



**Market Segment - HEALTHCARE**

**Russ Berrie Medical Science Pavilion**

The Russ Berrie Medical Science Pavilion is the first new academic research building built at Columbia University Medical Center in over twenty years. It is part of Columbia University Medical Center's Audubon Biomedical Science and Technology Park in upper Manhattan, a premier university-related research park fostering academic and commercial research and development.

The Russ Berrie Medical Science Pavilion is the second of five buildings at the park. At a total cost of \$76 million, it houses the Naomi Berrie Diabetes Center, a comprehensive research and treatment center for diabetes, the Institute for Cancer Genetics, which examines the molecular mechanisms and pathogenesis of cancer, the Columbia Genome Center, a consortium of scientists and engineers dedicated to the generation of technology, information science, systems, and population theory required to transform information from the genome to the study of biology and the practice of medicine, and the Associates in Internal Medicine clinic, providing medical care to the surrounding neighborhoods.

**BACKGROUND**

**Project Type:**  
HVAC

**Location:**  
Upper Manhattan at 168th Street & St. Nicholas Avenue

**Owner:**  
Columbia Presbyterian Medical Center

**Architect:**  
Davis Brody & Associates

**Engineer:**  
Jaros Baum & Bolles

**Project Size:**  
175,000 Sq. Ft.

**Facility Usage:**  
Genome, Diabetes, and Cancer Research

**Third Party Integration:**  
York Chillers

The building was named after Russell Berrie, founder of Russ Berrie and Company, a global gift company based in Oakland, NJ. The Russell Berrie Foundation was created to express the values, passions and ideas of Mr. Berrie, whose interest in health-care, especially in diabetes was quite personal. He had Type 2 diabetes, and through a large gift in 1997, created

the Naomi Berrie Diabetes Center at Columbia University. The center, named for Mr. Berrie's mother is the only comprehensive diabetes research and treatment center in the New York tri-state area.



The facility is eight stories, with laboratories on six of the floors. One of the laboratory floors houses animal labs and holding rooms. In addition, the facility contains classrooms at the ground floor.

Conditioned air to the laboratories is supplied by five air handlers complete with variable frequency drives, heat recovery, hot water, and chilled water coils, providing up to 210,000 cfm of 100% outdoor air to the laboratories. Five general exhaust fans draw 210,000 cfm from the same areas. Fans are staged and their speeds are regulated as a function of load. Waste heat from the exhaust air pre-heats entering outdoor air through glycol heat recovery coils located at both the air handling units and exhaust fans. The glycol is circulated between the supply and exhaust coils by pumping systems.

Primary hot, chilled, and condenser water is produced by central heating and cooling plants circulated by primary pumps. Multiple secondary water pumping systems with variable speed drives circulate water to air handling unit coils, zone reheat coils, perimeter radiation, and miscellaneous condensers.

Over 400 DDC controlled laboratory flow tracking variable air volume terminal units, 200 reheat coils, and finned tube radiation serve the lab areas. TSBA's flow tracking and temperature control system controls both temperature and air quantity to maintain the required temperature and pressure in the spaces. Exhaust air from fume hoods are incorporated into the flow tracking system. Information

including lab space and supply air temperatures, lab supply and exhaust flows, lab fume hood flows, terminal unit, reheat and radiation valve commands, and fume hood alarms are displayed at the BMS workstations.

A fume hood exhaust system comprising of four roof mounted constant speed Cannon fans exhaust air from the lab fume hoods. A static pressure loop controls an inlet relief damper to the fume hood exhaust plenum to maintain the plenum at a negative pressure setpoint.

Two ground floor air handling units with airside economizers serve the ground floor lobby and meeting room areas. Direct digital controlled variable air volume terminal unit boxes with reheat coils maintain the ground floor air temperatures at set point.

A local area network of operator workstations, ten network controllers, and over 12,000 points monitor and control the building's systems.

The Russ Berrie Medical Science Pavilion is the second of what will be five buildings at the park. The three other buildings will be the Irving Cancer Research Center, the fourth building will be a commercial building, and the fifth building will be an additional academic building.

*Note: The Irving Cancer Research Building, a 13 story facility was subsequently awarded and completed by Thomas S. Brown Associates.*



For more information, Call  
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