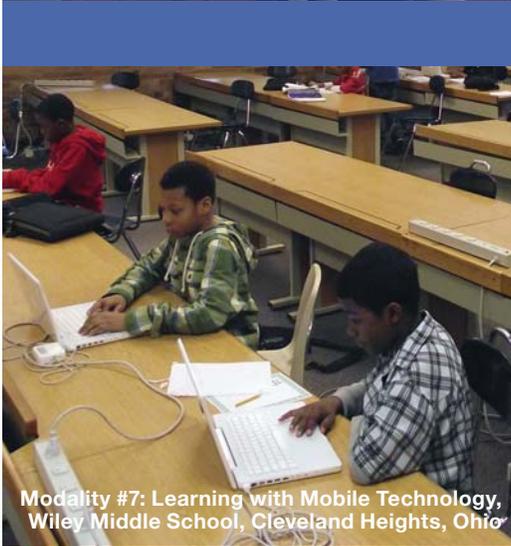




Modality #3: Team Collaboration,
Scotch Oakburn College, Tasmania



Modality #20: Play/Movement Learning,
Cristo Rey High School, Minneapolis, Minnesota



Modality #7: Learning with Mobile Technology,
Wiley Middle School, Cleveland Heights, Ohio



Modality #6: Project-based Learning,
Medford School, Medford, Oregon

Master Planning Services

Cleveland Heights-University Heights City School District

Submitted by **Fielding Nair International** in Collaboration with
studioTECHNE and **Fanning Howey**

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studio**TECHNE** architects

FANNING HOWEY

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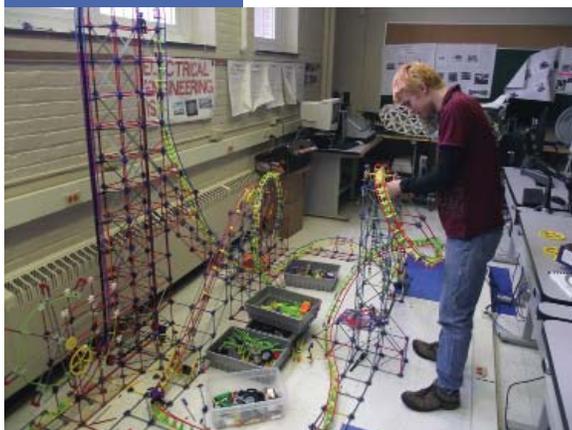


studioTECHNE architects

FANNING HOWEY

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Modality #6: Project-based Learning,
Cleveland Heights High School, Cleveland Heights, Ohio

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Cover Letter

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**Architects and
Change Agents for
Creative Learning
Communities**

Minneapolis Studio

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Websites

FieldingNair.com
DesignShare.com
GoodSchoolDesign.com

August 19, 2011

Steven Zannoni
Project Management Consultants
127 Public Square, 39th Floor
Cleveland, Ohio 44114

Subject: Qualifications for Master Planning Services

Dear Mr. Zannoni,

We thank you for giving us the opportunity to be considered for this important Master Planning project. Together, our firms have won every major award in our profession, but our most important qualification is that we care deeply about our clients and the communities in which we work. Here is one Ohio client's unsolicited praise for James Seaman, our Project Manager for CH-UH.

"You, James, have taken what we have shared and created a masterpiece that is marvelously aligned with our mission, practical realities, dreams and hopes. I have been impressed with your dedication, expertise and manner from our first meeting. Your personal commitment is tangible, and your tireless effort has truly blessed our project. Please know how very grateful we are to you."

The District's vision of P.A.S.S.A.G.E and the soon to be implemented Pathways Structure set CH-UH apart from others in the nation. During our visits to Cleveland Heights High, Wiley Middle, Boulevard Elementary, and Noble Elementary, we noticed a commitment to 21st century learning. This was evident from the one-to-one computing at Wiley Middle to the breakout learning areas at Noble Elementary. We are motivated by your dedication to 21st century learning and preparing students for success in the world. Our integrated approach to master planning—which connects education and architecture—can help you develop facility solutions that will last for generations to come.

