

SCHOOL REPORT

THE FUTURE IS NOW

Designing, Building and Operating Effective Schools for the 21st Century

When it comes to knowing how the brain works and how learning best occurs at all levels of development, we in the 21st century are highly informed. We know all learners are not alike – multiple intelligences and learning

styles are accepted and sound philosophy – we know changing experiences trigger new neural pathways, minds are best engaged with project-based, experiential lessons, and students are most inspired when learning is relevant to the real world.

Why then, do we keep putting children into “factory model” classrooms? Given what we know, it can be argued today’s schools should look and operate radically differently than the last century.

“It’s incongruous in the 21st century that we still think of school as a box with boxes

inside of it, and each smaller self-contained box has 30 desks. This is how I learned 50 years ago,” says Robert Carlson, director of management services for the Council of the Great City Schools. “What’s sacred about the arbitrary number 30? Can’t we do better than this cookie-cutter approach?”

These same questions are being asked by educational thought leaders around the world. Many are calling for major shifts in thinking and design. The global marketplace is demanding graduates who are tech-savvy, agile in their thinking and adept at collaboration — skills expressly called for by the U.S. 21st Century Workforce Commission.

“Keeping on with traditional classroom and school design is a failure to understand fundamentally how and what kids need to be learning to thrive in professions of the future,” says author and international education advisor Sir Ken Robinson.

In his book, “The Element,” Robinson makes a compelling case for transforming schools into dynamic, creative learning centers. “The future in education is not in standardizing but in customizing; not in promoting groupthink and ‘deindividuation’, but in cultivating the real depth and dynamism of human abilities of every sort.”

Learning environments of the future

“We’re standing on a movement pavement,” agrees Stephen Heppell, professor of new media environments at Bournemouth University. In his Royal Society of Arts Lecture, “Learning 2016,” Heppell revealed a compelling chart of global trends. The last century was defined as conforming, stable, quality controlled, subject based and one size fits all. In sharp contrast, the new century is ingenious, agile, quality assured, project based, participative, collaborative and peer to peer.

He warned, “The most dangerous thing we can do at the moment is try to get through the 21st century with 20th century learning.”

Young teachers coming out of colleges today understand what Heppell and Robinson are talking about. They’re trained in multiple teaching styles and with the latest advances in technology tools. But often when they walk into their first job, they’re taken aback.

“They see 10-year-old computers cobbled together and stationary desks in a room,” says Andrea McLean, Heery’s
continued on page 2



Albany, New York, Schools:
Ten-Year Building Program
Comes In Under Budget

Sustainable Snohomish

Youngstown City Schools
Successfully Concludes
Nine-Year Building Program

Shared Campus Sets New
Standards of Excellence
and Efficiency

Q&A with David Waggoner,
Board Member, Council
of Educational Facilities
Planners International

Beverly High School

Preserving Public Resources
with Commissioning

Heery Partnership with
Atlanta Public Schools wins
Communitas Award

HEERY

Innovative ideas that lead our clients into the next millennium



director of furniture and equipment planning, who supports and guides schools in equipping classrooms across the country. “They’re feeling slotted into the past. They know there are better ways to teach children.”

Understanding how to design and operate classrooms for the new century is fortunately within our grasp. Schools in Iceland, Thailand, Denmark, Australia, England, Ireland, and Italy embrace open, flexible spaces, or “learning environments,” allowing media rich, project based, collaborative learning. In varying degrees, hallways are minimized and bells eliminated; spaces are larger and adaptable to multiple learning activities.

“To keep up with China and Europe we need to think about being more adaptive with design,” says Don Gillmore, board chair of the Council of Educational Facility Planners International and capital manager of Seattle Public School’s Building Excellence program. Last year, Gillmore traveled to China and Italy, and this year he’ll visit Scandinavia where schools are among the highest performing in the world. “We need to figure out how to apply the latest in ideas to our educational culture,” says Gillmore.

Roadblocks to change

If educational leaders, teacher training and learning research are calling for change, what’s standing in the way? Depending on the source, a number of obstacles are holding schools back.

One of the major factors, according to education planner and teacher Sue Robertson, is fear.

“School leaders love the idea of flexible and collaborative learning environments, but when it comes to really looking at implementation you can see the fear come into their faces,” says Robertson. Robertson holds an education degree and owns the educational planning firm, Planning Alliance. “A lot of them remember the ‘60s ‘open classroom,’ and they think, we don’t want to do anything like that.”

What’s a school system to do?

Though schools may not quite know what the answer is, they know there is a problem. Most educators agree the education system is on a cusp between aging facilities and a new world.

“We’re measuring and labeling kids and schools on how well they do with classical curriculum yet there’s this whole other world our kids are coming of age in,” says Jeff Billings, technology director of Arizona’s Paradise Valley Unified School District. “Kids don’t like coming to school because they have to ‘power down.’ They live in a media rich, multi-stimulus environment and we wonder why they’re not engaged. There’s a lot more engaging stuff outside that door.”

Paradise Valley was the first school district in the nation to bring high definition Cisco TelePresence into its classrooms. The advanced audio visual technology that requires an ultra high performing network allows K-12 online learning and connects the schools with Asia, England and Central Europe.

“We have a vision to cultivate world class thinkers, so we’re breaking down school walls,” says Billings.

Powering up for the future

The newest crop of learners’ now entering kindergarten and first grade are known as “digital natives,” the first generation to have cut their teeth on digital technology. Recent research indicates these students’ brains have developed unique neural pathways.

“We only have a small window left to get ready for these students,” says Billings. “Change is happening and it’s happening now.”

