2012 Exhibition of School Planning and Architecture

Naperville Central High School Additions & Renovations

Naperville, Illinois
High School
Lee J. Brockway Award – Renovation
Wight & Company

Naperville Central High School Additions & Renovations

Main entrance lobby.

Community Environment: *Naperville Central High School is recognized for its strong regional and national academic standing and history of athletic accomplishments. Students benefit from a comprehensive academic curriculum, including traditional academic class options, honors and advanced placement study, enriched career and technical education programming, and robust fitness and physical educational offerings, as well as a full complement of performance and visual arts opportunities and a wide range of athletic and non-athletic extra-curricular activities.*

The community that supported this project with the 2008 referendum has responded with overwhelming appreciation of the facility. The school board and administration have embraced their responsibilities for this once in a lifetime opportunity and have worked tirelessly to ensure a successful result.

This facility is a beacon to the community as it operates on an almost 24/7 schedule. On weekends, it is not uncommon to find classrooms and lecture spaces filled with local residents. Local and regional group functions are regularly scheduled during and after school hours in the student commons atrium. All of this activity is a continual reminder to community members and to the students who attend this school that learning happens everywhere and at all times.

Typical classroom with view to the student commons. Carpet is used for improved room acoustics. Full-height mobile furniture, wall-to-wall writing and tackable surfaces, and wireless technology combine to make this a state-of-art dynamic instructional environment.

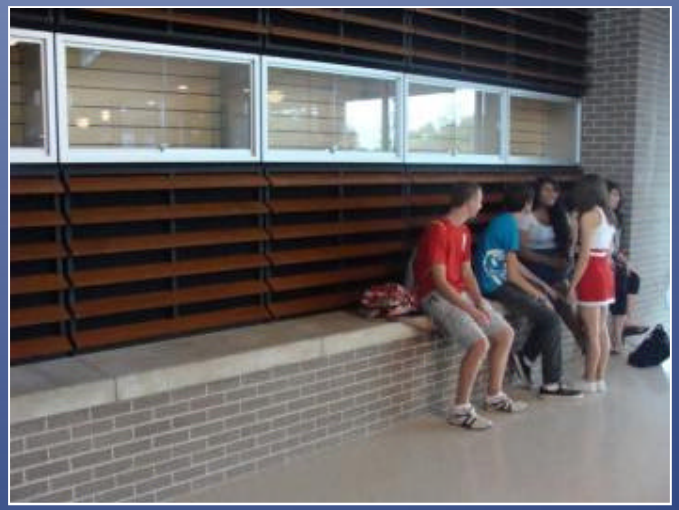
Learning Environment: *Not all students learn in the same manner. Instead of configuring classrooms for lecture-style delivery of curriculum, classrooms of the future must engage students through various activities such as group projects or discussions, independent study, Internet research, peer tutoring and one-on-one mentoring. During the planning process, a mock-up classroom was constructed to "test" various materials, technologies and furniture options. Each department spent time with students using the classroom. Their feedback informed the design and ensured alignment with student engagement/instructional model goals. The resulting layout represents the effort and analysis by students, teachers and the design team. This "new" classroom concept is a customized, technology-infused environment suited to the dynamic research and innovative academic activities. Wireless technology ensures internet access for all users. Classrooms are equipped with a smart board, LCD projector and speaker system with provisions for future expansion of educational technology.*

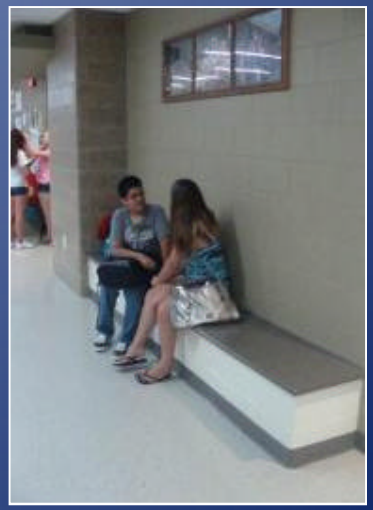
Typical classroom with view to the student commons [top]. A variety of fixed seating options scattered throughout the facility help to personalize the spaces and provide opportunities for spontaneous, casual conversation [bottom].

Learning Environment: ***Cross-disciplinary Interaction.*** *Today's curriculum blurs the boundaries between academic subjects. Blending instruction across related subjects, such as science, technology, engineering and math (STEM), helps students find the natural relationships between areas of knowledge and better equips them for real-world problem solving. This blended curriculum requires physical flexibility in classroom sizes, furnishings, technologies and proximity to supporting resources.*

Team Collaboration. *Businesses are looking for young professionals who can work together on a team to creatively solve problems, which is one of the rationales for project- or problem-based learning. Just as in the real world, students must gather and synthesize information from a wide variety of sources and utilize the individual strengths of each participant. Educational facilities of the future will look to the examples of research institutions or even corporate environments to model the variety of spaces needed to support the dynamic nature of collaborative learning.*

In addition, casual instructional venues are scattered throughout the building.





