Cassell Hall, opened in Fall 2013, is the first AU residence hall built on campus since Centennial Hall opened in 1987. The building was designed in an L-shape with an eight-story wing and a seven-story wing, adding 358 suite-style beds to campus.

AU announced in January 2013 the building would be named Cassell Hall in honor of the Cassell family. The naming recognizes made by Jack Cassell (SOC/BA ’77) and the Cassell family. The donation supported the residence hall’s construction and AU’s Department of Athletics and Recreation.

Cassell houses sophomore, junior, and senior students in 4 person or 6 person suite-style housing. Each suite has a furnished common living area as well as individual bathrooms for the suite. Cassell Hall also features an 8,000-square-foot fitness facility, named the Stafford H. Cassell Jr. Fitness Center. The building is located adjacent to the President’s Residence and across from McDowell Hall.

<table>
<thead>
<tr>
<th>LEED (™) Facts</th>
<th>Cassell Hall</th>
<th>The American University</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>4400 Massachusetts Ave NW, Washington D.C. 20016</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rating System</td>
<td>LEED-NC v2009</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Certification Achieved</td>
<td>Silver</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Points Achieved</td>
<td>54</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sustainable Sites</td>
<td>22/26</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water Efficiency</td>
<td>4/10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Energy and Atmosphere</td>
<td>11/35</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Materials and Resources</td>
<td>4/14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indoor Environmental Quality</td>
<td>7/15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Innovation in Design</td>
<td>6/6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| 100% | Amount of green electricity used in the building |
| 98%  | Percent of construction waste was diverted from landfills |
| 46%  | Reduction in water usage compared to a standard building |
| 29%  | Reduction in greenhouse gas emissions compared to a standard building |

Please only print this project if necessary. If printing is required, please print double sided and recycle when finished.
PROJECT TEAM

<table>
<thead>
<tr>
<th>Owner: The American University</th>
<th>Mechanical Engineer: Van Der Weil Engineers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architect: Little Architectural Consulting</td>
<td>Civil Engineer: Wiles Mensch Corporation</td>
</tr>
<tr>
<td>Contractor: Grunley Construction Company, Inc.</td>
<td>Structural Engineer: Tadjer Cohen, Edelson Association, and Restl Designers</td>
</tr>
<tr>
<td>LEED Professional: The American University</td>
<td>Commissioning Agent: Brinjac Engineering</td>
</tr>
</tbody>
</table>

ADDITIONAL RESOURCES

Office of Sustainability: [www.american.edu/sustainability/](http://www.american.edu/sustainability/)

University Facilities: [www.american.edu/facilities/](http://www.american.edu/facilities/)

U.S. Green Building Council: [www.usgbc.org](http://www.usgbc.org)

GBCI: [www.gbc.org](http://www.gbc.org)

View details for all of AU’s LEED buildings: [www.gbig.org/collections/18029](http://www.gbig.org/collections/18029)
A building’s location and development are fundamental components of sustainable building practices because they can cause significant environmental impacts. Selecting a site that is well connected to public transportation can decrease the effects of air pollution and greenhouse gas emissions, as well as reduce vehicle reliance. Cassell Hall is located on the north side of the American University campus, in a dense suburban area with easy walkable access to amenities, including restaurants, banks, places of worship, and retail. The building is well connected to the rest of Washington, DC by metro bus and the university shuttle, which runs to the Tenleytown-AU metro. In addition to public transportation options, covered and secure bicycle storage inside Cassell encourages easy alternative commuting.

Additionally, design features that minimize run off and the heat island effect lessen the environmental impact of the building. Cassell includes nearly 5,000 square feet of ground level green roof above the fitness center, which reduces storm water runoff and mitigates the heat island effect. Excess storm water run-off is filtered through a storm filter, removing pollutants, such as fine solids and total nutrients, and is then captured by a 15,000 gallon cistern and used for irrigation.

Native and adaptive plants are used in the project landscaping to help reduce irrigation needs because they require less water. More than half of the landscaping around Cassell Hall is home to native plant species which help protect and restore habitat as well as reduce runoff.

