



SMEAL COLLEGE of BUSINESS BUILDING

PENNSYLVANIA STATE UNIVERSITY PARK, PA

Yena K. Han - Lighting/Electrical

<http://www.engr.psu.edu/ae/thesis/portfolios/2009/YXH150/index.htm>

PROJECT TEAM

Primary Architects: Bower Lewis Thrower Architects

Associate Architects: Robert A. M. Stern Architects

Structural Engineers: Keast & Hood Co.

MEP Engineers: BR+A Consulting Engineers

Civil Engineers: Gannett Fleming

Landscape Architects: Lager Raabe Skaftte

Audio Visual/Telecommunications: Shen Milsom & Wilke

Lighting Design: Ann Kale Associates

Environmental Design: Atelier Ten

Construction Manager: Gilbane Building Co.

ARCHITECTURE

- ◆ Occupancy: Academic (Education/Research)
- ◆ Size: 210,000 SF
- ◆ Levels: Four above grade, one below grade
- ◆ Zoning: Code of the Township of College, PA
– University Planned District
- ◆ Historical Requirements: University Park Master Plan
- ◆ Façade Materials: Red brick, limestone, metal, glass
- ◆ Roof: Moment steel framing

ELECTRICAL

- ◆ Electricity generated by Penn State's West Campus Steam Plant.
- ◆ Oil-filled service transformer for normal power.
Emergency: 75 kVA dry-type transformer
Stand-By: 150 kVA dry-type transformer
- ◆ 3000 A main switchboard.
- ◆ Emergency power provided by campus life safety grid.
- ◆ Two automatic transfer switches, 150 A and 400 A.

CONSTRUCTION

- ◆ Project Cost: \$68,000,000 (overall)
- ◆ Delivery Method: CM-at-Risk
- ◆ Dates of Construction: July 2003 – July 2005
Groundbreaking: October 31, 2003
Dedicated: September 20, 2005

STRUCTURAL

- ◆ Deep foundation system with piles and pile caps.
- ◆ 5" slab on grade with grade beams.
- ◆ Composite floor system; studs in concrete slab.
- ◆ 6" typical slab: 4" normal weight concrete on 2"- 20 gage galvanized metal deck with 6"x6" - W2.0xW2.0
- ◆ 30'x30' bays
- ◆ Steel dropped in depressed floor slab areas.
- ◆ Suspension bridge in atrium hung from truss system at roof.

LIGHTING

- ◆ Main Voltage Used For Lighting Circuits: 277 V
- ◆ Primary Light Source: Fluorescent / Compact Fluorescent
- ◆ Notable Fixtures:
 - Custom continuous linear cold-cathode fixture at central staircase with frosted acrylic lens.
 - Fiberoptic downlights with 150 W halogen illuminator highlight decorative glass wall in café.
- ◆ Multi-scene dimming controls in classrooms.

MECHANICAL

- ◆ Chilled water supplied by Campus Chilled Water Plant.
- ◆ Campus HPS steam at 90 psi winter, 150 psi summer.
- ◆ Open plenum air return system.
- ◆ 200 gal compressed air tank.
- ◆ Architecturally integrated smoke evacuation system.