In this time of challenging economic change, we understand how tremendously important a project like this is to the community. Success will only occur with a total integration of educational goals, curriculum, facilities and professional development. Additionally, we recognize that community engagement and local partnerships are critical for right-sizing facilities and building community support. This is why we believe that our team will provide Cleveland Heights-University Heights City School District with the best opportunity to create environments that fully prepare students with the skills they will need to navigate the world into which they will graduate.

Our team leverages FNI's expertise as an internationally recognized leader in transformative school planning and design, studioTECHNE's local presence

and deep understanding of the CH-UH community, and Fanning Howey's comprehensive architectural and engineering services along with a national reputation for designing quality educational facilities. FNI will lead the three-firm partnership by creatively integrating the educational goals, curriculum, and community input for developing master plan options. StudioTECHNE will facilitate community engagement and developing local partnerships, and Fanning Howey will assess the existing school facilities and provide technical recommendations for new structures.

We design 21st century educational spaces with one primary goal in mind – to improve learning. We are inspired by your District's vision and commitment to your students. Working together, we can create nurturing learning environments that will prepare all students in Cleveland Heights-University Heights for college and life. All three partner firms share a common philosophy that we will bring to CH-UH, one that is best described by Winston Churchill's words, "We make a living by what we get, but we make a life by what we give."

Sincerely,

Randall Fielding, Chairman



Fielding Nair International, LLC

Marc Ciccarelli, Principal



studioTECHNE

Ronald Fanning, Chairman



Fanning Howey

Project Office:

studioTECHNE|Architects
12210 Euclid Avenue
Cleveland, Ohio 44106
216-791-4410

Principal Contact Person:

James Seaman, AIA, REFP, LEED AP
Project Manager/Senior Designer, Fielding Nair International, LLC
248-703-3681

Company Overview



Company Overview

Fielding Nair International

Years of Existence: 9

Legal Form: Fielding Nair International, LLC

Home Office: 4937 Morgan Avenue South
Minneapolis, MN 55419 USA



Above: Google Map of FNI Projects



Fielding Nair International, a Minneapolis based firm, was incorporated in 2003. FNI grew out of Fielding and Associates, Inc, a Chicago based full-service architectural firm, incorporated in 1983, and DesignShare.com, a Minneapolis-based company incorporated in 1998. FNI is the global leader for innovative educational facilities planning and architectural design. FNI partners Randall Fielding and Prakash Nair have been directly involved in the planning and design of more than \$11 billion worth of school projects over the past 28 years.

FNI has provided consulting services to local, regional and national governments, school districts and other educational clients in 36 countries on 5 continents. Principals of the firm have published dozens of important pieces in architectural and educational journals, written best-selling books including the landmark, *The Language of School Design* and won several major industry awards for excellence including the CEFPI MacConnell Award and International Planner of the Year. Their work has attracted the attention of media outlets, including CNN.com, NY Times, BBC Radio, Australian Broadcasting Corporation, The Washington Post, National Educational Association, School Construction News, School Planning and Management, Edutopia, Education Week, Architectural Digest, and Australia Architecture.

FNI works in close collaboration with their clients utilizing cutting-edge processes for planning and designing energy-efficient school spaces. This culture of innovation helps FNI create world-class, environmentally conscious facilities that often cost less and are easier and faster to build. In their own operations, FNI minimizes their corporate carbon footprint by forgoing a central headquarters, by holding virtual meetings with clients and collaborators, and by creating electronic deliverables, reducing paper consumables wherever possible. This wise use of technology extends to their projects: FNI developed the first fully wireless award-winning campus in India and also the first fully wireless campus in Tasmania, Australia.

FNI's Master Planning services have been utilized by school districts worldwide to right-size their buildings and use creative community partnerships to provide their students with a 21st century education at a reasonable cost.

Left: Cave Space in Library, Medford School, Medford, Oregon

21st Century Learning Skills: Randall Fielding and Prakash Nair are considered world experts on 21st century learning skills and the spaces needed to support them. Randall Fielding, Chairman of Fielding Nair International, shares his vision of school design for the 21st century by employing a variety of outlets. Using the concept of 20 different learning modalities, he explains to conference attendees throughout the year, the diverse approaches to education necessary for the success of students in a global society.

