

progress

2015 **EDUCATION** ISSUE

Columbia High School Receives Upgrades



EI Associates is presently assisting the South Orange-Maplewood School District with converting an aged and inefficient steam heating system with a new, high-performance condensing hot water heating system serving over 100,000 sq.ft. of the original 1928 Wing 'A' of Columbia High School. Integrating modern systems within the iconic American gothic masonry structure proved challenging. The project required careful planning, design and engineering efforts to properly locate all new heating system equipment, piping and controls, address the abatement of asbestos plaster within the walls and ceilings and VAT floor tile, minimize the impact to the existing architecture, and ensure the improved comfort and energy efficiency of the new system.

The project was designed and is presently being constructed in phases to accommodate the requirement for limited area abatement of affected wall, floor and ceiling areas over two summers. Existing plaster walls and ceilings throughout the building contain asbestos. The complete abatement of the building would be not only cost prohibitive but logistically impossible, requiring subsequent time for air sampling, replacement of plaster walls and ceilings with gypsum board and allow for faculty preparations within an 8-week summer break period. *Continued on page 6*

*Main: Original 1928 Columbia H.S. "A" Wing
Inset: New Boiler System Installation*

Sustainable Commitment to Twin Middle Schools

In response to an increase in student population and the student population projections indicating a continuing increase, the Carlisle Area School District in Carlisle, Pennsylvania made a sustainable commitment in renovating their two identical middle schools, Lambertson and Wilson. Lambertson Middle School is seeking LEED® Gold Certification and Wilson Middle School is seeking LEED® Platinum Certification.

The renovated buildings were designed to use an estimated 56 percent less energy per square foot per year than the existing, smaller buildings. The original 1979 design followed educational practices of the day and employed classroom pods. The existing one-story buildings housed grades 6, 7, and 8 and provided three classroom pod areas, each having an open plan with no corridors. This plan internalized most classrooms, separated only by movable partitions. Very few rooms had windows to provide daylight or outside views. *Continued on page 6*



After

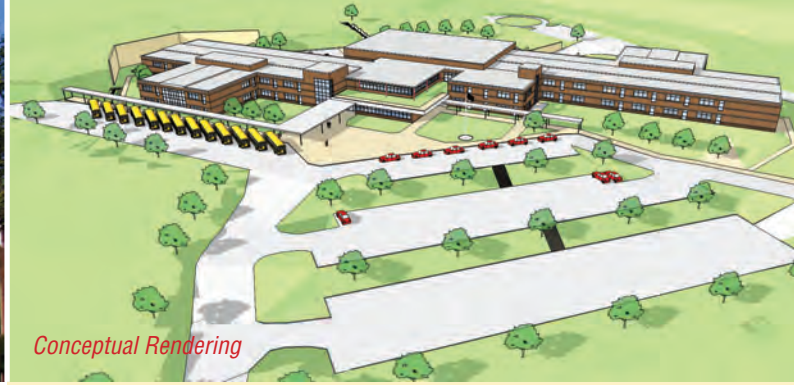
*Main: Renovated Gymnasium with Clearstory Windows
Inset: Existing Gymnasium*



District-Wide Facility Assessment for Ridgewood School District

El Associates recently assisted the Ridgewood School District with a district-wide facility assessment covering the 7 elementary schools, 2 middle schools, the Ridgewood High School and Education Center. The assessment goes well beyond the minimum state requirement to update the Long Range Facility Plan (LRFP) it provides the District an accessible, comprehensive and strategic "road map" to prioritize, plan, budget, and execute future capital improvement projects.

El's team of architects and engineers toured the facilities, interviewed District personnel, recorded field conditions, and reviewed available maintenance records and other documentation. Identified deficiencies were organized into seven categories: Site Work, Building Envelope, Building Interior, Mechanical Systems, Electrical Systems, Fire Protection Systems and Educational Adequacy and were prioritized based on the nature and extent of the deficiency, hazard to students and faculty and impact on educational program. Deficiency narratives, reference plans and photos, recommendations and related cost information and priority matrices were provided to support future planning efforts for a multi-year capital improvement program.



