

progress

2014 EDUCATION ISSUE

Historic Auditorium Restoration for Summit Schools

EI is presently assisting Summit Public Schools with the historic restoration of the auditorium at the LCJ Summit Middle School. Constructed in 1923, the American gothic masonry building houses sixth, seventh, and eighth grade students. This is the final phase of a comprehensive building renovation project which included building envelope, security, classroom, laboratory and MEP system upgrades,

The scope of this project is to restore the auditorium to its original 1920's condition while carefully incorporating modern amenities. The project included the replacement of non-original seating with new upholstered wood seating which is designed to reflect the original 1923 wood and cast iron seating, install new flooring, and restore the existing wood paneling, coffered ceilings and ornate plaster moldings.

The scope also includes the restoration and modernization of six bronze chandeliers which will each be re-lamped with 24 energy efficient, and dimmable LED fixtures with new lighting controls. All existing non-original recessed light fixtures will be removed. New, state-of-the-art rigging and stage lighting, new stage flooring, stage curtains



Pre-Renovation Photos

Continued on Page 5

Neighborhood Connection in Manheim Continues



Main Entrance on East Gramby Street

The new Manheim Central Elementary School will be located on the site of the old middle school at the corner of North Hazel and East Gramby streets. The school is being designed to accommodate the increase in student enrollment and the redistribution of students throughout the District. The District plans to close two of its four existing elementary schools, consolidating its elementary student population at Doe Run Elementary School and the new school.

The new elementary school will have 42 graded and support classrooms, 2 art classrooms, a music classroom, and 2 practice rooms. Core learning and support areas include a full-sized gymnasium, cafeteria, kitchen and stage, media center, interior courtyard and green roof spaces, building administration, guidance and health suite areas, faculty areas, and building services. The school will be a modern, high-performance building with all areas meeting the highest educational standards.

Continued on Page 5

Boiler Upgrades Yield Lower Operating Costs and Reclaimed Space for Summit

The principal benefits to upgrading aged mechanical equipment with modern, high-efficiency systems are the reduced energy usage and cost reductions realized by our school clients along with vastly improved reliability. Another benefit is the ability to recapture much needed space within schools as a result of the smaller, more compact footprints of newer boiler equipment.

As part of the final phase of a District-wide boiler and mechanical system upgrade for Summit Public Schools, EI Associates is completing a major boiler system replacement at Summit High School. With new modular, high-efficiency boiler systems now complete at the five Summit elementary schools and the middle school, the District is realizing more than \$2.5M in energy savings over a projected 5 year period. In addition, over \$100,000 in Smart Start rebates facilitated by EI will be received by the District.

In addition to their energy efficiency, the High School's modular boilers will require less than half the floor area of the older boiler equipment. This provided the District with the opportunity to reclaim much needed maintenance storage space within a portion of the former mechanical room. Given the height of the existing mechanical space, EI designed a new two-story Maintenance Storage Room which will provide the District with an additional 1,000 sq.ft. of storage area within the High School.



Summit School District 2014-2015 Budget Presentation – March 6, 2014



STEM, STEAM, Curriculum Integration and the Impact on School Facilities

Education for students in the science, technology, engineering, and mathematics (STEM) has received increasing attention over the past decade. Greater emphasis has been placed on these fields, with improvements being made in the quality of curricula and instruction. Initiatives to integrate these STEM subjects, and most recently STEAM which includes the Arts, are being developed in public schools to teach in a more connected and collaborative manner. This provides students with greater subject meaning, promotes student interest, enhances learning, improves achievement, provides relevance and context to real-world issues and strengthens workplace readiness skills.

EI is assisting several school districts with the assessment and reorganization of existing facilities to better accommodate their STEM educational programs. Schools built in the 1920's, 30's, 40's and 50's did not account for an integrated approach to instruction. An interdisciplinary STEM education requires facilities to accommodate multiple subjects, activities, teaching and learning formats. Small clusters of classrooms which allow for collaborative teaching of integrated subject matter—humanities, arts and STEM—within a single zone that is well-defined for students, function most effectively. Grouping similar program areas promotes collaborative teaching and the communal use of resources such as shared prep rooms and lecture areas to support several lab areas. Grouping programs such as CAD, Robotics, Math and Physics also provide educational synergies.