Last year, Arizona passed a law for the first time allowing school funding for online learning, indicating that even slow-moving law processes are getting on board.

Don’t build hard and fast

Strategies are emerging to help schools move into the new era of learning. In the immediate sense, flexible furnishings and equipment can transform existing classrooms into shared learning spaces.

“One way we’ve been able to do that is create sectors within the classroom: a reading circle with soft chairs in one area for example, a wet area for science in another, and a computer station for looking up research,” explains Heery’s McLean. She now advises teachers never to buy rigid desk-chair combinations, but instead, equip classrooms with different-sized, mobile “nesting tables” so students can work in small groups of four, and “kite shaped” tables that can be reconfigured into different shapes.

On a larger scale, newly designed school buildings are being “future proofed” so they can adapt to new types of learning and technologies.

“We’re hearing, ‘Give us options and flexibility; don’t build everything so hard and fast we can’t move it later’,” says Heery’s Ralph Rohwer, schools project director for the Northwest area. This often means eliminating as many structural walls as possible, consolidating power lines, and providing flexible, demountable walls between classrooms.

“We’re trying to create environments so they can adapt to new teaching and teachers don’t have to wait for facilities,” says Forrest Miller, director of support services for Lake Washington School District in the state of Washington. The district is building new schools in lieu of modernization and making sure classroom design and equipment don’t get in the way.

“If casework is built into walls and storage units aren’t movable, it’s going to hurt collaboration,” says Miller. “One of our requirements is to be able to move furniture within three minutes. If you can’t and have to ask for help, that’s not flexible.”

Moving out in front

Transitioning from factory model classrooms to more flexible learning environments is daunting for many schools. Even if they start the design process excited for change, schools often retrench when faced with budget constraints.

To avoid this problem, McLean says schools need to start planning early and in the right order. “Schools need to envision first, and then go out to bond, not the other way around,” says McLean. “Conversations need to begin at least a year before it goes out to voters.”

Making sure the right people are at the planning table is critical. According to education planner Robertson, teachers, who will implement the new approaches to learning; facilities planners, who will weigh in with information and strategies; and most importantly, leadership need to be involved.

“You need to have someone in a position of power who can say, We don’t back up, we don’t get scared, and we keep working until we get it right, because if we do it this way children will be successful,” says Robertson. “Someone at the table has to be the keeper of the flame.”

ALBANY, NEW YORK, SCHOOLS

Ten-Year Building Program Comes In Under Budget

The concept of “long-term” isn’t unusual when it comes to planning, designing and executing multi-structure school projects. But for one Heery team working with the City School District of Albany, New York, “long-term” lasted 10 years - longer than most.

Fifteen years ago, Tom Ellis began working with Heery, and for the past six years, he’s been involved in the extensive Albany project that renovated and added on to about 20 school buildings. The project was a joint venture with Pike Construction.

“We often manage multiple school programs, but few have this many schools and last this long,” says Ellis, Heery’s New England operations manager. “A school building program of 10 years brings special challenges.”

Heery’s proven track record of adroitly handling several structures for extended periods played a key factor in the company being invited to the table, says Ellis.

“The City School District of Albany wanted a team that had the experience of working with multiple schools over time and that could accurately predict the costs and keep the projects on schedule,” he says. “That was very important, given the history Albany had of school projects not meeting schedules and being over-budget.”

One of the most difficult aspects of the project was estimating costs and developing budgets 10 years in advance. Detailed planning that included reasonable contingencies to deal with unforeseen factors paid off. “Our cost estimators hit the bull’s eye 10 years in advance, which is a real accomplishment,” says Ellis. “That’s the main reason the program was successfully completed under budget.”

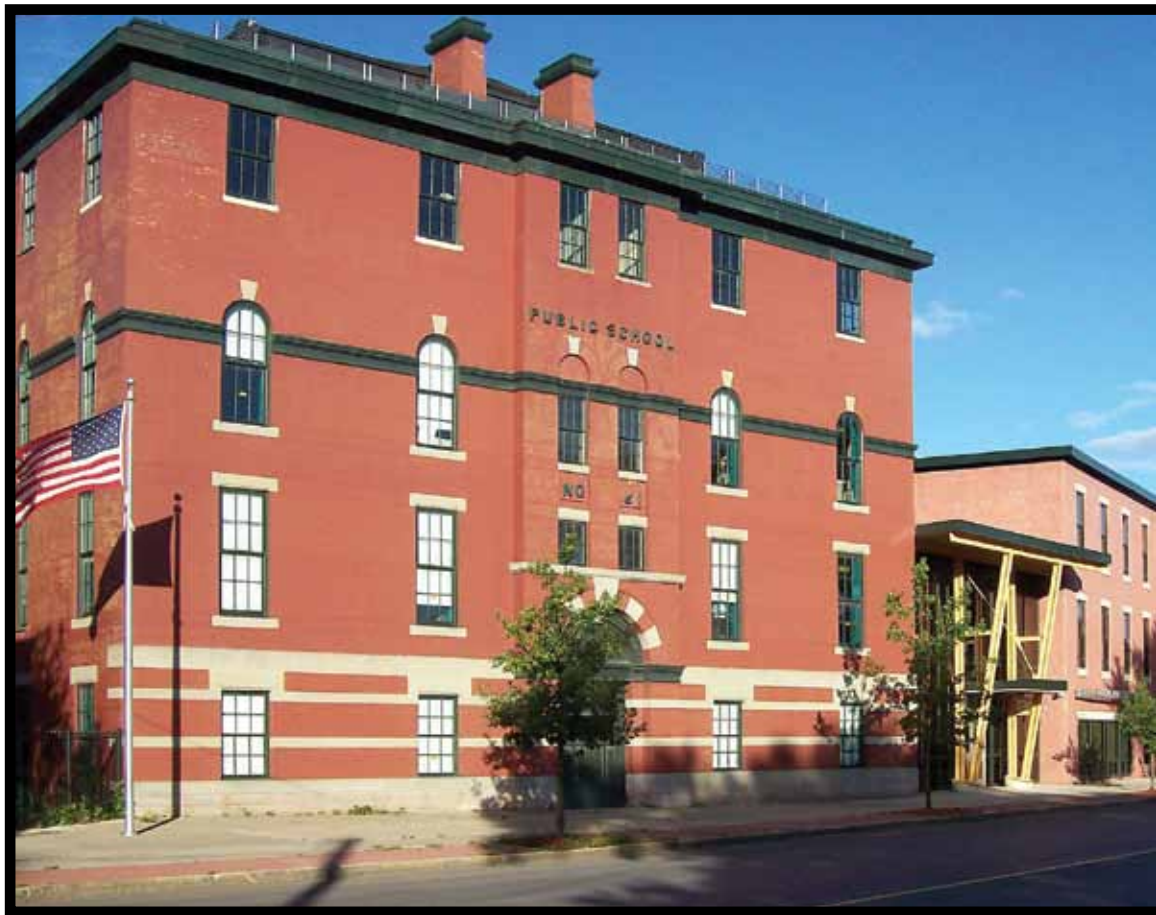
Tony Catalfamo, supervisor of buildings and grounds for the City School District of Albany, agreed. “It was also the biggest project the district has accomplished,” he adds.

