

# AE 481W: Building Statistics Part I

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# General Building Data-Part I

- **Building Name-** Penn State Burrowes Building Renovation
- **Location & Site-** 136 Burrowes Building University Park, PA 16802
- **Occupant-** Penn State School of Liberal Arts with 2 general purpose classrooms
- **Size-** 95,975 SF
- **Number of Stories Above Grade-** 2 Wing Buildings at 5 stories each and a Core building that is 5 stories
- **Project Team-**
  - ❖ **Owner:** Penn State University (<http://www.opp.psu.edu/planning-construction/projects/burrowes-building-renovation>)
  - ❖ **GC:** PJ Dick (<http://www.pjdick.com/tpjwebsite.nsf/web/Home?opendocument>)
  - ❖ **Architect:** BLT Architects (<http://www.blta.com/>)
  - ❖ **Engineers:** Gannett Fleming ([www.gannettfleming.com](http://www.gannettfleming.com)), Vanderweil Engineers ([www.vanderweil.com](http://www.vanderweil.com))
  - ❖ **Commissioning:** Aramark ([www.aramark.com/](http://www.aramark.com/))
- **Dates of Construction-**
  - ❖ **Start:** 2/24/2014
  - ❖ **Finish:** 12/4/2015
- **Costs-**
  - ❖ **PSU Project Budget:** \$37.8 million
  - ❖ **Project Cost:** \$28,507,000
  - ❖ **CM Soft Costs:** \$187,000 for bonds & \$265,000 for insurance
  - ❖ **Owner Soft Costs:** \$6.5 million
- **Project Delivery Method-** CM @ risk/Negotiated GMP

## Architecture

This project encompasses renovations and furniture, fixtures, and equipment improvements to the Burrowes building on the Pennsylvania State University campus. This includes the original core building, approximately 49,600 GSF, and two 1968 wing additions, 31,500 GSF each, for a total of 95,975 GSF. The highest occupied floor is 5 stories. The building is occupied almost exclusively by the College of the Liberal Arts. There are also two general purpose classrooms that are scheduled through the University located in the building. The renovation will consist of a complete gut of the whole building and create office spaces that are more efficient to the owner's goals and allow the 5 different departments of the school to be located on the same floor as one another. The renovation also includes the demolition of the 2 connecting structures referred to as "knuckles" from the core to the two different wings. This will allow for underpinning to secure the wings to the new connecting structures that will be built to match existing. The knuckles will include curtain walls on the east side of both structures to allow natural light into corridors and provide an architectural feature.

Primary goals noted by the College include the following:

- Provide more offices.
- Offices should be a standard size to provide maximum flexibility.
- Graduate students may be placed in 3-person offices or in Graduate Advising Suites, similar to the Borland Building.
- The Departments should be consolidated into the same geographic areas; do not split departments between floors, if possible.
- Those spaces that are the most public, or require the most student traffic, should be located on the ground levels. Private spaces, such as offices, should be located away from the busiest foot traffic.
- All private offices should have natural light.

### **Building Codes:**

#### **APPLICABLE BUILDING CODES AND STANDARDS**

- 34 PA Code Chapters 401-405
- IBC International Building Code 2009
  - NFPA 70-2008
  - National Electric Code (NEC) – Chapter 27
  - Elevators (Chapter 405 of UCC)
- IECC International Energy Conservation Code 2009
- IEBC International Existing Building Code 2009
- IFC International Fire Code 2009
- IFGC International Fuel Gas Code 2009
- IMC International Mechanical Code 2009
- IPC International Plumbing Code 2009

As well as all of these codes PSU requires all contractors to submit products that meet minimum LEED standards.

### **Zoning:**

As the building is on Campus for the university, the architect submitted to the Centre County Conservation District Review Board and received approval. The project team was not substantially modifying the height or square foot of the existing building, nor changing the use of the building, and no zoning variances were required.

### **Historical requirements:**

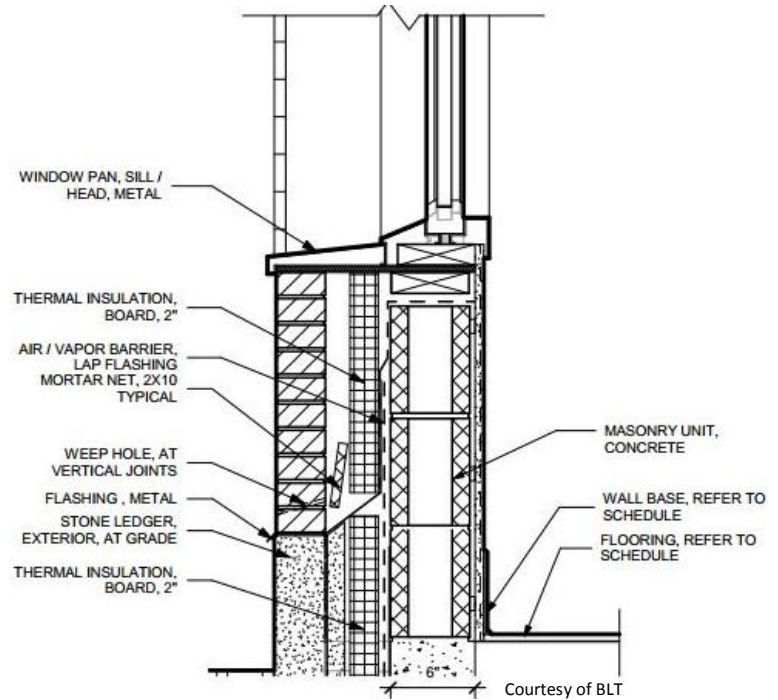
There were no requirements for historic restoration or preservation by State or Federal agencies. Penn State, in general, attempts to conserve all of their historic properties by identifying historic, or socially significant elements, and preserving them through the construction process. At the Burrowes Building, the main interior space on the 1<sup>st</sup> floor identified as the Rotunda and the exterior face of the building towards the Mall are considered significant and need to be preserved.