Our classroom design and furniture selection allow for flexible arrangements, converting easily between lectures, group work, individual study and student presentations. The facilities may also feature transparent walls or large windows between classrooms, prep rooms and corridors. This provides a visual connection between spaces and reinforces a shared culture of learning. School facilities must now be designed to “multi-task”, embrace technology, and support the changing paradigm of 21st century learning.

Expansion and Renovations to Campbell Elementary School

As Metuchen's Architect-of-Record EI Associates recently assisted the District with the design of a two-classroom addition and implementing health and safety renovations to the Campbell Elementary School. The addition, required to meet projected student enrollment increases, was designed as two modular, pre-manufactured components to limit on-site disruption to the K-8 school operations, reduce on-site construction safety issues, and achieve an aggressive construction schedule.

EI also designed renovations to the existing 1950's building to remove asbestos tile flooring, improve interior aesthetics through the installation of new ceilings and flooring, improve functionality via the installation of new student cubbies, and address comfort and improve energy efficiency through the installation of new, high-efficiency fluorescent light fixtures and controls.

EI provided complete planning, design and construction administration services to execute the project.

El Expedites ROD IV Projects

In May of 2013 the NJSDA announced the release of funding for a fourth ROD Grant Allocation. Applications for the Grants were accepted by the New Jersey Department of Education's Office of School Facilities until September 4, 2013. El was able to position our NJ school clients ahead of the surge of state ROD Grant submissions because a number of projects had been progressed to the "submittal-ready" stage.

In early December 2013 Preliminary Eligible Costs (PEC) determination / Grant Approval letters were being received by Districts from NJDOE. Formal grant agreements were being issued by SDA as early as January 2014. With timely completion and submission of Execution Documents by each District, fully Executed Grants were received back from the SDA at the earliest possible date. This expedited turn-around of paperwork became important for El's school clients to receive bids during the late Winter of 2014 which permitted Summer 2014 construction execution. Grant Agreements for other, less prepared Districts were typically not received until late March 2014, thereby preventing Summer 2014 construction.

For Districts considering Summer 2015 construction projects the development of detailed design packages, ready for bid solicitation, should be underway now to allow contractor award in early 2015. Certain long lead items such as windows and HVAC equipment, items with up to 4 month lead times, can be ordered in time to allow for summer installation. Experience has also shown that bids received earlier are more favorable than those received closer to the summer as contractor schedules become filled.



Renovated Labs



Window Replacement



Masonry Restoration

New Labs Advance Engineering Programs at CCM

Science, Technology, Engineering and Mathematics (STEM) initiatives continue to expand in K-12 schools, colleges and universities to increase the technical proficiency of students and prepare our future leaders for the technically-driven challenges of modern commerce. The County College of Morris is preparing its students with a foundation in engineering fundamentals for the civil, electrical, mechanical, or aviation fields by providing newly renovated, state-of-the-art engineering labs which were recently completed by El Associates.

The seven engineering labs renovated by El total 7,111 sq.ft. and consist of a Materials Fabrication Lab, a Fabrication Instructional Lab, a Material/Testing Lab, an Aviation Lab and three Electronics Labs. These laboratories are used to support a variety of educational programs including the mechanical, electrical, fabrication, aviation and other engineering curricula. They house new state-of-the-art equipment including CNC machines, materials testing equipment, and fabrication equipment such as drill presses, lathes, welding stations and paint booths.

Each lab's configuration is specifically suited to the type of engineering program being supported. The new labs have been designed to be easily reconfigurable when possible, to accommodate future changes in technologies and instructional techniques. Electric, compressed air, cold water and hot water utilities were designed with quick-disconnect fittings from ceiling headers to promote "plug-and-play" flexibility. Ceiling mounted acoustical panels were designed to mitigate equipment generated noise.

