Hotel and Conference Center

http://www.engr.psu.edu/ae/thesis/portfolios/2011/hld5013

Virginia, USA

Project Information

174,000 sq. ft.
8 stories total
$50 million building cost
constructed fall '08-summer '10

Project Team

Owner: Information withheld
Contractor: Balfour Beatty
Architect: Gensler
Lighting: HLB Lighting Design
MEP: GHT Limited
Structural: Thornton Tomasetti and Abel Consulting Engineers

Architecture

The recently opened Hotel and Conference Center, on the outskirts of one of the country's most respected universities, embodies the notions of comfort and relaxation with professionalism and academic success. Rich colors and woodwork dominate each of the spaces alike, reminding one of the outdoors and the campus setting which provided inspiration to the interior décor. The elegant inn houses 148 guest rooms, a lounge and bar area, a restaurant, a ballroom, 24-hour fitness facility, and various meeting and conference rooms in the convention center.

Lighting | Electrical

Using an array of different luminaires and light sources, the lighting maintains the hotel's elegance and sophistication. Fluorescent, halogen, metal halide, and LED lamps are all utilized. Various decorative pendants, sconces, and chandeliers also help to enhance the overall image and experience of the patrons. Electrically, a high voltage service and pad mounted transformer is provided by the utility, feeding to the 3000A, 480Y/277V, 3 phase, 4 wire main switchboard. A generator producing 150 kW of continuous standby power at 480Y/277V provides emergency power for lighting and life safety.

Mechanical

The mechanical system consists of fourteen roof top units on the conference center roof, ranging from about 1200-5600 CFM. Two outdoor air units, sized at 6500 and 8600 CFM respectively, are located on the roof of the hotel. The roof top units and outdoor air units both provide gas heat. Two make-up air units designated for the kitchen and laundry rooms provide fresh, supply air to these rooms. Nine out of eleven of the water source heat pump units are used. Additionally, a cooling tower found directly outside of the building is sized at 292 tons.

Structural

The structural system in the building is made up of load bearing metal panel walls, ideal for modular or repetitious construction. The hotel portion of the building consists of concrete columns varying in size and the conference center half has steel columns encased in concrete. The floor system is 5" LW concrete with 2" steel deck. Concrete masonry is used in the stairwells for lateral resistance.

Haley Darst lighting | electrical