To maximize available instructional square footage, science labs retain the same agile characteristics as the other classrooms. Views to the right depict how lecture type seating can be reconfigured to a lab-style arrangement.

Learning Environment: *Central to the reconstruction effort was the relocation and expansion of all science laboratories. Previously crowded into the back-half of the one-story wing, the physical constraints of the science labs severally limited curriculum offerings and hindered the quality of program activities. Consequently, the entire department was relocated to the new three-story addition. The number of laboratories increased from 12 to 17 with each room equipped to accommodate specific science disciplines.*

In these labs educational design and new technologies are working hand-in-hand to support modern methods of teaching and learning. They are designed to support the changing way science curriculums are taught.

By combining lecture and lab in a studio classroom students start with observation of a physical phenomenon, begin to create their own theory, and are led to further experiments to refine scientific understanding. The technology-infused environment and versatile layout are the critical elements that enable the studio classroom to rapidly turn around from one activity to another.

Extended tackable and writeable wall surfaces as well as easy access to distributed technology hubs ensure that all students have consistent and equal opportunities to participate in active learning exercises.

View of a typical cyber lounge inserted at the ends of corridors on the 2nd & 3rd floors [top]. View of adjoining hallway which serves as additional dining space during lunch hours [bottom].

Learning Environment: ***Casual Instructional Venues*** *– by taking advantage of the existing building orientation and site constraints the school expansion plan allowed the circulation corridors to become an active learning venue for spontaneous social/emotional learning opportunities. Whether as fixed bench seating lining the athletic concourse or cyber lounges equipped with soft seating furniture at the end of the academic hallways, the areas support both student-student and student-teacher interaction throughout the day.*

Modernizing General Education Classrooms *– the remaining academic departments (Mathematics, Social Studies, Communication Arts and Foreign Languages) are arranged on three levels around the centrally-located Student Commons/Atrium. Strategically woven into both new construction and newly renovated areas, the overall number of classrooms was expanded from 116 to 141 and the average classroom size increased from 630 sf to 800 sf.*

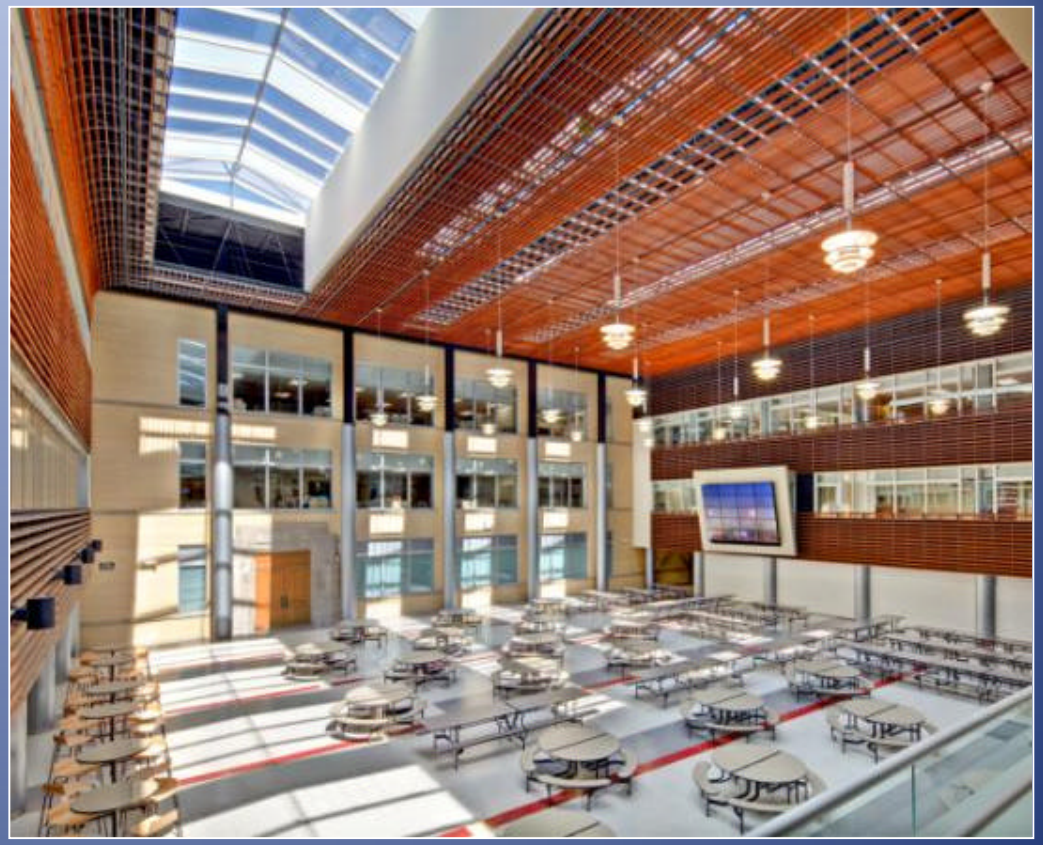
Located in the student services core, the media research center [top] incorporates other materials used throughout the facility. Student Services Lounge [bottom].

