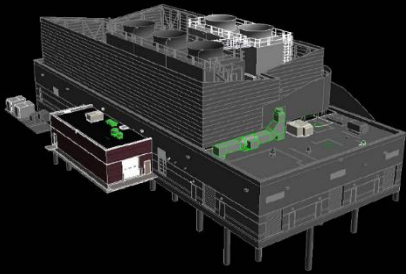




- **Services:**  
Structural & Site Engineering
- **Owner:**  
The Pennsylvania State University
- **Construction Cost:**  
5,500,000
- **Year Completed:**  
2012



# Project

## Penn State West Campus Chiller Plant Building Expansion, University Park, PA

Stahl Sheaffer provided design and documentation of a building addition, sump piers and maintenance, bathroom framing, additional concrete pads, VFD room framing, hard points above chillers, and new cooling tower installation. Stahl Sheaffer engineers created a 3D coordinated BIM model in Revit of new and existing conditions. An elevated steel platform was designed to support the rooftop cooling towers. Stahl Sheaffer performed an analysis of the existing building's structural system and the proposed platform's connection to the existing roof framing. The analysis for both the existing structure and steel platform was

aided by 3-D BIM software to effectively

design the proposed steel platform to withstand gravity, wind, and

vibration loads from the proposed

towers. Additional design was

required for the proposed

acoustic and screen wall

enclosures for the

chillers. Stahl

Sheaffer

designed a

30' tall steel

framework to

extend from

the existing

roof to

support these

panels and

withstand the

region's wind

loading

requirements.



Stahl Sheaffer also provided civil engineering and site design assistance for the Landscape Building addition to the plant, working closely with the Borough of State College to obtain the required zoning and land development approvals. The approval process included submissions to the Borough's Design Review Board to ensure that the project met specific neighborhood and aesthetic considerations. Site design for the new building addition included enhanced landscaping to provide buffering from the adjacent residential neighborhood. Engineering services included the re-routing of an existing stormwater collection system for the building downspouts. Stahl Sheaffer evaluated the impact of the new impervious surfaces on the existing drainageway leading to the West Campus Pond.