Using technology to share ideas is a key component in the world today. Several of FNI's learning modalities are based on the technological advances of media; as a recent keynote speaker in Sweden, Randall used Twitter to take questions from the floor, which then appeared on the screen behind him. In addition, he has created a Twitter series based on the 20 learning modalities to share with the school design community. Educational spaces that support multiple learning modalities enable students to grow not only in self-confidence, but in independence, with the holistic skills they will need to thrive once they graduate.



Above: Learning Commons, Scotch Oakburn College, Tasmania



Who are FNI Clients?

The United States Agency for International Development; Broward County School District in Florida; Detroit Public Schools; The State of Minnesota, Department of Education; The State of Ohio, School Facilities Commission; The National Academy Foundation; Wake County School District, North Carolina; The Rockefeller Foundation; The Ministry of Education, New Zealand; The Ministry of Education, Singapore; The Ministry of Education, Azerbaijan; The Departments of Education in Tasmania, Western Australia and Victoria in Australia; Regina Public Schools in Canada and International School of Brussels in Belgium.

Company Overview

studioTECHNE | architects

Years of Existence: 17

Legal Form: studioTECHNE | architects LLC

Home Office: 12210 Euclid Avenue
Cleveland, Ohio 44106

We are dedicated to the ideal that architecture is the transformation of an existing environment into a meaningful place. Making a place meaningful requires good listening and responsive design and planning. Making of place requires that the ideals and goals of our clients are reflected in the constructed environment; and that this environment has integrity. Environments made for our clients have many common characteristics; the site and building are in harmony, the chosen means and methods of construction are well thought out and detailed, the interiors have a rational identity, a reassuring character, and are experienced by our clients in meaningful ways.

Our Projects connect and support people, and include: Ecclesiastic Buildings, Schools, Libraries Civic Buildings and Housing/Mixed-Use Development. The value of our Construction Projects has consistently increased. Recently, the firm has completed construction projects ranging in value from \$100k to \$50mil.

We believe in a process. Wonderful and usable buildings cannot be made without the clear vision and guidance of the client working in critical unison with the architect. We employ collective rather than singular intelligence in this making. Our process is holistic involving many layers of information and participants at one time. We believe the core acts of the architect are the creative selection, organization, integration and articulation of systems about the ideas, ideals and daily use of the inhabitant. Our art is the discovery of external and internal logics derived from this exploration. It is the needs of the inhabitant, in the context of site circumstance, that lead to a masterful articulation and expression of landscape, light, materials and systems. The result is a vision that is unique and perfectly matched to the needs of the client.

Because of their importance as centers for learning and often times, as the most important community-meeting place, the Planning and Design for Schools must be both visionary and practical to achieve their full potential. To this end, studioTECHNE architects emphasizes a collaborative community based process for evaluation and design involving Administration, Staff, Board Members, Community Leaders, and Students to gain input and consensus.



Upper Left: Teen Room CHUH Lee Road Library, Cleveland Heights
Left: Classroom, Hawken Middle School, Lyndhurst Ohio

Students construct meaning and learn within the context of their environment. The development of a true learning center requires a move beyond predetermined square footage requirements and minimum building codes to examine the impact of individual student development, subject matter disciplines, and instruction styles and methods. The design of educational facilities matches an understanding of learning styles and the context and traditions of the community with the architectural program. studioTECHNE has diverse experience in managing difficult projects that result in exceptional educational spaces. Spaces for students are three-dimensional textbooks celebrating the richness of history, and diversity of community.

We develop a place that supports educational opportunity and focuses on allowing students to achieve their full potential. The completed building should inspire, secure faith in self, encourage accountability, foster respect, and promote a belief in a positive future. studioTECHNE has the resources and the dedication to ensure these goals are met. Educational spaces that support multiple learning modalities enable students to grow not only in self-confidence, but in independence, with the holistic skills they will need to thrive once they graduate.



