

NEW HOUSE RESIDENCE HALL

CARNEGIE MELLON UNIVERSITY, OAKLAND, PA

General Building Description:

Project Description

New House Residence Hall is a 72,000 sq. ft., five stories above grade, one below grade dormitory located at the Carnegie Mellon University, on 1030 Moorewood Avenue, Pittsburgh, PA. This 257-bed first-year residence hall was designed under "green" construction principles that reduce or possibly eliminate the negative impact on the environment and occupants. Due to these design practices, New House has been given a Silver LEED Rating.

New House is one of the first residence halls in the country to apply for certification of the Leadership in Energy and Environmental Design (LEED) Green Building Rating System. Developed by the U.S. Green Building Council, LEED evaluates projects in several categories, such as water efficiency, energy and atmosphere, materials and resources, and indoor environmental quality.

With several gathering spaces conveniently located through out the building, this first year residence hall also includes community baths, a study lounge, and trash/recycling and storage areas on each level. The building's main floor includes large reading and study rooms, a recreation area, a kitchen with private dining, a vending and laundry room, and a fitness room.

Building Envelope

The exterior building facade of New House Residence was built from common materials extracted and produced locally. These building materials included concrete block, precast concrete planks, and face brick. The overall exterior layout was designed to blend in with its neighboring buildings, providing a comforting community among students on campus.

The sidewalks that surround New House are brick with a sand-over-concrete base to make them safe for wheelchair access. The bricks will not shift as they would if they were installed on sand alone. The walks are also sloped at a specific angle to make them accessible without handrails. A ramp located behind the building offers easy access to the Morewood parking lot.

NEW HOUSE RESIDENCE HALL
CARNEGIE MELLON UNIVERSITY, OAKLAND, PA

Lighting/Electrical

The electrical service for the building is configured to receive a secondary service from Duquesne Light. The Main Distribution Switchboard is rated at 1200 A, 3 phase, 480/277V. A 150 kW emergency generator, located on the basement floor, is provided for building life safety power i.e. lighting and communications.

The lighting is primarily 18 Watt Recessed Compact Fluorescent and 40 Watt Recessed 2'x2' Fluorescent Direct/Indirect lighting fixtures located in the common areas. Residential rooms feature 17" Round Wall Mounted Architectural Compact 42 W Fluorescent Sconces.

Fire Protection

Designed and installed to meet the City of Pittsburgh and NFPA requirements, New House is fully protected by an automatic wet fire sprinkler system. Consisting of a 6" double detector check valve assembly, a 6" O.S. & Y supervised gate valve, and a 6" water flow switch that is interfaced with the building's fire alarm system, the design static pressure is rated at 160 psi with a flow rate of 2068 gpm.

The Audio/Visual system consists of audible horns, zone addressable modules, individual addressable modules, and strobe lights. The detector types include ionization type, photoelectric type, smoke and heat type, and smoke in ductwork type detectors. Other devices include pull stations, elevator recall, and fire alarm control and annunciator panels.

NEW HOUSE RESIDENCE HALL

CARNEGIE MELLON UNIVERSITY, OAKLAND, PA

Construction Management

New House Residence Hall began construction in January of 2002 and was completed in March of 2003. The Design-Bid-Build project delivery method was used. The 257-bed residence hall was built to be the healthiest and most energy efficient dormitory in the nation. The total cost is estimated to be \$12 million.

During construction, over 97% of the waste was diverted from landfills. In accordance with the LEED Green Building Rating System for New Construction, FSC certified wood was used. Native vegetation is also placed throughout the site, thus eliminating the need for irrigation. To minimize the effects of what is known as urban island heating, an energy star white roof surface was designed.

Project Team

Owner	Carnegie Mellon University
Architect	Bohlin Cywinski Jackson
MEP Engineer	H.F. Lenz Company
Structural Engineer	Atlantic Engineering Services
Construction Manager	Rycon Construction, Inc.
Commissioning	LLI Technologies