Newport School District Goes Green Again



Renovated Gymnasium

El Associates was retained by the Newport School District to complete a District-Wide Feasibility Study. As a result of that study the District proceeded with renovations to the Newport Elementary School. The Newport Elementary School was originally constructed in 1969, with renovations and additions executed in 1989. The primary focus of this project is to modernize and convert the existing facility into a high-performance school building. This project will include a new ground-source geothermal HVAC system, installation of energy efficient lighting, and building envelope thermal upgrades. The School will receive a new insulated roof, energy efficient windows, and entrance doors and frames. The project will eliminate coal and fuel oil as an energy source. Replacing outdated, high-water-consumption fixtures with low-flow, water-conserving fixtures will reduce the

facility's water consumption by over 30%. Installing new acoustical ceilings and eliminating noisy unit ventilators will improve acoustical conditions throughout the building. Incorporating energy-efficient sustainable design methodology and intentionally improving indoor air quality will enhance the educational environment for both students and faculty. El Associates successfully assisted the Newport School District in applying for the Alternative & Clean Energy Grant which resulted in \$930,000 for the School District to use toward the renovation project. The school is designed to obtain LEED® Gold Certification. It will be the second LEED® certified building in the District, following Newport High School, LEED® Gold certified in 2006.



Halifax Schools to Promote Community Involvement

Rendering of Main Entrance Facade

The Halifax Area Middle School and High School were originally constructed in 1958 with additions added in 1968, 1988, and 1991, including two modular classrooms. In 1996 the current HVAC system was installed under an energy savings program. Since then no major improvements have been made to the structure. Therefore, the facility is in need of significant renovations. The primary focus of this project is to replace the modular classroom additions with permanent additions and modernize and convert the facility to a High Performance school building. This project will eliminate fuel oil consumption entirely and, by dramatically improving the integrity of the thermal envelope, will reduce the facility's overall energy consumption by over 5.1 million KBTU annually.

Out-of-date, high-water-consumption fixtures will be replaced with low-flow efficient fixtures which will reduce the facility's water consumption by approximately 30% which is equivalent to 217,500 gallons annually. The project will provide an updated venue for local youth groups to meet and will encourage participation in clubs and activities that involve young people who encounter social risk factors. The District will encourage community organizations to utilize the updated assembly facilities (gymnasiums, media center, auditorium and stage), and will promote their use to the local township and borough for fundraising and other activities. The project is being designed to achieve LEED® Gold Certification.



Sustainable Facility In a Growing Community

The Hatboro-Horsham School District retained El Associates to develop a district-wide study to review enrollment, capacity and physical conditions of its facilities, in response to the anticipated development of the former Willow Grove Air Base and the likely future development of former flight path areas. The study revealed that an increase of 520 students over the next 20 years was expected to result from the developments projected for the former air base site. As a result of these findings, the Board of Education determined that Hallowell Elementary School should be replaced due to the facility's current demographic location, age and condition.

The District obtained a 6.7 acre property adjoining the existing elementary school site that formerly belonged to the U.S. Army. The former Armory Building will be demolished and the new building erected behind the existing elementary school, which will also be demolished after the new building is complete.

The New Hallowell Elementary School will incorporate the site's existing contours into its design and will minimize disturbance to the site. The new building will have one and two story portions. Visitors will enter at the main level which will house administration and shared public functions such as the media center, gymnasium, and cafeteria. A bridge will connect these functions to the second floor of a two-story instructional classroom building that will step down with the site and will be oriented to take advantage of natural daylight opportunities. The School's exterior will incorporate masonry and metal elements in a manner sensitive to the surrounding community. Site improvements will include a separate bus loop and student drop-off areas, and a new bike path.