Our Clients:

Cleveland Heights University Heights Schools, Cleveland Heights University Heights Library, Hawken Middle School, Hawken Lower School and Early Childhood Enrichment Center, Ginn Academy, Lutheran West High School, St. Helen Church and School, St. Paul Lutheran School, Ohio Department of MR | DD Early Childhood Centers, Boy Scouts of America Environmental Education Center, Cleveland Sight Center Environmental Education Center, Shaker Nature Center, the Ohio Schools Facilities Commission, Notre Dame College, John Carroll College, Case Western Reserve University



Company Overview

Fanning Howey

Years of Existence: 50

Legal Form: Fanning/Howey Associates, Inc.

Home Office: 540 East Market Street
Celina, Ohio 45822 USA

Fanning Howey was established in 1961 in the city of Celina, Ohio. During the past 50 years, the firm has grown from a five-person practice to one of the largest architecture and engineering firms in Ohio, as well as the nation. Today, Fanning Howey has three Ohio offices in Celina, Dublin, and Cleveland, and employs nearly 100 architects, engineers, and other design professionals in the state of Ohio.

During the past 50 years, Fanning Howey has become a leader in K-12 school design. Primary and secondary educational facilities make up 96 percent of the firm's workload. In the last five years alone, the firm has been involved in the planning and design of more than 230 new and renovated Ohio schools, with total construction costs in excess of \$2 billion. In all, Fanning Howey has been responsible for more than 38 million square feet of educational space in Ohio alone.

Because of the firm's combination of in-depth experience and extensive resources, Fanning Howey has been involved in some of the largest school planning efforts in recent years. Since 1998, the firm has worked closely with the Ohio School Facilities Commission to author and then update the Ohio School Design Manual, the document which sets forth guidelines for the state's ongoing school construction program. In addition, Fanning Howey has served as architect and engineer for more than 100 school districts receiving state funding for new or renovated school construction. These projects include Edison K-8 School and Meadowdale High School in Dayton, Ohio -- two projects which recently received LEED Gold certification -- as well as the new Portsmouth Junior/Senior High School in Portsmouth, Ohio, the first OSFC project to receive the Grand Prize from *School Planning & Management's* Education Design Showcase.

In addition to the firm's experience in Ohio, Fanning Howey has been involved in some of the nation's largest and most ambitious school planning initiatives. Recently, Fanning Howey professionals have helped complete Master Facilities Plans as part of the District of Columbia Public Schools' \$1.2 billion Capital Improvement Program, are leading Program Management efforts for Detroit Public Schools' \$500.5 million Bond Program, and co-authored design guidelines for New Orleans' Recovery School District's \$1.6 billion construction program. Other recent clients include Master Plans for Syracuse City Schools in Syracuse, New York; Providence Public Schools in Providence, Rhode Island; and Anchorage School District in Anchorage, Alaska.



Above: Highland High School, Medina, Ohio



Left: Main Corridor in Medina High School, Medina, Ohio

Work With the Ohio School Facilities Commission

Fanning Howey's knowledge of the Ohio School Facilities Commission helps school districts make the most of their state funding. During development of the master plan for Lima City Schools, Fanning Howey's advocacy helped the district procure an additional \$14 million for asbestos abatement and the construction of two new middle schools. Another \$7.2 million was received for additional vocational space at Lima Senior High School.

Throughout the years, Fanning Howey has worked with OSFC officials to update the Ohio School Design Manual, including the 2008 update to meet LEED for School standards. The firm uses its experience to ensure that all clients are taking advantage of best practices in school planning and design. Recent projects include McPherson Middle School, one of the first state-funded schools to implement daylighting monitors, and the new Fremont Middle School, which is currently anticipating LEED Platinum certification.



Above: Project-Based Learning Area in Ironton High School, Ironton, Ohio



Experience in Cuyahoga County:

Fanning Howey's experience in Cuyahoga County includes the current district-wide Capital Improvement Program for Maple Heights City Schools. Conducted with an emphasis on innovative planning and design strategies, the program will result in three new elementary schools, a middle school programmed to take advantage of decentralized administration, and a high school with a strong Career-Technical focus.