Reducing potable water use in buildings can help improve environmental well-being by decreasing the amount of water withdrawn from reservoirs and aquifers. Water efficiency, both indoors and outdoors, reduces potable water waste and the amount of water sent back to energy intensive wastewater treatment facilities as well as protecting the natural water cycle.

Water efficient plumbing fixtures are used throughout the residence hall and fitness center. The lavatory faucets, toilets, and urinals all conserve potable water by having flush and flow rates lower than standard fixtures. Through the use of efficient fixtures, Cassell also uses 46 percent less water indoors than a standard building.
Green buildings provide occupants with a comfortable indoor environment that uses energy efficiently. Sustainable building design, efficient equipment, and energy conserving practices minimize the energy used for heating, cooling, ventilating, and illuminating building spaces. American University is committed to reducing energy usage on campus as part of its effort to reduce greenhouse gas emissions.

Cassell Hall hosts a rooftop solar thermal system for heating water in the building. Electricity consumption is reduced through the use of efficient lighting fixtures which results in 18 percent less energy use than a conventional building. Additionally, because American University purchases renewable energy for all campus electricity use, 100 percent of the building’s electricity consumption is complimented with renewable energy credits. Cassell was also commissioned to verify that the building was designed, constructed, and operated as intended.

Using sustainably sourced, recycled, and reused building materials reduces the environmental impact of construction while improving the building environment. Sustainable materials are responsibly extracted and processed, or locally sourced, thereby minimizing air pollution due to production and transportation.

During the construction of Cassell, 98 percent of construction waste was diverted from going to a landfill through recycling and material reuse. Over 10 percent of the material used in the building is recycled, including construction material, such as rebar, and hardware. Local materials account for 25 percent of the total construction including material in the ceiling and wall structure. All building waste was sent to a recycling center 25 miles away in Virginia. Additionally, Cassell Hall uses low emitting adhesives, sealants, paints, and carpets to improve air quality and reduce occupant exposure to chemicals. Zero waste containers can be found throughout the building, including a compost bin and recycling bins for paper, bottles, and cans.
Indoor environmental quality has a significant impact on a person’s wellbeing because Americans spend about 90 percent of their time indoors. A healthy indoor environment positively impacts the way people learn, work, and live in a building. Air quality, thermal comfort, acoustics, and lighting all play a role in the productivity, comfort, safety, and security of building occupants.

Cassell has numerous features that help improve air quality to ensure a healthy indoor environment. All paint and coating products inside the building are completely VOC (volatile organic compound) free. In addition, carpet tiles used throughout the building are low VOC. These compounds can affect occupants’ long-term health and lead to respiratory and immune complications. Ventilation and air filtration are used to eliminate exposure to these potentially hazardous particulates and pollutants. Having an abundance of windows provides occupants a connection to the outdoors. Over 90% of the building is accessible to views of the outdoors, reducing occupants’ stress and increasing productivity.

INNOVATION IN DESIGN

The innovation in design section of LEED recognizes design and construction features that go beyond sustainable design standards. The Cassell project team included several innovative sustainability features during the building’s design and construction.

American University purchases 100% Renewable Energy credits to complement campus electricity consumption, therefore all the electricity used in Cassell is sourced from green power. Outreach efforts through sustainability focused building signage and campus sustainability tours provide campus visitors with the opportunity to learn more about the university’s green buildings. Cassell’s maintenance also follows LEED’s green housekeeping standards, which uses the lowest concentration necessary for all chemical cleaners.
LEED FOR NEW CONSTRUCTION & MAJOR RENOVATIONS (V2009)
ATTEMPTED: 52, DENIED: 1, PENDING: 0, AWARDED: 54 OF 109 POINTS