Conceptual Rendering

New, Safer, and More Efficient Facility for Manheim Central SD

In the Fall of 2014, visible cracks in the load bearing masonry walls of the existing Doe Run Elementary School prompted the Manheim Central School District in Manheim, Pennsylvania to hire independent structural engineering firms to evaluate the structure. The building was determined to be structurally unsafe.

These developments led the District to re-evaluate the proposed construction plans for the elementary building projects and update the 2012 District-Wide Feasibility Study. The District investigated educational programs in response to changing educational needs and accommodating student population projections. The 2015 District-Wide Feasibility Study Update included ten options for the Manheim Central School District's K-4 educational program. The District determined that it was in the best long-term interests of the community to construct a new Doe Run Elementary School rather than to try to repair the existing building.

A larger Doe Run Elementary School will be built to replace the existing Doe Run Elementary School. This school will be constructed as a High Performance Building and designed to accommodate 1,000 students.

This will provide additional operational and energy savings by consolidating three Elementary School facilities. The new project will provide an updated educational facility along with a venue for community groups to meet. The District will encourage community organizations to use the updated assembly facility including the media center, gymnasium, student dining, and stage.

New Middle School Site Addresses Enrollment Needs in Hillside

The Hillside Board of Education has commissioned El Associates to complete a Comprehensive Feasibility Study of all District Schools to address enrollment issues and identify alternatives that would best provide for 21st Century educational program opportunities for Hillside students. The District has embarked on a strategic plan to maximize the use of existing facilities that will better support age appropriate educational program needs for all students.

One of the major components of the comprehensive District plan is to convert the George Washington School site into a grade 7-8 Middle School. To meet this goal El is preparing the design of a four classroom addition, new gymnasium, additional storage and lavatories as well as renovations to the George Washington School for construction to commence the summer of 2016.



Proposed Addition



Rendering of Entrance Facade

Promoting Educational Opportunities for the Entire Community

The Greater Nanticoke Area School District in Nanticoke, Pennsylvania commissioned EI Associates to complete a District-Wide Feasibility Study of the school facilities. The study evaluated the District's existing facilities, educational program, and proposed the need to accommodate future enrollment growth as well as future educational program needs.

The District determined that closing the aging KM Smith Elementary School (grades PK-K-1) and renovating the existing Kennedy Elementary School (grade 2) with alterations and additions at the campus site which includes the GNA Elementary Center (grades 3-5), GNA Educational Center (grades 6-7), and GNA Senior High School (grades 8-12). This work will accommodate the needs of housing the proposed increase in student population and accommodate the District's elementary educational program.

The proposed design will provide new additions for the Kennedy Early Childhood Center. The proposed facility will be designed to:

- House kindergarten, first grade, and second grade classrooms,
- Support instructional areas including pre-kindergarten, special education, and flexible spaces that can either be divided into small group instruction spaces or used as large group instruction spaces, and
- Share instructional areas including the media large group instruction area, multi-purpose and physical education spaces, student dining and food service spaces, a health suite, and support areas such as administration, faculty, guidance, and building service areas.

This facility will include a high performance HVAC system for heating and cooling, energy efficient lighting, increased natural daylight, and a thermal envelop. These efficiencies contribute to energy savings for heating and cooling and are expected to reduce energy use in the facility by over 40% annually. Fixtures that exceed building code requirements relative to water-flow restrictions will be employed and are expected to reduce water use in the facility by over 30% annually.

All classrooms will receive automated light fixtures and controls, including occupant and daylight sensors. Project building materials and components will be selected to attain 30% or more recycled content and 20% or more regional content that has been extracted, harvested or recovered, and manufactured within 500 miles of the project site. During construction of the building, over 75% of nonhazardous waste will be recycled or salvaged, and will be diverted from landfills and incinerators.

The Greater Nanticoke Area School District plans to use the facility as an educational tool to demonstrate the environmental and energy benefits of building sustainably. Signage will be placed throughout the facility that describes specific green building features that will be utilized in the proposed Kennedy Early Childhood Center design for educational purposes of students and visitors. Project goals include minimum attainment of USGBC LEED® Silver Certification.