For Ellis, completing the program under budget is a major milestone.

“That’s really a big story, given the cyclical nature of the economy,” he says. “There were extremely steep increases in costs in ’04 and ’05 when steel was going through the roof, but our team was able to adapt the program to meet the client’s needs.”

Another challenge of the 10-year project was renovating some buildings that were more than 100 years old. Albany officials felt strongly about maintaining the character of the buildings and keeping their connections to the neighborhoods they serve.

“The age of the buildings in the school system averaged in the high double digits, so many needed to be completely renovated,” says Ellis. “There was a lot of aging infrastructure, but there weren’t many options for tearing down some schools and constructing new buildings. Some of the 100-year-old schools were built very well; they had good bones, so it was great to save them. But they didn’t have



modern HVAC systems or current technology required by today’s educators. By renovating or building an addition to an existing school, we were able to add value to the community by maintaining the architectural character within the adjacent neighborhood.”

Catalfamo says the district was aware that renovating some of the older structures wasn’t going to be the most cost effective approach, but the results were worth the expense.

“It was a matter of keeping the character of the buildings,” he says. “I think we were able to do it because Heery was there, always looking out for the client. That was the most positive thing about working with them, and the thing I really liked about working with them - they always looked out for the client.”



SUSTAINABLE Snohomish

Sustainability isn't just a buzzword in Snohomish County; it's a way of life. In 2007, County Executive Aaron Reardon formally expressed his desire that the county "become a leader in sustainable job growth, a promoter of innovative clean energy and a protector of the environment and natural resources." His hope was that other counties would look to Snohomish as an example of a county that is sustainable on every level.

Riverview Elementary



Clearly, the Snohomish School District is doing its part to turn desire into reality. When the district selected Heery International to manage its 2008 Capital Improvements Bond Program, one of the primary goals was to incorporate sustainable design to the extent that it was practical, appropriate and cost effective in reducing operational costs.

"As we looked at these buildings as part of something bigger, we were thoughtful and purposeful about our impact on student learning and the environment," says Heery Senior Project Manager Steve Moore. "The market allowed us to build quality buildings that would enhance student learning, increase long term sustainability and reduce operational costs."

Two of the district's most recent school success stories, both of which opened in January are Machias and Riverview Elementary. "We recommended that the design and bid phase be reduced from sixteen months to twelve to take advantage of a favorable bid climate," Moore cites. Given the expedited process, concern was expressed that

the district might not be able to keep pace with the flow of information.

"The concern was a legitimate one. In response, we helped the district establish design committees as well as weekly and bi-weekly

meetings, ultimately allowing us to relocate students six months ahead of time, develop early site development and structural steel bid packages and start construction early."

Incorporating rain gardens, natural daylighting and ventilation, ground source heat exchange systems, and low maintenance materials were starting points for both projects. Each boasts a super insulated building envelope and takes advantage of triple glazed windows to keep the building comfortable during the winter and cooler during warmer months.

Recycling played a significant role, too. The brick from the old facilities was crushed and used for foundation material. NAS Architects, the firm tasked with designing both schools, salvaged curved wood beams from the old Machias for re-use as arching columns in the new facility. Given the neighborhood's rural farm history, the design team's goal was to create a curvilinear shell that paid homage to the barns of old in a contemporary manner. Wanting students to see green, the team oriented all classrooms to face the woods beyond.

At Riverview, recycled beams from its former home were used to line the ceiling of the grand two-story library that offers views of the Olympic Mountains and Mount Baker. Here, classrooms are broken into groups of four, each of which opens to green space. Teachers are excited by the many features such as the large windows that give students a glimpse of the working mechanics of the school's energy efficient plumbing, electrical and heating systems.