SUSTAINABLE SITES
SS1: Construction Activity Pollution Prevention
Y
SS2: Site Selection
1 / 1
SS3: Brownfield Redevelopment
0 / 1
SS4:1 Alternative Transportation-Public Transportation Access
6 / 6
SS4:2 Alternative Transportation-Bicycle, Storage and Changing Room
1 / 1
SS4:3 Alternative Transportation-Low-Emitting and Fuel-Efficient
0 / 3
SS4:4 Alternative Transportation-Parking Capacity
2 / 2
SS5:1 Site Development-Protect or Restore Habitat
1 / 1
SS5:2 Site Development-Maximize Open Space
1 / 1
SS6:1 Stormwater Design-Quality Control
1 / 1
SS6:2 Stormwater Design-Quality Control
1 / 1
SS7:1 Heat Island Effect, Non-Roof
0 / 1
SS7:2 Heat Island Effect, Roof
1 / 1
SS8:1 Light Pollution Reduction
0 / 1

WATER EFFICIENCY
WR1: Water Use Reduction, 20% Reduction
Y
WE1: Water Efficient Landscaping
0 / 4
WE2: Innovative Water Technologies
0 / 2
WE3: Water Use Reduction
4 / 4

ENERGY AND ATMOSPHERE
EA1: Fundamental Commissioning of the Building Energy Systems
Y
EA2: Fundamental Commissioning
Y
EA3: Optimize Energy Performance
3 / 10
EA4: On-Site Renewable Energy
1 / 1
EA5: Enhanced Commissioning
2 / 2
EA6: Enhanced Refrigeration System
2 / 2
EA7: Measurement and Verification
0 / 3
EA8: Green Power
2 / 2

MATERIALS AND RESOURCES
MR1: Storage and Collection of Recyclables
Y
MR2: Building Reuse-Maintain Existing Walls, Floors and Roof
0 / 2
MR3:1 Building Reuse-Maintain Existing Structural Elements
0 / 2
MR3: Construction Waste Minimization
1 / 2
MR4: Materials Reuse
0 / 2
MR5: Recycling Content
1 / 2

MATERIALS AND RESOURCES CONTINUED
MR6: Regional Materials
2 / 2
MR7: Rapidly Renewable Materials
0 / 1
MR7: Certified Wood
0 / 1

INDOOR ENVIRONMENTAL QUALITY
EI6: Minimum IAQ Performance
Y
EI7: Environmental Tobacco Smoke (ETS) Control
0 / 1
EI9: Outdoor Air Delivery Monitoring
0 / 1
EI10: Increased Ventilation
0 / 1
EI11: Construction IAQ Management Plan During Construction
1 / 1
EI12: Construction IAQ Management Plan Before Occupancy
0 / 1
EI13: Low-Emitting Materials-Adhesives and sealants
0 / 1
EI14: Low-Emitting Materials-Paints and Coatings
1 / 1
EI15: Low-Emitting Materials-Floors and Fixtures
1 / 1
EI16: Low-Emitting Materials-Compostable and Agri-based Products
0 / 1
EI17: Indoor Chemical and Pollutant Source Control
1 / 1
EI18: Controllability of Systems-Lighting
0 / 1
EI19: Controllability of Systems-Thermal Comfort
1 / 1
EI20: Thermal Comfort-Design
1 / 1
EI21: Thermal Comfort-Verification
0 / 1
EI22: Daylight and Views-Daylight
0 / 1
EI23: Daylight and Views-Views
1 / 1

INNOVATION IN DESIGN
ID1: Innovation in Design - Green Power
1 / 1
ID2: Innovation in Design
1 / 1
ID3: Innovation in Design - Green Cleaning
1 / 1
ID4: Innovation in Design
0 / 1
ID5: Innovation in Design - Green Building Education
1 / 1
ID6: Innovation in Design
0 / 1
ID7: Innovation in Design - LEED O&M
1 / 1
ID8: Innovation in Design
0 / 1
ID9: LEED Accredited Professional
1 / 1

REGIONAL PRIORITY CREDITS
SS1: Site Development-Protect or Restore Habitat
1 / 1
SS2: Stormwater Design-Quality Control
1 / 1
EA6: On-Site Renewable Energy
1 / 1

TOTAL
54 OF 109