Physical Environment: *The age of the existing facility along with multiple additions of inconsistent aesthetics left the school void of any recognizable identity. As part of the overall project, the design team was challenged to help re-imagine a look for the facility that expressed the importance the community placed on education. The aesthetic direction drew inspiration from "the future" of education (what was going on inside) rather than a historic style that was more consistent with the surrounding setting.*

The primary exterior wall construction is composed of structural steel framing members clad with metal panels and glazed curtain wall systems. Load-bearing masonry walls at key locations ease the transition to the adjoining existing construction and complement it in proportion and color. The exterior of the original high school was enclosed and serves as a feature-element within the central student commons. A combination of skylights, fixed/operable windows and exterior folding door assemblies allow daylight to permeate into the central student commons.

On the interior, material and color palettes are used to reflect a "collegiate" atmosphere. Glass walls, impact resistant drywall surfaces and selected areas of textured, prefinished masonry materials, blend original and new construction while creating a refined academic environment reflective of the contemporary appearance of the exterior.

Minimal lighting is needed in the student commons/atrium as an abundance of daylight penetrates the space from the skylights. Two stories of classrooms surround this infill space on three sides. Departmental offices are along the 4th side – a restored, south wall of original 1948 facility.



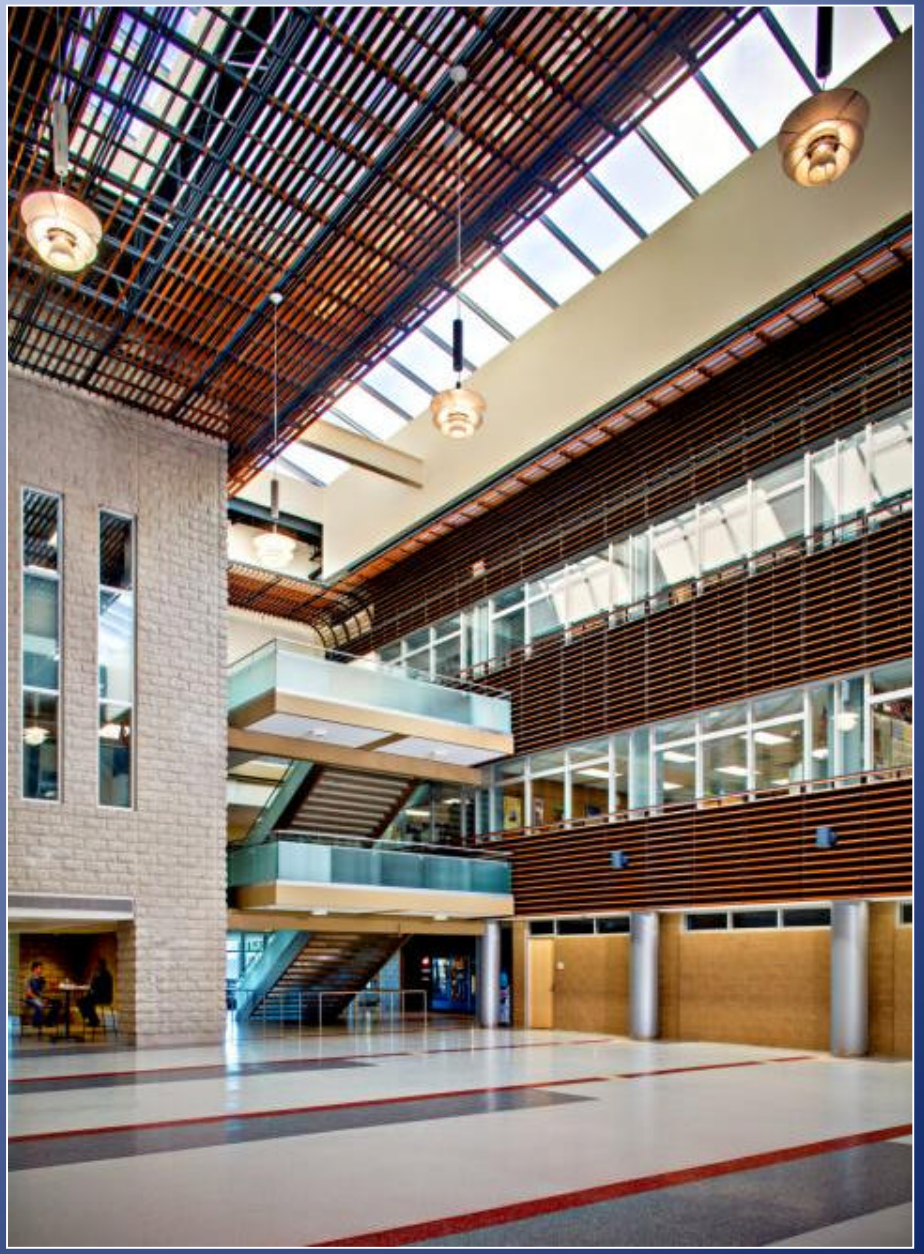
Physical Environment: *Circulation loops not only clarify and ease congestion as students move through the facility; they compartmentalize the facility into manageable thirds. The first third pairs departments per floor level to take advantage of co-curricular opportunities. Level one accommodates the special education department alongside world languages. The second level contains communication arts and social studies. Science and mathematics share the third level. On every floor departmental offices/workroom areas are grouped at the center of the loop along the north side of the Student Commons/Atrium in what was the original school construction that dates back to 1948. By capitalizing on an existing courtyard space through infill construction the student commons serves as a central hub of the core academic wing. The renovated middle-third portion of the facility houses the student service functions and core athletic/health and wellness venues. Fine and applied arts are re-positioned in the west end. All of these sections are connected through a series of orthogonally aligned hallways complemented with wayfinding components.*