Media Center Renovations for the County College of Morris

EI Associates recently completed the design of renovations to the Media Center located in the Learning Resource Center Addition (Sherman Masten Library) at the County College of Morris Randolph, NJ campus. The Media Center renovations cover functional changes to the space, technology upgrades and provide CCM students, faculty and the community high-tech and modern production studio and related academic facilities.

The project covers renovations, new interior finishes, selected space reconfigurations, acoustic separation, modifications to the existing HVAC, lighting and electrical systems and the installation of new IT equipment within 7,100 sq.ft. of the existing second floor Media Center. The renovations affect existing office and reception areas, two studios including a Professional Production Studio and Instructional Studio, a new "green" room, control rooms, editing rooms, specialized spaces, and other support areas. The renovations are scheduled to be complete in the Fall of 2015.



Renovated Production Studio



Generous Patrons Support Field House at Lower Dauphin

The Lower Dauphin School District in Hummelstown, Pennsylvania worked with El Associates and the Lower Dauphin Falcon Foundation to design the District's new Field House. The Falcon Foundation introduced the field house project at their annual Blue and White Gala in 2013. With the leadership of the Falcon Foundation and the generous patrons in the community, they were able to raise \$655,206 to support the District to make this project happen.

El Associates designed 700 spectator bleachers with a press box and two synthetic turf fields that are adjacent to each other to provide the sports complex for the District. The building foundation and the concrete pad for the field house was previously prepared for during the construction of the sports complex.

The 6,900-square-foot field house consists of two 1,100-square-foot team rooms with toilet rooms and shower areas, a high volume 2,230-square-foot athletic room, public rest room facilities, a 240-square-foot training room, a 150-square-foot officials locker room, a 550-square-foot concession area, and ticket booth.

Each room of the field house was named in honor of, or in memory of, an individual or group of the major sponsors. The plaques, bricks, and pavers with names were also installed around the entry gates to recognize the donors. The field house was dedicated in 2015 in honor of the Lower Dauphin Falcon Foundation, which provided the leadership for the fundraising campaign.



Energy Consulting Services for Denville Township School District

El Associates was recently contracted to perform 3rd Party Energy Engineering Consulting Services to the Denville Township Board of Education. Our general scope of services cover an evaluation of energy consumption, facility operation, major equipment efficiencies and remaining useful life and alternative clean energy solutions for each of the three District schools. The energy savings potential for each measure will be calculated and implementation costs will be provided with a projected simple payback.

El also provided oversight and advisory services to the District relative to executing an Energy Savings Improvement Program (ESIP) with an approved Energy Savings Contractor. In this role, El assisted the Board in the ESIP/ESCO interview process, developed a list of questions for the Board based upon the RFP response from each of the ESCOs and developed an ESCO rating system to facilitate the interview and selection process. At the completion of the ESIP work, El will also be providing the District with 3rd party measurement and verification services of all ESCO recommended energy conservation measures (ECMs) to ensure the executed energy measures achieve the required energy/utility savings. The total project cost is estimated at \$1.5M, yielding \$242K in State Rebates as well as over \$151K/year in energy/utility savings.



New Security Entrance Area

Providing Sustainable and Safer Schools at South Eastern SD

El Associates completed a District-Wide Feasibility Study for South Eastern School District in Pennsylvania. As a result, the District proceeded with renovations at Delta-Peach Bottom, Fawn Area, and Stewartstown Elementary Schools.