The building and surrounding site will be designed to achieve USGBC LEED® Gold Certification. The new facility will include a ground-source geothermal HVAC system, energy efficient lighting, and a high efficiency thermal envelope which will further contribute to heating and cooling energy savings. El Associates successfully assisted the Hatboro Horsham School District in applying for an Alternative & Clean Energy Grant, which will contribute \$2,000,000 to the construction of the school.

From Office to Classroom

The staff at El Associates has been involved in numerous activities outside the office that support environmental education and energy awareness consumption in our local schools. Last year El employees partnered with the Central PA Chapter of the U.S. Green Building Council (USGBC) at the Wilson Middle School for the Green Apple Day of Service. The Green Apple Day of Service is made up of multiple service projects held around the world during the last week of September. Its focus is to ensure that schools are healthy, safe and productive learning environments. The students at Wilson Middle School created their own worm farm projects as part of a unit on vermiculture, reinforcing their knowledge of the sustainability of composting, recycling and other forms of waste reduction. Students also learned about the zero waste kitchen that El Associates designed for the Middle School and were able to use the pulp by-product from the kitchen to feed their worm farms. El staff members will participate in another Green Apple Day of Service activity this year at the Lower Dauphin Middle School.

El Associates staff members are also involved in the Dauphin County Architecture Construction Engineering (ACE) Mentor Program. Our Harrisburg office hosted high school students interested in pursuing a career in the design and construction industry, giving them an introduction to the practice of architecture and a tour of our office. Students were given the opportunity to see projects at different levels of development in the design process and to ask staff about their daily routines, education, and career goals. El Associates plans to host the ACE Mentor Program students again this year.



Students at the Green Apple Day of Service

Cover story continued: Historic Auditorium Restoration

and window treatment will also be installed. The existing underfloor duct system will be repurposed to support a modern air conditioning system. El provided the complete design of all interior, architectural and MEP systems. We are currently assisting the District with Construction Administration services. The restoration is scheduled to be complete in December, 2014.

Cover story continued: Neighborhood Connection in Manheim

The new school is designed to be three stories with each floor containing 14 classrooms for each grade of 300 students including special education and support spaces. This will provide maximum flexibility of the space for both current and future uses. The core facilities of the building will be divided among the three floors and are distributed on the northern half of the building at an angle to allow for maximum use of the natural light. The building is designed around an interior courtyard to provide every classroom with daylight. The courtyard space can also be used as a secure space for students and teachers to use as a teaching tool or eating/play area. The building is being designed to meet LEED® Gold standards and will be highly sustainable, incorporating materials and systems that require minimal energy consumption.

Lehighon's New Community Centered Campus

The Lehighon Area School District has partnered with EI Associates in order to generate a Master Plan and develop an educational plan which will allow their students to receive a 21st Century Education on a sustainable and centralized campus. The result of this research and careful planning are three projects which have received over \$2,000,000 in grant funding, and are seeking an additional \$2,000,000 of funding through Alternative and Clean Energy grants. All three projects are being designed to seek a minimum of LEED® Gold Certification.

Of the three projects currently in design, the new Elementary Center will serve as a focal point to tie the District and the campus together. This facility is designed to achieve LEED® Gold certification and will house Lehighon Area School District's entire K-5 student population. It will also provide additional athletic spaces and event spaces for all District students and the community. Not only will the District see operational savings by housing all of their K-5 students under one roof, they will also realize the benefit of operating a sustainable building which is designed to use less energy than their existing facilities.

This project will eliminate fuel oil and liquid propane gas as primary energy sources. It is anticipated to reduce energy consumption by an estimated 4,685,000 kbtu annually when compared to the four existing facilities which it will replace. Students will also benefit from being on the central 91-acre District campus which will receive renewed natural areas and outdoor learning spaces as part of the project.

The other two projects encompass comprehensive renovations to the Lehighon Area Middle School which will be completed in order to house a new grade structure of sixth through eighth grade as well as new systems and facade replacement at Lehighon Area High School. Both buildings will receive new mechanical systems and significant building envelope upgrades in order to provide efficient and economical operation for years to come. The main entrances at both buildings will also be reconfigured in order to update the Administrative areas and provide secure entrances.