The original building of Burrowes was built beginning in 1938 and completed in 1940. It was originally occupied by the School of Education and named after Thomas H. Burrowes. The College of the Liberal Arts has occupied the building since the early 1960s. The original designer of the Burrowes Building was Charles Z. Klauder's (1872-1938) and it was his last design project. He was a prolific designer of campus buildings and was regarded as the preeminent university architect and campus planner.

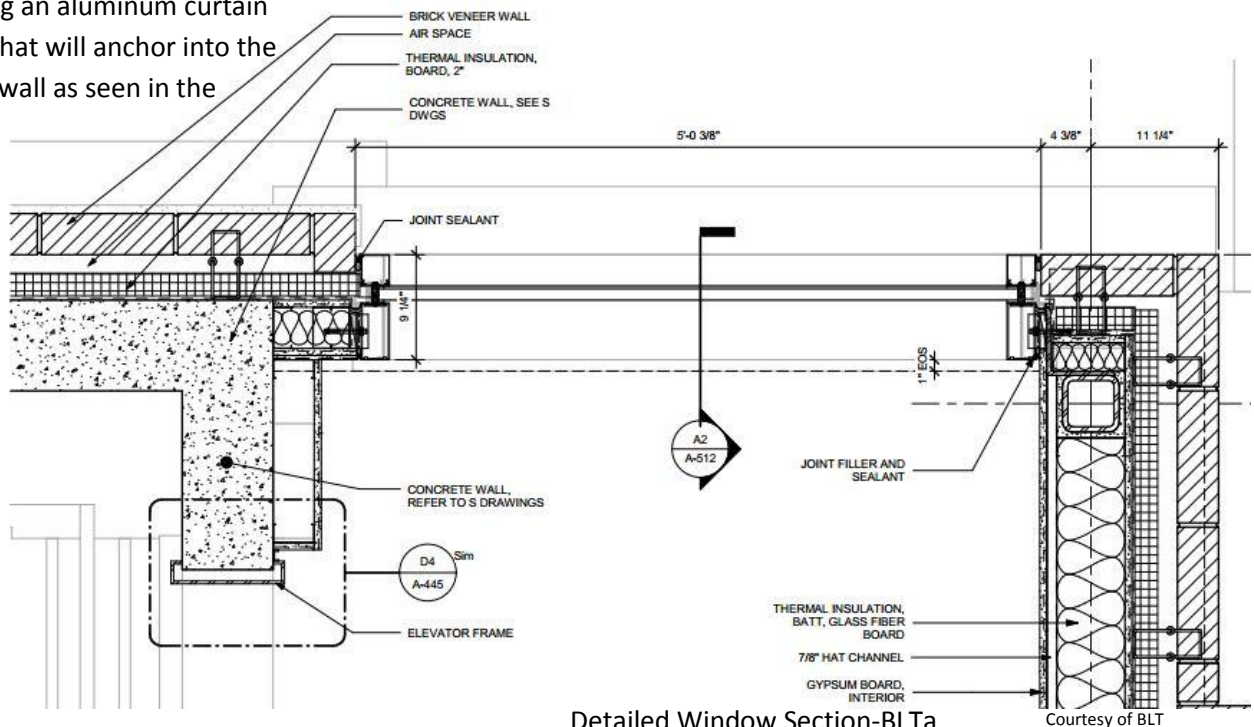
## Building Enclosure

- **Building Façade-** The façade consist of brick with limestone sill. A typical wall will consist of 6" CMU with 2" insulation board, then an air barrier, and finally the brick and stone.

- **Windows-** The owner requested that all windows be replaced during the renovation. There will also be a full height curtain wall system that will be located on the mall side of the building toward the library. The new windows for the curtain wall will be installed using an aluminum curtain wall system that will anchor into the brick veneer wall as seen in the detail.



Detailed Wall Section-BLTa



Detailed Window Section-BLTa

- **Roofing-** The roof consist of a standard EPDM roof which is a durable rubber synthetic roof membrane back with 18 gauge roof decking.

## **Sustainability Features**

The Burrowes Building Renovation Project is striving to achieve LEED-NC Silver. To achieve this the project will incorporate:

- Source in regional materials whenever possible
- Recycling construction waste
- Using LEED approved materials and products
- Install air-conditioning throughout the building
- Full-height curtain wall
- New MEP equipment in the basement mechanical room in the core building

## **Sources**

- BLT Plans and Specifications