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Construction Management
Faculty consultant - Craig Dubler
Health and Human Development Building
University Park, PA
August 30, 2013
Building Statistics

General Building Data

Building Name – Health and Human Development Building

Location & Site – University Park, PA (The Pennsylvania State University)

Building Occupant Name – College of Health and Human Development

Occupancy Type – Type B and Type A (Office, Classrooms, and Labs) [International Building Code]

Size – 150,000 SF

Number of Stories – 4 floors + Mechanical Penthouse

Project Team

- Owner/Occupant – Penn State University <http://www.opp.psu.edu/>
- Architecture – Bohlin Cywinski Jackson <http://www.bcj.com/>
- Landscape Architecture – Michael Vergason Landscape Architects, LTD
<http://www.vergason.net/>
- Civil Engineering – Gannett Fleming, Inc.
<http://www.gannettfleming.com/>
- Structural Engineering – Robert Silman Associates
<http://www.rsapc.com/>
- Mechanical/Electrical/Plumbing/Fire Protection Engineering – Bruce E. Brooks & Associates <http://www.brucebrooks.com/>
- Construction Management – Massaro CM Services
<http://massarocms.com/>

Dates of Construction – February 2013 – June 2015

Cost Information – Building Cost -- \$45 Million

- Overall Project Cost -- \$59 Million

Project Delivery Method – Design-Bid-Build (DGS – low bid project)

Architecture

Architecture - The Health and Human Development Building is Phase 2 of The Penn State Henderson demolition and renovation project. The building was designed to blend in with the architectural facades and features of the surrounding buildings such as Old Main and the Biobehavioral Health Building. Penn State's push to create an aesthetically pleasing view from College Avenue is also incorporated into this project. The building façade has been designed to match the surrounding buildings, which are composed mostly of Georgian style architecture. This type of architecture is composed of a large amount of hand-placed brick and limestone.

One of the main features of this project is the large atrium that faces College Avenue. This atrium will act as a transition space as well as a gathering place for students



Figure 1 Image Courtesy of BCJ

and faculty. The remaining of the building interior is composed of classrooms, offices, and labs, which will be utilized for students and faculty of the college of Health and Human Development.

Code - The following codes are applicable for the construction of this project:

- The Pennsylvania Uniform Construction Code (UCC)
- 2006 International Building Code (IBC)
- 2006 International Plumbing Code (IPC)

Zoning - The zoning code in affect for this project is the State College Zoning Ordinance. The zoning district is the University Planned District (UPD) within subdistrict 5. There is a setback of a minimum 18 feet (measured from the curb) where the subdistrict adjoins College Avenue across non-University property in the Borough of State College zoned C. Maximum building height requirements for the University will also be met. Parking for this project shall meet the overall UPD parking plan developed by the University.

Histroical Requirements

The building has been designed to match the architecture of the Henderson North Building, which was constructed in 1915. Old Main, Penn State’s building of uttermost significance, also plays the role of influence on this building.

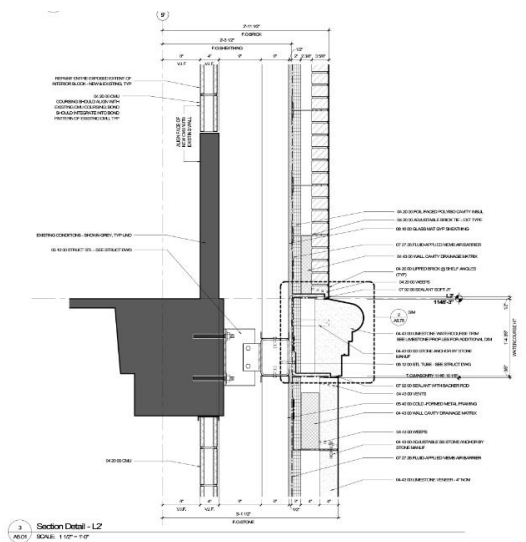


Figure 2 Typical wall section (BCJ)

Building Enclosure

The exterior of the building is composed of mainly masonry walls. The typical wall will be comprised of face brick that will be a molded colonial brick, which will complement the brick that was used for Phase One and the Henderson North Building. A limestone trim will be used at the major building entrances, windowsills, wall caps, and trim. The punched windows in this exterior wall type will be aluminum windows with 1” insulated glass.

Exterior glazed walls will also be utilized for the building enclosure. The typical glazed walls will be comprised of an aluminum wall system with a powder-coated finish. The glazing will be 1" thick insulated glass units.

One area of the building will include a prefinished composite metal panel system. This system will include an exterior air cavity with rigid insulation and a sheet membrane air/vapor barrier, dens-glass gypsum sheathing, galvanized metal studs and abuse resistant gypsum wallboard. The panels that will be used will be modular, smoothfaced panels with a powder-coated finish.

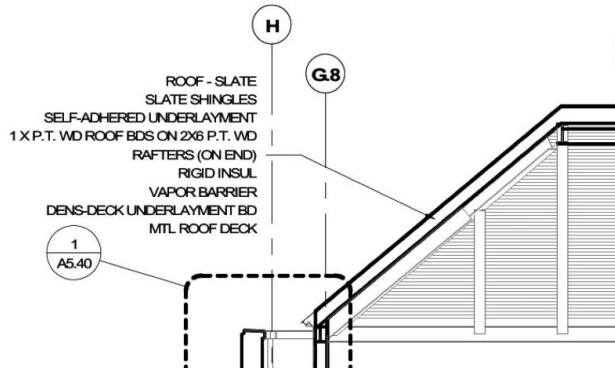


Figure 3 Roofing section (BC)

There are two different types of roofing that will be utilized on this project: a sloped roof and a flat (high) roof. The sloped roofs will be slate shingles on building paper, a vented nailable rigid insulation, vapor barrier, and dens-deck underlayment board on top of the structural roof deck. The flat (high) roof will be an adhered membrane roof (white) on dens-deck prime sheathing,

rigid tapered polyisocyanurate board insulation, a vapor barrier, and dens-deck underlayment.

Sustainability Features

The Health and Human Development Building will be designed to achieve a LEED silver rating. Penn State University requires that all of their newly constructed buildings achieve at least a LEED certified rating. The design team plans to follow the mandatory performance criteria pertaining to LEED credits as set forth by the University as well as additional sustainability features. A few measures that are being taken to achieve LEED certification include the use of recycled materials, regional materials, and low-emitting materials.