Student commons/atrium.

Physical Environment: *The quality of materials used in the original 1948 building and the subsequent five additions allowed this school to withstand the test of time. The current renovations and additions maintains the school's masonry construction standards whenever possible. The new three-story classroom addition, however, is a steel frame construction with insulated metal panels that provides an update for a contemporary image while achieving a similar energy performance as the other sections of the facility. With the goals of sustainability, aesthetic quality, and minimal long-term maintenance the products used were the perfect solution for this project.*

Enhanced indoor air quality, improved occupant comfort, and reduced energy consumption: roof-mounted air handling units utilize chilled and hot water from high efficiency central plant equipment. Each unit has VAV, 100% outdoor air economizer option, and utilizes CO2 sensors to limit outside air ventilation. General illumination is provided by compact fluorescent downlights utilizing T-8 40 lamps with energy saving rapid start electronic ballasts and daylight is maximized. A Building Automation System regulates energy consumption to assure peak operational performance as well as to monitor CO2 levels, control interior and exterior lighting, and stabilize temperatures.

Reusing the existing building infrastructure offered several unique opportunities. Specifically, the dramatic Student Commons/Atrium was created by infilling the courtyard. This allowed the design team to maintain the original building's facade inside the new commons.



Classroom mock-ups.

Planning Process: *In the spring of 2008, Naperville Community Unit School District received overwhelming voter support for a $43 million building referendum. This funding source was part of a $115 million capital improvement program to address school facility needs at selected schools throughout the District. The largest and most complex project within the program was a multi-phase $88 million re-building effort structured to transform the District's most outdated community high school facility into a vibrant, state-of-the-art learning environment for approximately 3,000 students. At approximately 550,000 square feet this renovated and expanded facility stands as a beacon to the community and a reminder of the importance that education plays in the community.*

During the planning process, a mock-up classroom was constructed to "test" various materials, technologies and furniture options. Each department spent time with students using the classroom. Their feedback informed the design and ensured alignment with student engagement/instructional model goals. The resulting layout represents the effort and analysis by students, teachers and the design team. This "new" classroom concept is a customized, technology-infused environment suited to the dynamic research and innovative academic activities. Wireless technology ensures internet access for all users. Classroom are equipped with a smart board, LCD projector and speaker system with provisions for future expansion of educational technology.