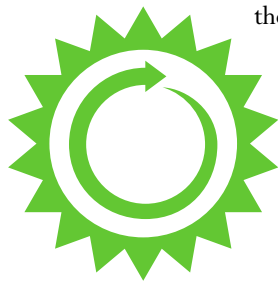
"The greatest challenge in managing these projects was our accelerated schedule," comments Heery Project Manager Konnie Surmann. "We had little room for errors or material delays. Clearly, the extra effort was worth it. There are so many great features and benefits. Riverview has learning plaques scattered throughout the facility to provide constant teaching opportunities. Students can track how much energy the rooftop photovoltaic panels are generating via a large indoor monitoring screen." Surmann was personally impressed by the 100 kW array on the school's first day of operations. "Even though it was a cloudy, wet day, the solar panels generated 34,000 kWh in just a few hours. We anticipate they'll generate enough energy to operate 60% of the school's mechanical system." Machias has been fitted with a similar array.

"These schools are designed to give students a personal experience with sustainability and environmental stewardship," says Snohomish Schools Superintendent William Mester. "One of the things I really appreciate was that there were teachers and parents involved in the design."

Valley View Middle School - the greatest sustainable challenge yet

One of two remaining projects in the \$289 million program is the reconstruction of Valley View Middle School. While the district couldn't be more proud of the previous facilities, both of which exceed the highest

levels of the Washington Sustainable Schools Program, Mester wondered if they could aim higher and target The Living Building Challenge.



According to the Living Building Institute, the Living Building Challenge is a philosophy, advocacy tool and certification program that addresses development at all scales. It is comprised of seven performance areas: site, water, energy, health, materials, equity and beauty. These are subdivided into 20 imperatives, each of which focuses on a specific sphere of influence and all must be addressed. Simply put, a Certified Living Building must be net-zero energy, net-zero water, non-toxic, provide for habitat restoration on sister sites, and have urban agriculture mandated. Buildings are only certified after 12 months of proven performance.

“As part of our commitment to helping the district achieve its goals, we organized and facilitated sustainability brainstorming meetings with the design team as well as initiated community engagement meetings and study sessions with the board and administration to educate them on potential design options,” says Heery Project Manager David Werner. “We’re also working to identify and pursue grants and incentive programs through organizations such as Puget Sound Energy and Public Utility Department.”

Installation of a 260-hole geothermal well field to help achieve net-zero energy and other site development work was included in Phase 1. Meeting the September 2012 deadline for occupancy required that construction be completed in just 17 months. Once again, Heery proposed an early partial site

development bid package for the summer of 2010.

“While not all of the sustainable options we’ve researched have proven to be practical at this time, provision is being made to incorporate them into the facility at some point in the near future when technology advancements and rising utility costs warrant the expenditures,” Werner offers. “The building has been designed, for example, to accommodate the installation of 80,000 SF of solar rooftop panels, which would provide 900 kilowatts of energy annually. This would be the largest grouping on a non-utility based project in Washington and would meet 100% of the building’s power needs, allowing it to be taken off the electric grid.”

While Mester is uncertain of what the bidding climate will hold, he knows one thing for sure. “Throughout this project, we have been fortunate that the positive bid climate has continued to boost our capital projects program. Lower construction costs have enabled us to make wise investments in our future. We have been able to incorporate sustainable systems such as geothermal heating and cooling, solar panels, and natural lighting and ventilation systems in many of the new and remodeled facilities. Not only will these capital investments save our district operational dollars, but they will inspire new relationships between our students and the environment. We are confident these investments will serve our students and community well.”



Valley View Middle School

YOUNGSTOWN CITY SCHOOLS

Successfully Concludes Nine-Year Building Program

The opening of the Woodrow Wilson Middle School in September 2010 marked the conclusion of Youngstown City Schools’ sweeping nine-year project to revitalize the city’s entire urban public school system. The \$197 million program has constructed 10 new schools, renovated and/or expanded three existing schools and demolished 17 school facilities deemed either inefficient or inadequate for student needs. The new schools are a powerful and re-energizing sight in Youngstown, bringing new life to a struggling community.



SHARED CAMPUS

Sets New Standards of Excellence and Efficiency

Never judge a book by its cover. At least, that's what most of us have been cautioned against at one time or another. Sometimes, however, that's easier said than done. Just ask residents or officials in South Carolina's Charleston County School District (CCSD). One look at the once distressed "cover" of the district's former Academic Magnet High School (AMHS) and School of the Arts (SOA) campuses could easily have made an outsider question the quality of the programs within.

Despite substandard facilities, both programs soared. "AMHS and SOA have been two of the district's most highly successful 'choice' schools," notes Bill Lewis, CCSD chief operating officer for capital programs. "In 2009 U.S. News & World Report recognized the Academic Magnet High School as the nation's #1 rated magnet high school, while the School of the Arts was cited as being among the Top 100 high schools in the nation."

A Unique Vision

Might students be able to achieve even more in state-of-the-art facilities tailored to each school's unique instructional programs? While the district believed the answer was "yes," former CCSD Superintendent Dr. Ron McWhirt didn't feel confident that voters would support two separate schools, especially when one in particular, SOA, would serve a smaller than average student population yet require more costly specialized spaces.

In a moment of inspiration, McWhirt recalled how his alma mater, Wofford University, made the most of its capital funds by sharing support facilities. Rather than build two separate campuses, the district followed Wofford's lead, creating a master plan for a single campus that would afford separate, autonomous instructional facilities, but share support facilities such as administration, media center, auditorium, cafeteria, parking and central utility plant. "By building both magnet schools on a common campus the district could lower its capital costs through the elimination of duplicate support spaces," Lewis notes. "The district would also be able to reduce future operating costs through the consolidation of bus routes and utilities."

