a fluted soffit. The structural design of the assembly assumes only the mechanical properties of the alternating 2x6 virgin lumber. Additional salvaged materials were used for architectural elements, such as floor joists from a nearby renovated building for stair treads, and storm-felled trees used as benches and countertops.

KEY FINDINGS, RECOMMENDATIONS, AND LESSONS LEARNT

Structural timber was used throughout the superstructure, except the PV canopy, which greatly reduced the building's embodied carbon. For concrete, CarbonCure was used to reduce the concrete mix's global warming potential (GWP), which also resulted in meaningful embodied carbon reductions. However, most of the structural timber was newly manufactured, and not salvaged. To minimize the environmental impacts of sourcing virgin timber, FSC certification was pursued and the team made an effort to source the lumber locally from Southeast mills.

FURTHER INFORMATION AND RESOURCES

"https://livingbuilding.gatech.edu/

https://livingbuilding.kendedafund.org/index.html

https://millerhull.com/project/the-kendeda-building/

https://living-future.org/case-studies/1503/

https://www.usa.skanska.com/who-we-are/media/constructive-thinking/pushing-the-boundaries-following-the-living-building-journey-of-the-kendeda-building-for-innovative-sustainable-design-at-georgia-tech/

https://archello.com/news/detail-photovoltaic-roof-of-the-kendeda-building-for-innovative-sustainable-design-atlanta#:~:text=The%20canopy%20is%20set%20at,for%20much%20of%20the%20year."

AVAILABLE QUANTITATIVE DATA

25,000 linear foot of salvaged timber was used in floor assembly, or approximately 10% of flooring timber volume. 99% of construction waste was avoided or diverted, and the project was waste-positive during construction. The building total cost was just o

ABOUT THE DATABASE

This case study has been prepared by the Structural Engineering Institute Sustainability Committee Circular Economy Work Group with the goal of sharing and promoting the excellent circular economy work that project teams are working on throughout North America and the world. Often it is hard to find information on how circular economy principles are implemented in practice; these circular economy case studies aim to better share information amongst the industry.

Some case studies have been prepared directly by a project team member, while others have been prepared based on available texts and publications. In the second case, the text descriptions are a summary of information available from other sources. These sources are referenced in the *Further information and* resources section.

While reasonable efforts have been made to ensure the information is representative and accurate, we cannot guarantee there are no errors. Please contact the case study team to provide additional information, suggest updates and amendments, or with any other questions. To submit a new case study to the database, please use this submission form. Thank you!