Exhibition of School Planning and Architecture Project Data

Submitting Firm :	**Wight & Company**
Project Role	Architect
Project Contact	Craig Siepka, AIA, LEED AP
Title	
Address	2500 North Frontage Road
City, State or Province, Country	Darien, IL USA
Phone	630-969-7000

Joint Partner Firm:	
Project Role	
Project Contact	
Title	
Address	
City, State or Province, Country	
Phone	

Other Firm:	**Wight & Company**
Project Role	Civil Engineers
Project Contact	Tom Powers, PE
Title	Project Engineer
Address	2500 North Frontage Road
City, State or Province, Country	Darien, IL USA
Phone	630-969-7000

Construction Firm:	**IHC Construction Companies, LLC**
Project Role	Construction Manager
Project Contact	Tim Bickert
Title	Senior Project Manager
Address	1500 Executive Drive
City, State or Province, Country	Elgin, IL USA
Phone	847-742-1516

Exhibition of School Planning and Architecture Project Data

Other Firm:	**20/10 Engineering Group, LLC**
Project Role	M/E/P Engineers
Project Contact	Jeff Chamberlin, PE, LEED AP
Title	President
Address	1216 Tower Road
City, State or Province, Country	Schaumburg, IL USA
Phone	847-882-2010

Other Firm:	**Larson Engineering, Inc.**
Project Role	Structural Engineers
Project Contact	Jerry Tobola, SE
Title	Principal
Address	1488 Bond Street, Suite 100
City, State or Province, Country	Naperville, IL USA
Phone	630-357-0540

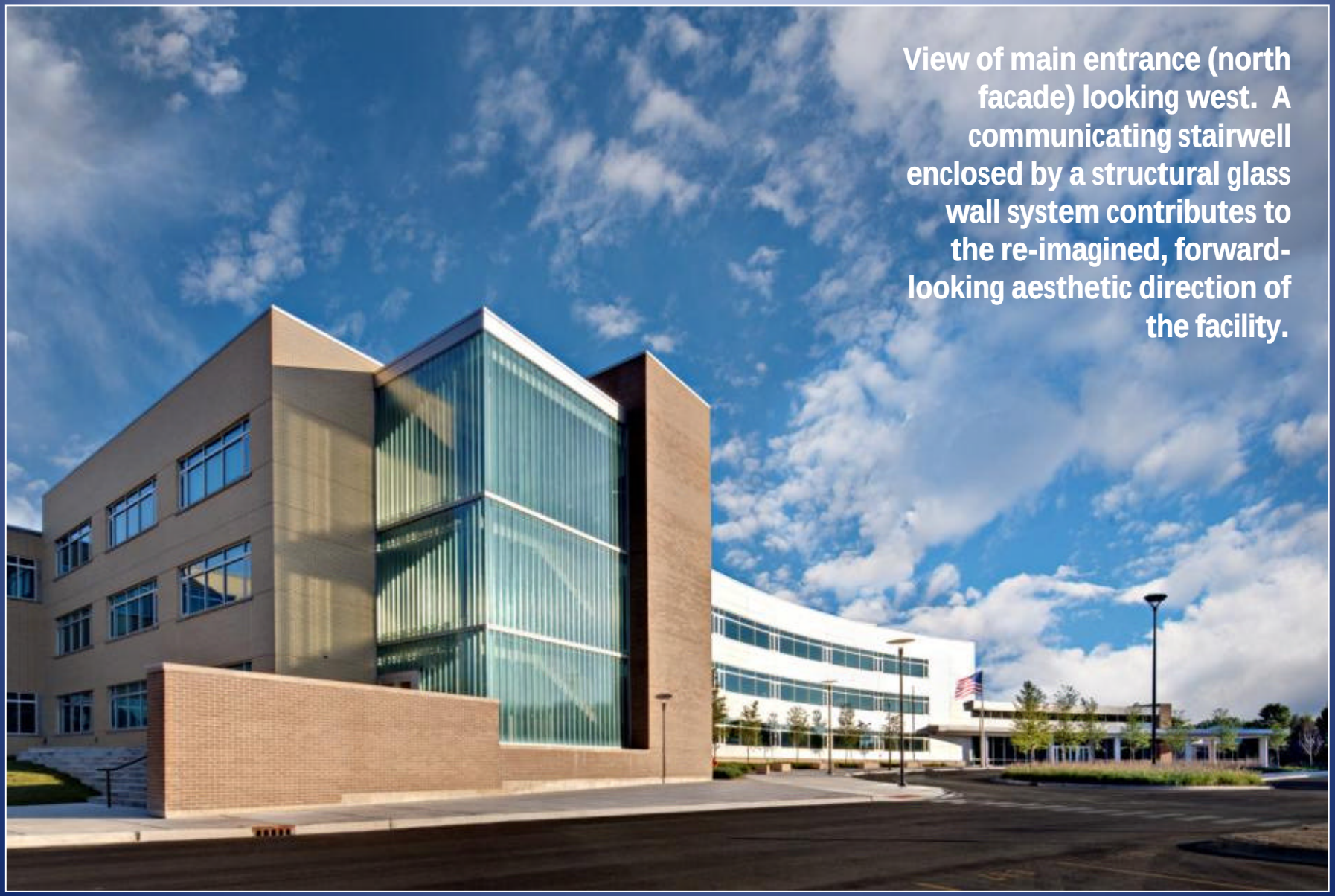
Other Firm:	**Shiner + Associates, Inc.**
Project Role	Acoustical Engineers
Project Contact	Brian Homans
Title	President
Address	225 W. Washington Street, Suite 1625
City, State or Province, Country	Chicago, IL USA
Phone	312-849-3340