Other clients in Cuyahoga County include Orange City Schools, Westlake City Schools and Brecksville-Broadview Heights City Schools.

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Insurance Certificates



Fielding Nair International



INSURANCE BINDER

DATE (MM/DD/YYYY)
3/17/2011

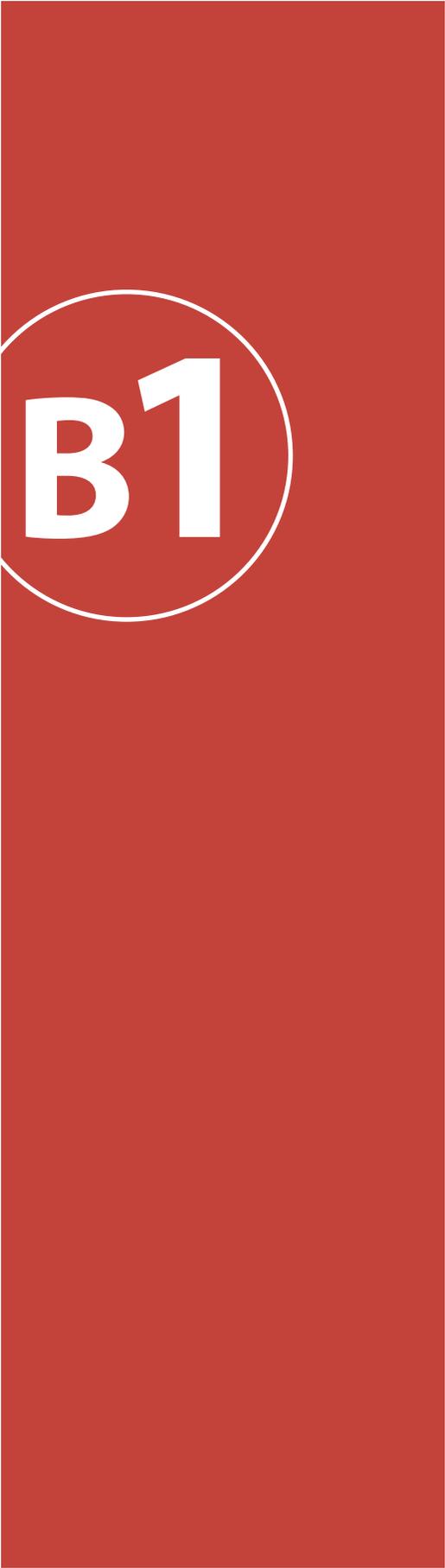
THIS BINDER IS A TEMPORARY INSURANCE CONTRACT, SUBJECT TO THE CONDITIONS SHOWN ON REVERSE SIDE OF THIS FORM

AGENCY Dennis J. Linder & Associates affiliate of American Agency, Inc. 731 Bielenberg Drive, Suite 204 Woodbury, MN 55125		COMPANY St Paul Fire & Marine		BINDER # B1131739592	
PHONE (A/C, No, Ext): (651) 621-8980 CODE: XY569		FAX (A/C, No): (651) 621-8989 SUB CODE:		THIS BINDER IS ISSUED TO EXTEND COVERAGE IN THE ABOVE NAMED COMPANY PER EXPIRING POLICY #:	
AGENCY CUSTOMER ID: 00027734 INSURED Fielding Nair International LLC, DesignShare Consulting LLC 4937 Morgan Avenue South Minneapolis MN 55419		DESCRIPTION OF OPERATIONS/VEHICLES/PROPERTY (Including Location) Coverage applies anywhere in the world, except for the prohibited area, or the US, its territories & possessions, Puerto Rico & Canada, or any country or jurisdiction where the US has imposed any trade sanction, embargo or similar regulation			

COVERAGES		LIMITS		
TYPE OF INSURANCE	COVERAGE/FORMS	DEDUCTIBLE	COINS %	AMOUNT
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SPECIAL CONDITIONS/ OTHER COVERAGES Additional Coverages Include: Kidnap & Ransom, \$100,000 per insured event; Accidental Death & Dismemberment, subject to benefit schedule; Global Executive Support Services		FEES TAXES ESTIMATED TOTAL PREMIUM		\$ \$ \$ 2,500