A Sustainable Solution

The new approximately 330,000 SF Bonds-Wilson Campus, home of Academic Magnet High School and School of the Arts, is located on a 42.5-acre abandoned school site in North Charleston's Noisette district, a 3,000-acre

'city-within-a-city' focused on sustainable redevelopment. "Our directive," says Heery International Project Manager Tony Pruner, "was to follow LEED guidelines and make the campus as sustainable as possible. First, we repurposed an abandoned campus and preserved its stately oaks, even hiring a consultant to use ground penetrating radar to confirm that the ground beneath the historic trees contained no surprise remains or archeological artifacts. We then tasked the construction team with recycling as much of the demolition material as possible. The fact that the site was easily accessible to existing public transportation was another benefit."

What Architect Hermann Denziger of Thomas and Denziger Architects created was a unique collection of special purpose facilities. AMHS, SOA Middle School, SOA High School, the administration and media center, the performing arts center, the fine arts building, the cafeteria, gym and central energy plant are all separate buildings connected by a central, covered circulation spine spanning 855 ft from north to south.

"While form and color evoke a southwest sensibility, Denziger calls it the architecture of connection," Pruner says. "The design was driven by the detailed educational specifications as determined by school staff, and the recognition that it was vital to design a series of informal spaces where students and teachers could collaborate as well." Those informal spaces exist both at the ends of academic corridors and in outside courtyards located along the central spine.

One immediately noticeable feature is the ample amount of daylight that flows in through 10 ft x 10 ft classroom windows and floor-to-ceiling windows in spaces such as the cafeteria and media center. "The buildings' orientation allows us to bathe the facilities in natural daylight while the high E Glaze keeps the heat out," Pruner says. Common to all three of the two-story academic buildings are student study areas with soft seating that facilitates communication and collaboration between students and staff.

Unique curvilinear design elements dot the campus, adding a creative, open sensibility to the centrally located 600-seat cafeteria, which also doubles as an assembly or performance space. "The most challenging aspect of this space was that the architect specified large bowed steel trusses that serve as both support beams and design element," Pruner says. While the facility affords unimpeded views, the curved nature of the steel added a great deal of complexity to the construction. "A high level of detailing was required to ensure





that all structural components aligned.”

Like the cafeteria, the administration office is also centrally located. It houses the campus welcome center and serves as the controlled entrance where all visitors or students arriving after the start of school must sign-in. The facility supports each school’s principal, guidance and business staff, and also affords conference spaces. The shared media center, which offers comfortable reading spaces, computer laboratories, conference rooms and research areas, is located on the second floor.

In searching for the most energy and cost efficient systems, the design and construction team decided to install an energy efficient central ice storage plant that makes ice at night, which lowers the buildings’ peak electrical demand. The district had used this system in earlier projects. “The system melts the ice and circulates chilled water through a central piping system during the day to serve each building,” Lewis notes. “Each building has its own roof top fresh air unit to ensure that all air is treated before it enters the building.” “While Owens and Associates was the engineering firm responsible for designing plumbing, mechanical and electrical systems, we also hired an independent third party commissioning agent to verify that the systems would work as designed,” Pruner adds.

Another environmental/energy conscious detail is the series of attractive water features that serve as retention ponds and capture storm water from each of the facilities. These ponds then serve the irrigation needs for the entire campus, minimizing the district’s water bill.

A Performing Arts Center Like No Other

While it clearly melds into the overall aesthetic, the Performing Arts Center, which will be used for community events as well, is a campus standout. From a structural standpoint, what sets it apart is that it is built on concrete piles rather than the surcharged soil beneath the remaining facilities. “Surcharging the soil for this facility, with its thick pre-cast walls and roofing structure, would have taken far too long,” Pruner offers. “Using pre-cast piles allowed us to stabilize the soft soil and expedite the construction process.”

Theatre critics would be hard pressed to differentiate this high school performance center from professional facilities. A spacious lobby greets guests who then enter the 650-seat

theatre. Some of the features include an orchestra pit with flexible pit cover that can be used for stage expansion, fly loft and state-of-the-art production booth designed to give students as much professional exposure as possible while ensuring maximum flexibility for each performance. “Getting the acoustics just right was critical,” Pruner says. “Although it’s not visible to the naked eye, this facility has 6-inch concrete panels placed on top of the steel to deaden sound from outside. The designer worked carefully with an acoustical engineer to make sure the design and materials suited the school’s stringent requirements.”

A Three-Phased Approach to Project Delivery

Given the project’s size, complexity, and 29-month allotted construction schedule, the district completed the campus in three phases. AMHS, with its contemporary science labs and classrooms, was the final building to open in August 2010. “At the beginning of Phase 1, the team was asked to add a 12,000 SF addition to AMHS,” Pruner notes. “The addition consisted of a 200 seat lecture hall, art room and band room. This had to be accomplished without moving the required occupancy date of August 2010. To make things even more challenging, we were asked in the midst of Phase II to add space for the district’s Hearing Impaired Program, requiring the team to re-assess its schedule and re-assign construction priorities. Not that it was easy, but every obstacle has a solution if you look at it closely enough.”

Bill Lewis and the school children that attend these two state-of-the-art schools are all thankful for the extra effort. And the Charleston County School District is happy for anyone who wants to judge the book by its cover.

Q&A WITH DAVID WAGGONER

Board Member, Council of Educational Facilities Planners International



David Waggoner has been actively involved in the Council of Educational Facility Planners International since 1991, holding offices as North Carolina Chapter President and Southeast Region President. He is currently an at-Large representative on the international school planning organization's board. As a Vice President and South Region director of program management for Heery International, Waggoner has been involved in the total process of planning and constructing school facilities – including planning, budgeting, programming, designing, reviewing, permitting, constructing, inspecting, equipping and moving into all types of educational buildings.