Other Firm:	**TDSi, Inc.**
Project Role	1075 Shore Road, Suite A
Project Contact	Brett Mersch
Title	Senior Design Consultant
Address	1075 Shore Road, Suite A
City, State or Province, Country	Naperville, IL USA
Phone	630-983-9906

Other Firm:	Edge Associates, Inc.
Project Role	Food Service
Project Contact	Edward Purmann
Title	President
Address	220 E. Lake Street
City, State or Province, Country	Addison, IL USA
Phone	630-279-2462

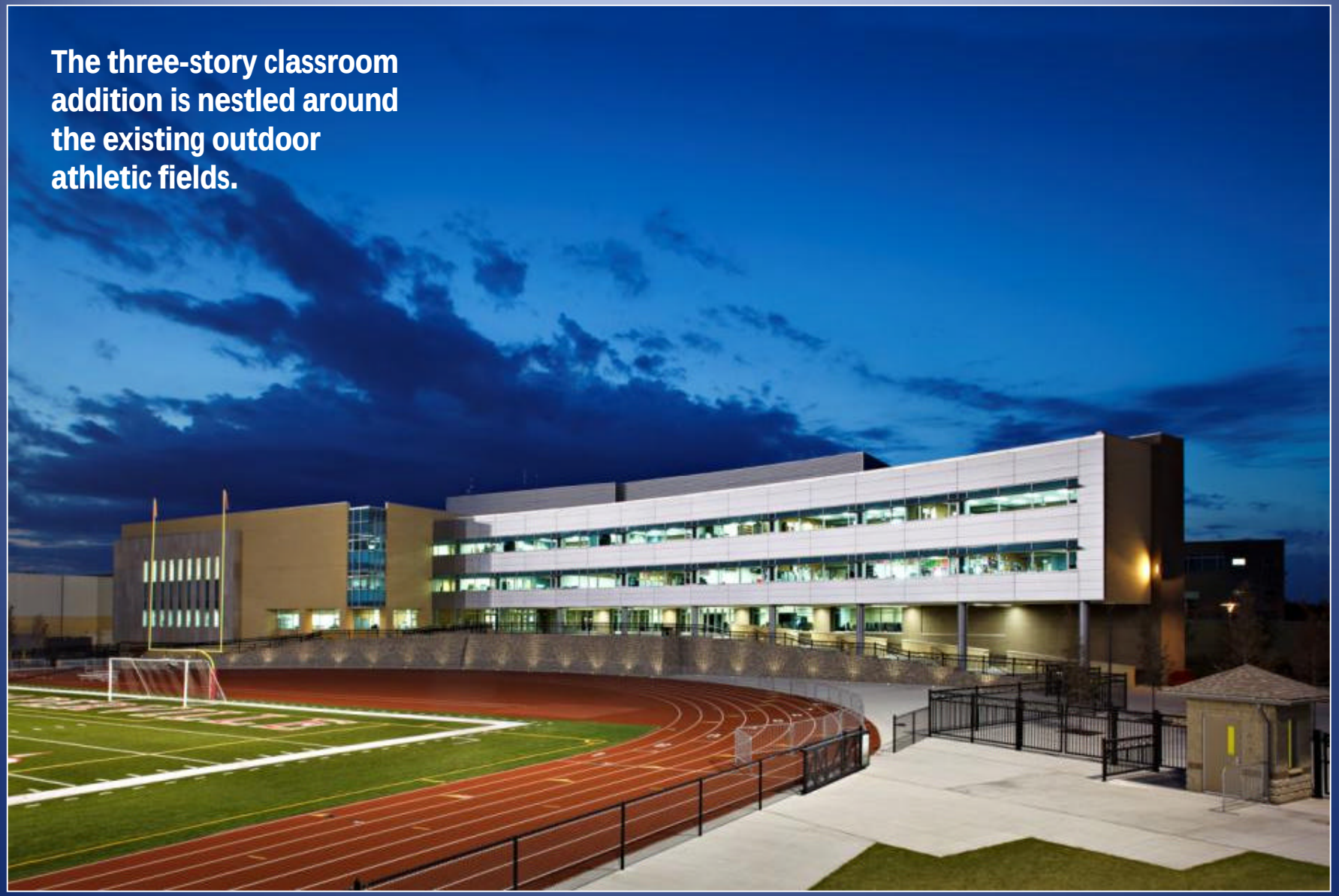
Exhibition of School Planning and Architecture Project Details