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Facility Master
Planning
Experience



B1

Fielding Nair International Master Planning Experience

Cristo Rey High and the Colin Powell Center

Minneapolis, Minnesota

Start Date: September 2005
Completion Date: September 2007
Contact: Kristine Melloy
Founding Principal
kmelloy2136@gmail.com
Mobile: 651-263-9826

This project is a strategic partnership between the Twin Cities Jesuit High School Project and Urban Ventures, a local community development agency with a proven track record of addressing social and economic struggles of urban families. Cristo Rey Jesuit High School is paired with Urban Ventures' Colin Powell Center, providing services and support to help local teenagers graduate from high school and pursue a college education. The building serves 500 students and 25,000 neighborhood children and parents.



The Cristo Rey model is built on the concept of providing a top-notch education that is largely funded by income that the students earn in real white-collar corporate jobs in the city. This model provides a level of hands-on learning that is unprecedented in most school systems, but it also provides a solid source of financing that the school can then use to subsidize the students' education. In 2011, every senior at the school's pioneering campus graduated and was admitted to college — a remarkable achievement considering that many of the school's students are the first in their families to graduate from high school.



Left: The commons serves both Cristo Rey and the Colin Powell Center, providing a warm, light-filled community gathering place



Above: Each central commons features cafe-style food service with a variety of seating options that give the area a sophisticated business feel

Right: High-end furniture is utilized in both student and staff spaces to create a professional work atmosphere that is a complete departure from a traditional school setting



Fielding Nair International Master Planning Experience Bloomfield Hills School District



Bloomfield Hills, Michigan

Start Date: November 2010

Completion Date: September 2011

Contact: Rob Glass

Superintendent

rglass@bloomfield.org

(248) 341-5407



Above: Plan of the renovated campus

Bloomfield Hills School District commissioned FNI to develop a Master Plan for combining their existing two high schools on one campus. The process began with extensive community engagement to build consensus. Many in the community felt that two schools on separate campuses should be maintained, however, because of the district's declining enrollment, it was no longer financially feasible to maintain two campuses.

In response to the communities desire for smaller schools, FNI developed a plan with small-scale learning communities. Each student belongs to a community of no more than 150 students. With learning communities, the school still has a small-scale feel but can combine amenities giving the students opportunities to world-class co-curriculars. The new school will feature an 800-seat auditorium, a competition swimming pool with dive wells, a radio and TV station, a STEM lab, and much more.

A major challenge was working with the existing facility which was added on seven times over a 50 year period. Circulation was a disaster and many split levels made it challenging for ADA accessibility. The new plan clarifies circulation and creates a newly defined welcoming entry.



Fielding Nair International Master Planning Experience Cayman Islands School System



Cayman Islands

Start Date: 2007

Completion Date: 2010

Contact: Mr. Gareth Long

Former Manager of Education,
Ministry of Education
Cayman Islands Government
gareth@garethl.com
+44-7873-692971

FNI was commissioned by the Ministry of Education for the government of the Cayman Islands to provide a Master Plan for their entire school system. As of January 2007, many of the Cayman Islands school buildings were either run-down or had been damaged or destroyed in recent hurricanes. Most schools had too little space for their students or staff to work comfortably in and as a result a rebuilding program was clearly necessary.

The Cayman Islands Government wanted a Master Plan that didn't just rebuild their school system, but transformed the system to reflect 21st Century learning values.



Above: Reception Area, John Gray Campus



Right: Rendering of the John Gray Campus

Fielding Nair International Master Planning Experience Sinarmas World Academy

Tangerang, Indonesia

Start Date: March 2007

Completion Date: September 2008

Contact: John McBride

Chief Executive Officer

john_mcbryde@swa-jkt.com

Work: +62 21 53161400



Above: This Learning Commons serves many functions throughout the day - here, students practice sumi-e brush painting



Above: Gardens and a pond serve as learning opportunities for Sinarmas students - note the large over-hangs that shade the windows and doors from the intense local sunlight

Sinarmas World Academy is designed to the principle of “school as a learning community”. The 5.8 hectare campus is spacious and is set amongst beautifully landscaped gardens. Each building is designed as a “Small Learning Community”, to meet the developmental needs of each age group. Every floor contains different sized learning studios arranged around a multi-purpose learning commons designed to support multiple learning modalities.