What are the major steps in building credibility with a community when you are about to undertake a school building program?

Communication is the first and most important thing. The public wants, needs and deserves to know what is going on with its tax dollars. If they are not given information, they feel that someone is withholding information, and that leads eventually to mistrust. Developing a communication plan is a key step in launching the program off on the right foot. It is best to

have a proactive plan – if you just wait until you need to respond to something, you will continually play catch-up.

Communication with the public can and should take many forms. Certainly, reports or updates can be posted on a website designated for that effort. But this should not be the only effort. Stand-alone notes to parents sent home with students, newspaper stories about events, radio talk shows, and water bill inserts are all strategies that can be utilized. It is important to understand that each group has a different perspective and set of issues, and the respective pieces should be tailored to each group. Also, not all groups are formal. Much public opinion and discussion can take place at the neighborhood coffee shop, the barber shop or the church on the corner. Learning how to communicate within these groups usually takes ‘people on the ground’, but it is critical

to understand the value of informal communications.

In addition to communication, maintaining the integrity of the plan is important. Nothing breeds discontent more than saying (and voting) for one thing, and then doing something else. The number one tool for avoiding this is good planning up-front, including making sure the local demographics are understood, the right educational programs are in place, the instructional delivery models are clear, and good planning and estimates are performed. When the proper up-front planning is done and all of the tools are in place – including a communication strategy – success is much more likely.

Why does having credibility with a community matter in a building program? Can you give examples where it has made a difference?

Credibility equals public support. If the district doesn't have credibility (or loses it during the course of a program), the public can turn against the program. When this happens, it can be hard to regain confidence. If the capital program is bond-funded, the next phase or the next referendum can be in jeopardy. But the disastrous effects can go much further; elected officials can become ‘un-elected’ in the next election. The district can lose parental support, schools start slipping, and the ‘value’ of the school system (and education in general) can be diminished. Property values dip and tax income decreases, starting a downward spiral until the community collapses.

I've seen this start before, and if it wasn't for some quick, emergency communication pieces, things could have come unraveled. A local school district had been very successful in several bond-funded capital building programs. The schools were well-built and, in general, well-supported by the community. The rural county next door was also growing and had a successful building program, but they had a different delivery method. Their buildings were built with different materials, less sophisticated building systems, fewer amenities, and therefore, cost less. However, some people started comparing the two programs, emphasizing the cost difference. Then the public outcry started – why are we building such expensive schools?

Upon a quick analysis of the data that was being published and the scope of the two programs, it became evident that the comparisons were ‘apples to oranges’. The lower number represented a different product: a building with outdoor corridors, very little kitchen equipment, unpaved parking lots, and cheaper mechanical systems, among others. A big effort was put forth to communicate these differences, and it took some effort to explain these technical issues in a non-technical way. The district's supporters wrote articles, made presentations and even conducted a bus trip to a few rural schools. Finally, key political decision makers became aware, and even the local newspaper school reporters became aware that the buildings were different. Eventually, the public understood. In fact, it provided an opportunity for the district to reinforce the credibility of the program because of the quality level of the buildings that were being built. In the end it was a good thing, but it all happened because of the enhanced communication effort.

Are there particular points in a building program that you recommend ramping up community outreach, as opposed to maintaining a constant high rate of activity?

There should be consistent communication throughout a building program. Nothing breeds confidence like consistent, regular reports delivered at least monthly. That tells the public that someone is minding the store and progress is being made over time. However, there are certain milestones within a program or a project



MHS Groundbreaking



that provide opportunities to celebrate success. On a program-wide basis, such opportunities can include:

- Groundbreaking for the first and/or last project
- The beginning of every school year
- A halfway point celebration, whether measured by cash flow or numbers of projects

On individual projects, there are a number of targets along the way that can be celebrated:

- When the land purchase is made
- The beginning of the design process
- The conclusion of the design and the presentation of the rendered finished product
- The bid date, bid result and contract award approval
- Groundbreaking for the start of construction
- A 'topping out' ceremony when the last piece of steel is put in place
- Drying in of the building so interior finishes can occur
- Substantial completion, when the building is turned over—this is a great opportunity for the principal and students to shout “MOVE THAT BUS!” to unveil the new building
- Opening day of school for students

Some of these items have a cost, some of which can be supported by the local parent-teacher group. Regardless of who foots the bill, it should be budgeted and part of an overall communication strategy. It is money well-spent, as it will earn and maintain credibility with the community.

What are your favorite strategies for community confidence building?

My favorite activities involve anything that includes the students. There is nothing like seeing the gleams in the eyes of students as they walk into their new building for the first time. But, they can be involved much sooner. For example, most children love to play in dirt and having them involved in a groundbreaking ceremony with shovelfuls of dirt is a great way to engage them in the building process.

We have also engaged students in model-building activities while a project is in design. They not only have fun, but learn about the design and building process.

What are the major areas that cause problems with community confidence?