Project Name	Naperville Central High School Additions & Renovations
City	Naperville
State	Illinois
District Name	Naperville Community Unit School District 203
Supt/President	Mr. Mark Mitrovich
Occupancy Date	August 2011
Grades Housed	9th grade – 12th grade
Capacity(Students)	3,500
Site Size (acres)	29 acres (Existing site redeveloped)
Gross Area (sq. ft.)	190,107 sq. ft. (Built) 273,575 sq. ft. (Renovated)
Per Occupant (pupil)	155 sq. ft.
gross/net please indicate	Gross
Design and Build?	N/A
If yes, Total Cost:	
Includes:	
If no,	
Site Development:	$2,388,000
Building Construction:	$60,774,634
Fixed Equipment:	$2,314,861
Other:	$1,734,319 (Technology) $16,888,057 (Fees/General conditions, miscellaneous soft costs)
Total:	$84,099,871

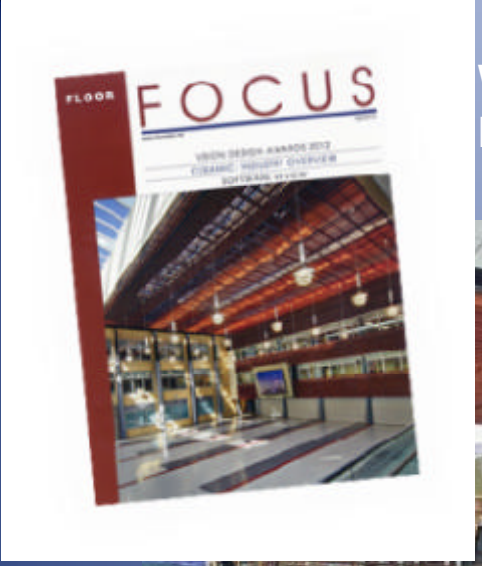


View of main entrance (north facade) looking west. A communicating stairwell enclosed by a structural glass wall system contributes to the re-imagined, forward-looking aesthetic direction of the facility.

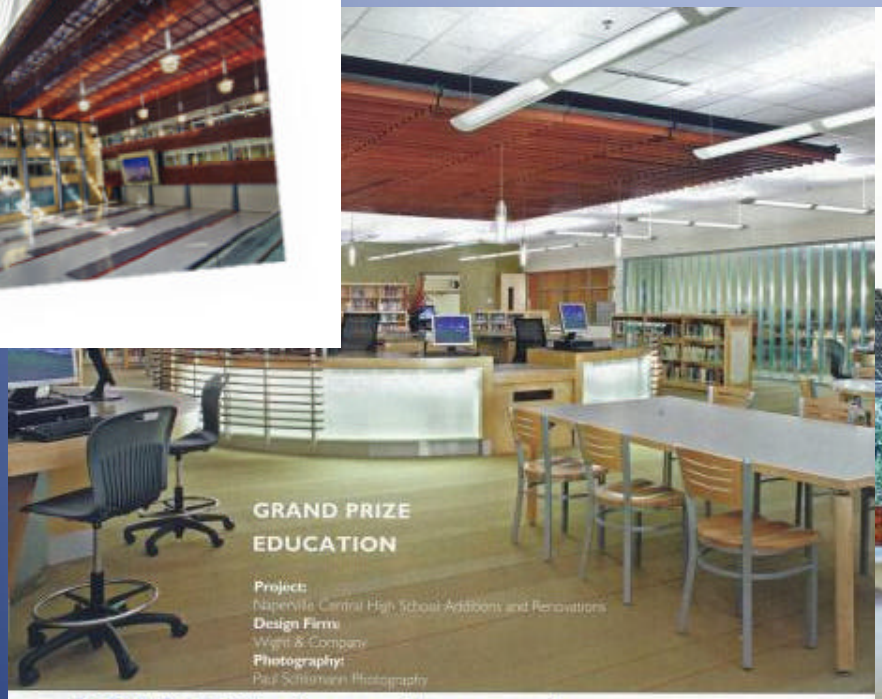
View of main student entrance under the three-story addition.