The campus was designed with buildings that would be sited to produce overlapping areas of shade and dappled sunlight in response to the intense near-equatorial sun and frequent rains.

Ideas for the campus grew out of a series of meetings and workshops held with the Sinarmas Group staff and leadership team over a period of months. The building concepts grew from sketches and models and were further informed from 3-D modeling from the FNI design team.

Below: Along with a central cafeteria, there are many casual dining areas throughout the campus





Below: A Learning Studio contains flexible furniture and media resources for students to practice multiple learning modalities in the space



Sinarmas World Academy, by providing a world-class education at a reasonable cost, represents an important asset to the BSD community locally and the Jakarta Metro region as a whole since it can attract the best young professionals to live and work in Indonesia.

Many higher level professionals were choosing to live in Singapore (about 1-hour by plane) for the children’s educational benefit and commuting to Jakarta for work. The availability of the Sinarmas World Academy has started to reverse this trend.

Fielding Nair International Master Planning Experience

Scotch Oakburn College

Launceston, Tasmania

Start Date:

Completion Date: 2006

Contact: Andrew Barr

Principal

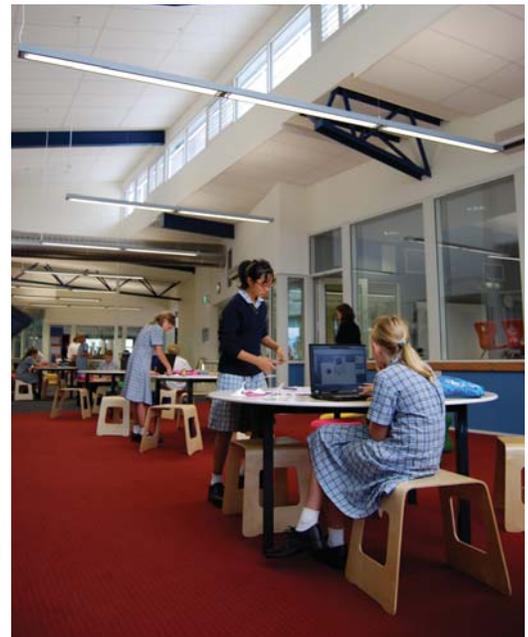
Andrew.Barr@soc.tas.edu.au

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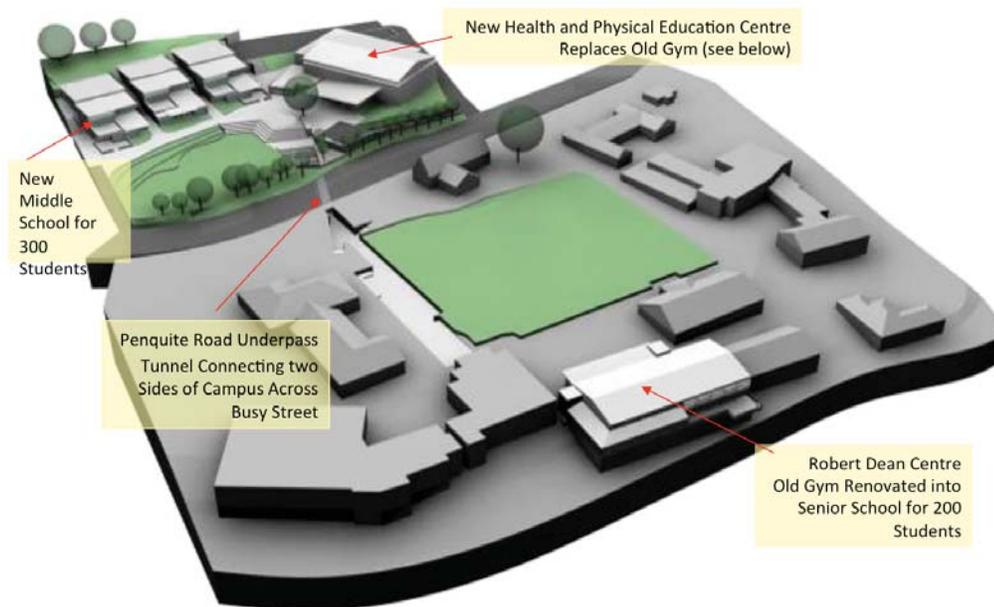


