

CASE STUDY

Bowling Green High School

Team Members

Architect - RossTarrant • GC – Alliance
MEP Engineer – CMTA
Mechanical Contractor – Ernie Davis



Project Description

Two-phase renovation:

Phase one included adding about 90,000 gross square feet to the school with a two-story structure containing most of the school's classroom space. Students will use this portion of the building while the rest of the school is remodeled in phase two. Phase two renovations include additional classrooms, a new 700-seat auditorium and auxiliary gym and a replacement for the school's natatorium.

Problem:

Real estate for natatorium's HVAC equipment was at a premium as the building's layout and construction did not allow for traditional systems. Even with the space constraints, quality energy efficient systems that provided superior Indoor Air Quality were still a requirement.

Solution:

Because of the location in the mezzanine, only a small equipment footprint was available. AEC's split system design allowed us to break the system into an indoor air handler with a 6-row cooling coil and outdoor unit with digital scroll compressors that allow for a low turndown. Energy recovery was also incorporated into a split system 4200 CFM ERV, maximizing efficiency and footprint. Small footprint digital scroll compressors for turndown to 10% capacity. A total of 10,000 CFM split systems were provided with HGRH for dehumidification. Owner and engineer had previously had bad experience with non-factory controls, AEC provided factory BACnet controller that simplified the construction, start up and commissioning.

Systems Provided:

Aeon Energy Recovery Ventilator with integral BACnet controls | Aeon Split System Mixed Air Handling Units and remote condensing units with | Natatorium Pool Unit provided by AEC | 52 Ton LG VRF System with Energy Recovery.



"AEC continues to be a great partner in the design and installation of their products. For a VRF system, installation is absolutely critical – something AEC not only knows but stands behind making regular site visits and inspection throughout construction to ensure the installation meets manufacturer requirements."

Matt Wade, CMTA Mechanical Engineer

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