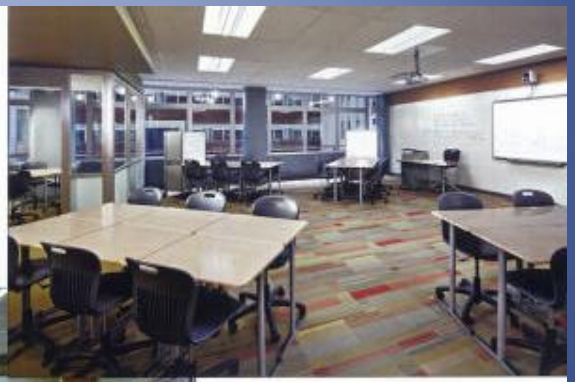
The three-story classroom addition is nestled around the existing outdoor athletic fields.

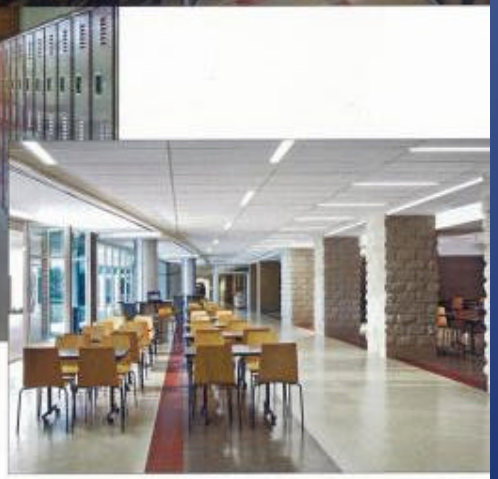


Wight & Company Honored with 2012 Vision Award Grand Prize for Naperville Central High School.



Jury quote: What I really enjoyed about Naperville was the integration of floor and ceiling, the abundance of daylight and the use of the vertical space integrated with the floor. The different flooring applications—resilient flooring, carpet, wood—seemed like a nice marriage. Everything about it, especially the natural light coming in from every which way, really resonated.





2012 Vision Awards

This is the third year of the Vision Design Awards, and the entries submitted continue to increase in number and quality. Continuing with our commitment to recognize projects for the sake of the design—not the pedigree of the flooring materials used or the designers creating them—we are excited to honor a great group of projects this year, projects that integrate flooring as a central part of the design concept and ones that exhibit forward-thinking creativity.

In a departure from the past two years, where the corporate category winner was also the grand prize winner, it was the education winner, Wight & Company's design of Naperville Central High School Additions and Renovations, which took the grand prize this year. The judges remarked that, "Overall, the project just spoke to good interior architecture." The high school design includes a sophistication that is more reminiscent of college than high school design, and the integration of the different flooring textures into the overall space was admired by all of the judges.

This year, like last year, the bulk of entries were in the healthcare, education and corporate sectors. The hospitality and retail categories had significantly fewer entries, even though activity in those two categories seems to be picking up. This likely represents a lag effect, because most of the submitted projects would have been initiated in the early part of last year, when those two sectors were still relatively quiet. Renovation in both sectors should be more robust this year.

Bentley Prince Street, Centiva, Crossville and Johnsonite remain our sponsoring partners for this annual contest, and Shashi Caan of the Shashi Caan Collective made a reappearance, for the third year, as a judge. New to judging this year are Jennifer Benjamin, interior design technician at HOK, and David Chamberlain, interior designer at Perkins+Will.

For this year's awards celebration, we will be returning in early September to South Beach, Florida, where the fête was held the inaugural year. Representatives from each of the sponsoring companies, judges, honorees and their guests will be in attendance.

Floor Focus will begin accepting entries for the Vision Awards 2013 in January of next year, and it's not too early to consider which of your current projects will make great entries.

The newly rebuilt and renovated Naperville Central High School campus in Naperville, Illinois blends contemporary design elements and advanced technological resources. This rebuilding effort transformed the district's oldest community high school facility into a vibrant, state-of-the-art learning environment for approximately 3,000 students. With an area of about 550,000 square feet, the expanded facility boasts a unique and flexible 21st century classroom design. A sophisticated color palette of beige, grey and ochre with a hint of red to accent the muted colors reinforces the school's "color" and offers a collegiate atmosphere. A combination of grey, white, red and yellow quartz tile create a linear pattern on the main floor in the highest traffic areas. The linear flooring pattern is also duplicated on the second and third floors in VCT since the traffic areas are less demanding, and VCT offers a more economical solution. To aid in acoustic performance, semi-custom carpet was used throughout the instructional and administrative spaces. The colors of the yarns were changed to available fibers within the product offering. This allowed the design team to have red accents threaded into an existing pattern with minimal increased cost.