Architectural

- Rock faced CMU, red brick, and limestone sills create a new look while maintaining the look of the existing portion of the building.
- Barrelled roofs on the new auditorium and gymnasium update the elevations
- Unionville-Chadds Ford School district administrative offices located at the south of the building
- New auditorium added to northwest corner of building
    - High end finishes including acoustical CMU block, oak molding, and hard wood stage floor
- New gymnasium added to northeast corner of building

Construction

- 4 primary phases with 17 total subphases developed to efficiently complete the project
    - Phase 1: Construction of new Unionville-Chadds Ford Administractive Offices
    - Phase 2: Construction of new auditorium and renovations of existing classroom space on first, second, and third floor
    - Phase 3: Renovation of existing auditorium and completion of classroom renovations
    - Phase 4: Demolition of existing 1 story, construction of new gymnasium, renovation of classroom space on first floor.

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MICHAEL BEAM - CM OPTION

UNIONVIONVILLE HIGH SCHOOL ADDITIONS AND RENOVATIONS

Kennett Square, Pennsylvania

Owner:
Unionville-Chadds Ford School District

Architect:
MM Architects, Inc.

General Contractor:
Wohlsen Construction

Site/Civil Engineer:
ELA Group, Inc.

Structural Engineer:
Joseph Barbato Associates, LLC.

Mechanical/Electrical Engineer:
Gipe Associates, Inc.

Kitchen Design Consultant:
Clark Food Service Equipment

Building Information

Total Height: 3 Stories
Building Area: 319,000 Square Ft
Contract Value: $51,895,000.00
Timeline: June 2009 - Dec 2012

Structural System

Foundation

- Structural steel columns on reinforced concrete piers.
- CMU Block foundation walls and reinforced concrete footings

Building Structure

- Predominantly wide flange members with some hollow structural section members
    - Most Common:
    - W10x33
    - W14x90

- Floors either slab on grade or 4" of concrete over metal decking

Roof

- Structural steel trusses and joists
- Curved members for barrelled roofs:
    - 48LH13 joists for new auditorium
    - W10x39 truss for new gymnasium

Eletrical/Lighting System

- 35000 Volt service entrance
- 2500KVA 34.5/19.9KV to 4.16/2.4KV outdoor oil filled transformer
- 4160 Volt, 3 phase primary system and 480/277V, 3 phase, 4 wire Y secondary system
- Building utilizes both 480/277V and 208/120V power
- Classrooms and corridors use primarily 2' x 4' recessed fluorescent fixtures, F32T8 lamps
- 50W MH Metal halide and Q250 T4 fluorescent lamps used in 9" diameter x 16" long suspended metal cylindrical down fixtures in new auditorium

Mechanical

- 22 Total AHU's: 18 new units and 4 existing units
- 15 new and the 4 existing AHU's located on the roof
- 3 new AHU's located in mechanical rooms
- Primarily DOAS AHU's with several VAV and CAV units
    - DOAS AHU's supply fan loads ranging from 5,500 to 9,900 CFM
- 10 trane BCU's, each interlocking with a specific AHU