There are issues that can rupture confidence and how the communication is managed on those issues is critical. For example, sooner or later, there are likely going to be challenges within a building project, and while everyone wants to share good news, bad news needs to be shared as well. Bad news seldom gets better with time, so sharing it sooner rather than later is best. In any scenario where there is an issue, it is important to communicate not just the issue, but the solution



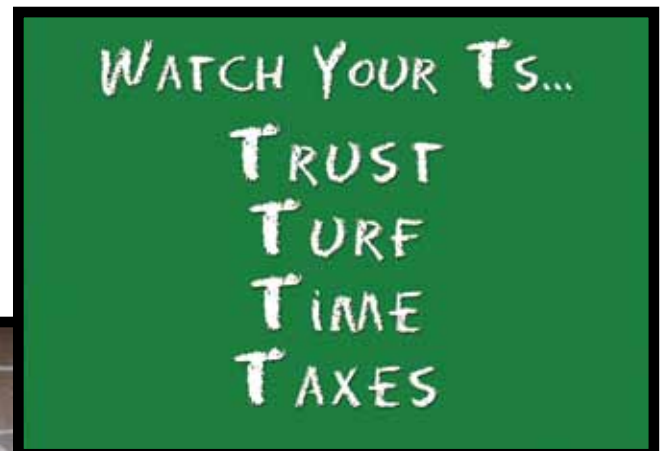
Site tour

or the steps you are taking to find a solution. In other words, “here’s a problem and here’s a solution.” Being open about the bad news as well as the good is important to maintaining the public’s trust.

In addition, although it is important to communicate on a very local level, i.e., what’s going on in the neighborhood, it is equally critical to focus on the big picture. If board members fight over turf and take sides pitting one project against another, it smacks of petty politics and does not bode well. Even the thought that there might be a lack of equity among projects or districts within a system can lead to mistrust. Maintaining equity is of utmost importance.

Maintaining control of the program is important. Keeping projects on track – both on time and under budget is critical. Just like the airlines have learned to publish a two-hour flight schedule for a trip that usually takes an hour, capital programs should be scheduled with some float in the schedule, because inevitably, things will happen to cause some schedule challenges, and it is nice to have some cushion. Likewise, budgets should have some contingencies, both on a program level and project basis. Anyone who has managed a program knows the value of a properly-budgeted contingency.

These sort of issues can be summed up by watching the T’s – maintaining trust by implementing a good communication strategy, avoiding turf battles, making sure to budget enough time on projects for success, and always being aware that the public is watching their taxes by making sure the money is well-spent and well-managed.



Philipsburg Opening

BEVERLY HIGH SCHOOL

Mount Vernon Group Architects



About 20 miles north of Boston sits the charming community of Beverly, a city with a quaint town square, miles of beaches, plenty of parks and a wealth of history. But a few years ago, it was a city whose only high school was at risk of losing its accreditation due to poor physical facilities.

“It wasn’t that the building was so terribly old; it was built about 50 years ago,” says Beverly Mayor Bill Scanlon. “But it was a rambling, single-story building with 11 different floor levels and a design meant for a place where it doesn’t snow. As time went by, it had many structural failures.”

The situation was so dire that, despite the threat of no state funds to help with the project, the city council made the tough decision to begin a massive overhaul of the structure, and the construction finally got underway in December 2008.

“The accreditation issue forced them to move forward with the project, even though the state was not approving funding for projects from 2004 to almost 2007,” says Tom Ellis, Heery’s New England operations manager. “It wasn’t until we got through the design process and were ready to start construction that the Massachusetts School Building Authority (MSBA) actually reviewed it and approved funding for it.”

The goal was to save as much of the structure as possible, while upgrading and adapting it for the contemporary educational needs of 1,200 students. The \$80 million budget included replacing all the classrooms and administrative space as well as the renovation of the cafeteria, field house and auditorium.

One of the technological aims was to construct a completely wireless environment, which in turn made the finished project somewhat smaller than originally planned - a fact that initially disconcerted the state.

“A first totally wireless school changes the design layout and allows the building’s total square footage to be less than a traditional school,” says Ellis. “Basically, every student gets a laptop, and everything is done in that realm, versus having fixed desktop computers in many classrooms and a number of computer labs. So in the end, two less rooms were needed because of the wireless system, and each classroom was a little bit smaller because it doesn’t have computers in each one. At first, the MSBA wasn’t convinced that the classrooms were large enough, but when they saw how technology was being used in the classrooms, they were very pleased.”

Another major consideration of the project was the existence of a solar (photovoltaic) field and wind turbine that had been added to the school during the Carter administration.

“Mayor Scanlon and the city have a vision for reducing energy costs, and they had been looking at how to revitalize that field concurrently with this project,” says Ellis.

The solar field has been supplying power to the school for some time, says Scanlon. “Now it will deliver it to the new academic wing as well. We also installed solar panels on the roof of the new wing, and together they give us a rating of 183 kW. The state pays you back a little more if you’re energy efficient, so that helped as well.”

Along with reduced energy costs, the building’s design created interior hallways so every classroom receives natural light. And at four stories, it takes up a much smaller footprint than the previous structure. The building was designed to meet the criteria set forth by the Massachusetts Collaborative for High Performing Schools.

“The community is happy; it’s a very nice looking school,” says Scanlon. “And with four stories, the students will get a lot of exercise.”



PRESERVING PUBLIC RESOURCES

with Commissioning

In tough economic times with limited resources, many schools are faced with hard questions about how to best allocate public funds. How do they serve as responsible stewards while stretching tight budgets to meet their infrastructure needs?

Such was the case with Salem-Keizer School District (SKSD). With 40,400 students, SKSD is the second largest school district in Oregon – and growing. But for most of the 2000s, the district lacked funding to perform necessary major repairs and updates. Like many school districts facing budget cuts, the district diverted funds toward protecting instructional programs and teaching positions while postponing major upkeep. The result: more than \$100 million in deferred maintenance.

In 2008, the local Salem-Keizer community recognized the need for safe, healthy school environments and passed a \$242 million construction bond program to repair and renovate local schools, as well as to address overcrowding. All said, the bond program provides funding for four new schools and 48 renovation projects.