All three buildings were originally constructed in the 1950's and received additions in 1990. Since then only minor finish upgrades and regular maintenance have been done. The primary focus of these projects is to modernize and convert the existing facilities to have a greater level of energy efficiency. The projects will eliminate one fossil-fuel energy source (fuel oil) entirely for heating and replace it with a geo-thermal boring field and high-efficiency heat pumps which will provide heating and cooling year round. The heating, ventilating, and air conditioning upgrades, along with interior lighting replacement with occupancy and daylight sensors is estimated to reduce the energy use intensity. *Continued on page 6*

Improvements for More Efficient Operations and Academic Achievements at Red Clay School District



Existing Facade at Stanton Middle School

El Associates has been providing architectural professional services to the Red Clay Consolidated School District in Delaware since 2013 for the renovation projects at Richey Elementary School and Stanton Middle School. The project at Richey Elementary School includes window replacement; new sprinkler system; heating, ventilating, and air conditioning unit replacement. The project at Stanton Middle School includes roof replacement, security entrance upgrade, and minor interior design services; additions to window and door replacement; new sprinkler system; and heating, ventilating, and air conditioning replacement. New security

entrances will provide safer and limited access to the building from the outside to accommodate the security concerns in today's school designs. The District is committed to the projects not only to improve facilities for more efficient operations but also to create an environment that will enhance students' academic achievements. These projects are under construction only during two summers in 2015 and 2016 to avoid interruption of the school operations during the regular school year.

Restoration of a 1923 Gem at Lawton C. Johnson Middle School, Summit, NJ

It has been said that, at its best, preservation engages the past in a conversation with the present over a mutual concern for the future. To this end El recently completed the historic restoration of a 1923 gothic revival auditorium at the Lawton C. Johnson Middle School for Summit Public Schools. The goal of this project was to restore the auditorium to its original 1920's condition while thoughtfully integrating modern systems and amenities to serve the District well into the future. The school was originally designed by AIA chapter president and collegiate gothic expert, James Betelle, architect responsible for many significant public schools and civic structures in the Northeast including neighboring NJ public school districts such as South Orange-Maplewood and Newark.

The scope of this project covered the replacement of non-original seating with new upholstered wood seating which is designed to reflect the original 1923 wood and cast iron seating, new flooring and paint finishes and the restoration of existing wood paneling, coffer ceilings and ornate plaster moldings. The scope also included the restoration and modernization of six bronze chandeliers which were each re-lamped with 24 energy efficient, and dimmable LED fixtures with new lighting controls. Non-original recessed light fixtures were removed. New,

state-of-the-art rigging and stage lighting, new stage flooring, stage curtains and window treatment was also installed. An existing underfloor duct system was cleverly repurposed to inconspicuously support a modern air conditioning system. We hope this restored masterpiece continues to serve many future generations of Summit students.



Proscenium & Seating Details



Before



After

Continued: Columbia High School

The core purpose of retrofitting this historic building with upgraded mechanical systems is human comfort and health. The existing steam heating system proved difficult to control, inefficient and provided uncomfortable environmental conditions for the faculty and students.

The new mechanical system, scheduled to be fully operational by September 2016, will consist of 6 modular, high-performance condensing hot water boilers, new hot water piping to new unit ventilators and radiant heating within all Wing 'A' areas and new DDC controls and will provide for increased control, comfort and energy efficiency. Approved under Round 4 of the NJ Regular Operating District Grant Program, 40% of the project cost will be funded by the state. This offset of initial project costs coupled with future energy savings and improved comfort conditions make this a "win-win" proposition for the District. In addition, the smaller footprint of the new boiler equipment will allow the repurpose of former mechanical areas for much needed storage space.

Continued: Carlisle SD

As part of the project, both buildings received nearly 23,000-square-foot in additions and the classroom wings were completely reconfigured. The improved design provided each grade with its own separate corridor organized around a central commons between two teaming areas. Each area is defined by a new daylight monitor. These monitors, along with tubular skylights, ensure that each classroom has natural light to provide better learning environments. Daylighting and occupancy-sensored lighting fixtures throughout the buildings also help reduce the need for artificial lighting.

This project was selected for American School & University Outstanding Designs under Interior Renovation category in their 2015 Educational Interiors Showcase. The project was published in the 25th Anniversary Issue in August 2015. Find our featured project at <http://asumag.com/August-2015#76>.