Rendering of the new Elementary Center, on right, and High School



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News, Notes & Events

SUSTAINABLE DESIGN

LEED® Certified

- School District of the City of York – McKinley Elementary School – LEED® Silver Certified
- School District of the City of York – Jackson Elementary School – LEED® Silver Certified
- Southern York County SD – Friendship Elementary School – LEED® Silver Certified
- School District of the City of York – Phineas Davis Elementary School – LEED® Gold Certified
- Bedford Area SD – Bedford Area Middle School – LEED® Silver Certified
- Lower Dauphin SD – Conewago Elementary School – LEED® Gold Certified

Seeking LEED® Certification

- Bensalem Township SD – Bensalem High School – Gold
- Carlisle Area SD – Wilson Middle School – Platinum
- Carlisle Area SD – Lamberton Middle School – Gold
- Greencastle-Antrim SD – Greencastle-Antrim Middle School/High School – Gold
- Halifax Area SD – Halifax Area Middle School/High School – Gold
- Hatboro-Horsham SD – New Hallowell Elementary School – Gold
- Lehighon Area SD – Elementary Center – Platinum
- Lehighon Area SD – Middle School – Gold
- Lehighon Area SD – High School – Gold
- Manheim Central SD – New Elementary School – Gold
- Newport SD – Newport Elementary School – Gold
- Southeastern SD – Delta-Peach Bottom Elementary School – Silver
- Southeastern SD – Fawn Area Elementary School – Silver
- Southeastern SD – Stewartstown Elementary School – Silver
- Tri-Valley SD – Hegin-Hubley Elementary School – Gold
- Tri-Valley SD – Mahantongo Elementary School – Gold

NEW PROJECTS

- Carlisle - District Administration Offices
- Cranbury Township SD - Boiler Replacement
- Demarest SD - County Road School Classroom Renovations/ Feasibility Study and Conceptual Additions at Luther Lee Emerson ES and Demarest MS
- East Hanover - Township Building
- Hillside SD - Security Upgrades/Window Replacement
- Jefferson Township SD - Boiler Replacement/HW Heater Replacement/ Bleacher Replacement/Locker Replacement/ New Backup Generator/Roof Replacements
- Lambertville SD - Roof Replacement
- Lehighon Area SD - Middle School/High School
- Little Falls SD - District-Wide Facility Assessment
- Metuchen SD - Campbell ES Addition & Renovations
- Mendham Township SD - Campbell ES/Edgar MS Boiler Replacements
- Paterson SD - Site Drainage Improvements/Window Replacement
- Red Clay Consolidated SD - District-Wide Facility Assessment (53 Facilities)/ Roof and Boiler Replacements
- South Orange Maplewood SD - Richey Elementary
- Summit SD - Stanton Middle School
- Verona SD - District Master Plan, Columbia HS Repurposing and Renovations and District-Wide Renovations
- County College of Morris - Jefferson and Franklin ES Additions/Historic MS Auditorium Renovation/Science Renovations/ District-Wide Security Upgrades/Masonry Repairs
- Union County College - Mechanical Upgrades
- Multiple HVAC System Replacements

EVENTS

- PASBO Annual Conference & Exhibits, Hershey, PA: October 16-17 / Booth #12
- PSBA/PASA Annual Conference, Hershey, PA: October 21-24 / Visit us at our Booth #326/328
- 2014 KAPPA Fall Meeting, Lancaster, PA: October 21-22 / Booth #25
- NJSBA/NJASBO/NJASA 2014 Workshop and Exhibition, "Looking Back...Leaping Forward" – October 28, 29, 30 – Atlantic City Convention Center, Atlantic City, NJ / Visit us at our Booth #306-207 to discuss your District's facility needs.
- 2014 DVASBO Trade Show, Jeffersonville, PA: November 7 / Booth #31
- 2015 PASBO Annual Conference, Hershey, PA: March 10-13 2015