Many of the renovations address out-of-date or poorly working building systems. “Our focus for these renovation projects is to provide an optimal learning environment,” says David Furr, utilities coordinator for SKSD. “When we do HVAC work, it results in better classroom temperature control. When the students and teachers are more comfortable, their minds are more receptive to learning.”

But with its huge backlog of renovation work, the district wanted a way to quantify that upgrades were being delivered as designed. It wanted a form of insurance that its systems would function properly while demonstrating that public funds were being spent efficiently.

Enter commissioning

The district had previously worked with Heery’s commissioning group on the construction of Bush Elementary School – its first-ever official commissioning assignment. From their previous experience,

they recognized that commissioning provides the critical whole-system review and oversight necessary for achieving optimal building performance. The process not only validated what they paid for, but it provided risk-management by detecting and correcting problems that could evolve into far more costly maintenance or safety issues.

Further, commissioned buildings are more energy and cost efficient buildings. According to the National Institute of Building Sciences, the operating costs of commissioned buildings range on average from eight to 20 percent less than non-commissioned buildings.

Bruce Lathers, construction services manager for SKSD agrees that commissioning is a way to protect public resources. “Due to the complicated nature of building systems, there are plenty of opportunities for issues to occur – issues that can affect the systems’ integrity,” says Lathers. “We look at commissioning as a way to help us avoid costly inefficiencies or repairs.”

The district looked to Heery to commission major renovations and repairs to multiple schools’ HVAC systems, as well as new Direct Digital Controls. “All of the schools we worked on were having major reliability and energy control issues, which were affecting the quality of schools, as well as the bottom line,” says Troy Kunas, Heery commissioning operations manager and commissioning agent for the project. “We helped resolve bugs within the HVAC system and controls which will lead to increased reliability and controllability – contributing to lower maintenance and energy costs.”

To date, Heery has already provided commissioning for four of SKSD’s 2008 bond renovation projects, with seven more projects under way. “The scope of a project really decides whether it’s cost effective to have it commissioned,” says Lathers. “If a job includes a particularly involved MEP renovation with integrated systems, it’s in our best interest to verify that everything is installed and functioning per the design.”



Design: Soderstrom Architects

HEERY PARTNERSHIP

with Atlanta Public Schools wins Communitas Award



While giving is its own reward, Heery was very proud to learn that its partnership with three Atlanta Public Schools recently received a 2010 Communitas Award. Communitas Awards recognize exceptional businesses, organizations and individuals for unselfishly giving of themselves and their resources.

Given its vast experience in K-12 schools across the nation, Heery knows firsthand the challenges that districts and educators face. Its primary objective in taking on three Atlanta Public Schools' through the Atlanta Partners for Education program was to learn more about these individual schools and the challenges they face. Only after these conversations could the teams then determine how to apply Heery's collective personal and professional experience toward the creation of meaningful endeavors that would have a positive impact on each of the institutions.

Each of the three team leaders was responsible for scheduling strategic sessions with principals and other designated leaders from their respective schools partners. Two of Heery's partner schools serve economically disadvantaged, at-risk students. The third facility had just opened its doors in time for the 2009/2010 school year. The goal was to understand the schools' unique demographics and

identify areas where Heery could add value not only through personal/professional experience, but by serving as a conduit to the partnership team's personal and professional networks as well.

The collaboration kicked off with team leaders serving as "Principal for a Day." This program helped each team become better acquainted with her respective schools, while affording the initial opportunity for Heery employees to interact with staff and students.

Following the Principal for a Day program, team leaders were responsible for soliciting volunteer assistance from Heery peers and other business leaders and community members to facilitate the activities discussed with each partner. No brief synopsis can capture the incredible efforts put forth by Heery employees, nor the great joy employees, students, teachers and parents felt as these activities were brought to life.

At Hope-Hill Elementary School, a Title I school located in Atlanta's Sweet Auburn neighborhood, the principal's desire to set children in motion toward the pursuit of a college degree drove several activities. Heery used its higher education contacts to create a university t-shirt day that tied into Hope-Hill's college and university week. With the help of fellow Heery volunteers, the National Association of College and University Business Officers, Thompson Hospitality and Follett Higher Education Group, Heery was able to provide college and university t-shirts from across the country to Hope-Hill students.

Team leaders wanted to expand the worlds of Springdale Park Elementary students, too, but in the manner more suited for their needs. At Springdale Park, the basics are more than covered. What Heery decided to bring to this partnership table was its expertise in the architecture/engineering arena. Team leaders conceived of "math in a building" field trips using the Georgia Dome and Georgia Aquarium to teach real-life math and science lessons. One enthusiastic team of Heery architects worked together to design a model that replicates how the fabric roof structure of the Dome functions. These professionals then unveiled the model dome beneath the actual dome inside the facility. They explained the concepts behind the design as they gave students a chance to operate the structural model. They learned, too, the math behind the design of a wheelchair ramp and the design and placement of vendor carts.

At Long Middle School, one of the more successful partnership programs was the Cartridges for Kids Campaign. Heery even involved another firm to help students round up used printer cartridges and other used technology to raise money for student incentives, field trips and an end-of-year rite of passage program.



HEERY

Knowledge • Innovation • Experience

www.heery.com

For additional information, please contact Editor at 800/52Heery.

Contributing Writers: Sue Wasserman, Margie Combs, Christina Steinburg, Regina Pitts, Helen Cauley

© Heery International Inc., 2011. *Heery School Report* is published annually.
All rights reserved.