Continued: South Eastern SD

Along with the sustainable design aspects of the renovated facilities, all three buildings will receive security upgrades as part of the project. Upgraded access controls and a new closed-circuit television security camera system will work in conjunction with completely renovated building entrances and lobbies. All three internalized administration areas are now located at the exterior walls and have clear lines of sight to approaching students and visitors. Each main entrance vestibule will be upgraded to a secure entrance vestibule complete with reception pass-through window and impact resistant glass. The lobbies will also receive renovations to provide new finishes, a building dashboard, built-in recycling center, and "Green Building" educational signage.



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News, Notes & Events

SUSTAINABLE DESIGN

Seeking LEED® Certification

Bensalem Township SD – Bensalem HS – Gold
Carlisle Area SD – Wilson MS – Platinum
Carlisle Area SD – Lambertton MS – Gold
Greater Naticoke Area SD – Kennedy ES – Silver
Halifax Area SD – Halifax Area MS/HS – Gold
Hatboro-Horsham SD – Hallowell ES – Gold
Lehigh Area SD – Primary/Elementary Center – Platinum
Lehigh Area School District - Middle School - Gold
Lehigh Area School District - High School - Gold
Manheim Central School District - Gramby Street Elementary School – Gold
Manheim Central School District - Doe Run Elementary School – Gold
Newport SD – Newport ES – Gold
South Eastern SD – Delta-Peach Bottom ES - Silver
South Eastern SD – Fawn Area ES – Silver
South Eastern SD – Stewartstown ES – Silver
Tri-Valley SD – Hegins-Hubley ES & Mahantongo ES - Gold

NEW PROJECTS

Bensalem Township SD
County College of Morris
Cranbury Township SD
Demarest SD
Denville SD
Greater Naticoke Area SD
Halifax Area SD
Hasbrouck Heights SD
Hatboro-Horsham SD
Hillside SD

Jersey City PS
Lehigh Area SD
Little Falls SD

Manheim Central SD
Mendham Township SD
Metuchen SD
Park Ridge SD
Queen City Academy Charter School
Red Clay Consolidated SD
Ridgewood SD
Rutgers University
South Eastern SD
Southern York SD
South Orange-Maplewood SD

Summit SD

High School Additions / Alterations
Media Center Renovation
Mechanical Upgrades & Roof Replacement
Roof Replacement at Luther Lee Emerson ES
Energy Consulting Services
Kennedy ES Additions / Alterations
Halifax Area MS/HS
Pre-Referendum Services
Hallowell ES
District Master Plan/Security Upgrades/HS Gym Renovations/
New Synthetic Turf Field/Middle School Addition Project/
Mechanical Upgrades at 3 Schools, Door & Window
Replacements, Lighting, Toilet Room and Kitchen Upgrades
Chiller Replacement
Primary/Elementary Center/MS/HS
Electrical & Communications Upgrades/Pre-Referendum
Services/Architect of Record
Doe Run ES/Gramby Street ES
Window Replacement
District Facility Assessment
Parking Lot Resurfacing & Library Renovation at HS
Auditorium Conversion
Richey ES and Stanton MS
District-wide Facility Assessment and Renovations
Office Suite Renovations/Lab Renovations/Fire Alarm Upgrades
Fawn Area ES & Stewartstown ES
Jones Campus Drainage
Electrical Service Upgrade at Jefferson ES/Science Lab
Renovations
Reroofing & Library Skylights at Jefferson ES/Lobby
Restoration at Summit MS/Facility Assessment at HS

EVENTS

- PaLA: Pennsylvania Library Association, State College, PA – October 4-7, Booth #310
- PASA/PSBA School Leadership Conference, Hershey, PA – October 13-16, Booth #303/305
- KAPPA Fall Meeting, Bedford, PA – October 19, 2015, Booth #23
- NJSBA/NJASBO/NJASA 2015 Workshop and Exhibition, "Empowering the 21st Century Student – October 27-29 – Atlantic City Convention Center, Atlantic City, NJ / Booth #421
- PASBO Facilities Management & Transportation Conference, Granville, PA – October 29-30, Booth #31
- PASBO Annual Conference, Hershey, PA - March 8-11, 2016 Booth #418/420