FNI served as the Master Planner and Design Architects of this \$10 million school campus project for Scotch Oakburn. The three main features of the design project included a new Health and Physical Education Center, a new Middle School and the refurbishment of the existing gymnasium building into a new Senior Student Center.

All three designs closely follow the tenets of 21st century school planning and design.



Above and Left: A Technological Commons contains mixed seating options to allow for a variety of group sizes to work in the same area



Left: This Middle School ground floor diagram shows the indoor/outdoor connection that was important to the school community as indicated in Master Planning workshops

Below: Café Eight is a 24/7 community space. Several times each week, Year 8 students prepare, sell and serve hot food here

Below: Scotch Oakburn College's Health and Physical Education Centre is designed as an important resource for the whole Launceston community.



Fielding Nair International Master Planning Experience Medford Elementary Schools

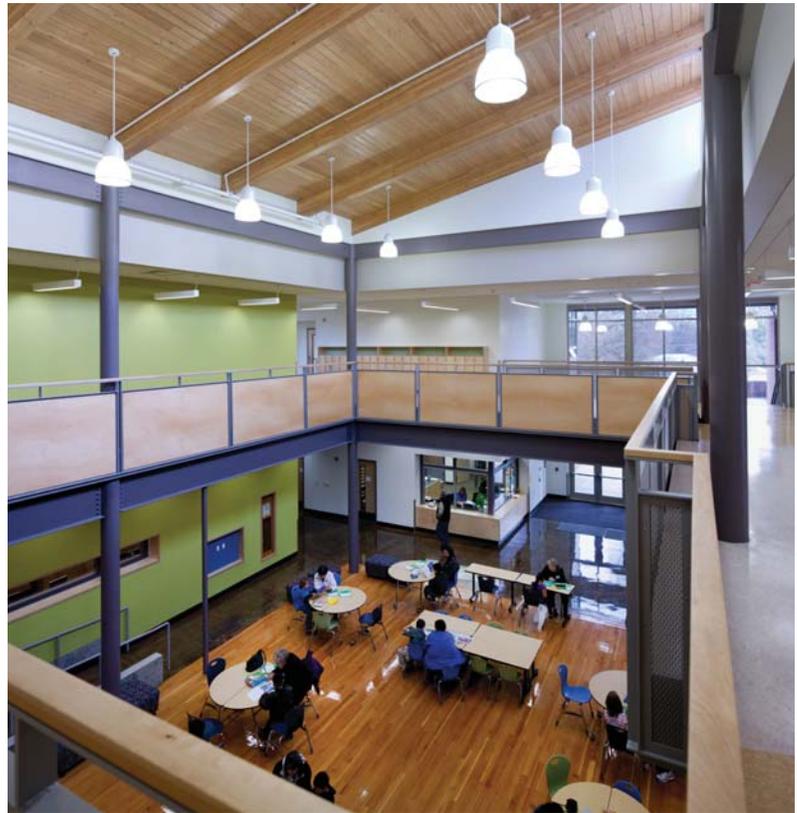
Medford, Oregon

Start Date: Planning Phase 2007

Completion Date: Work Completed 2010

Contact: Rich Miles

Director of Elementary Education
Medford School District 549C
rich.miles@medford.k12.or.us
541-842-3627



Four aging elementary schools in Medford, Oregon were re-built to adapt to the demands of a student-centered creative age. Roosevelt and Jackson Elementary Schools are featured here. The schools each accommodate approximately 428 students in 57,000 SF.

Left: Roosevelt Elementary Library - These window seats provide book storages, space for include reflective learning, and also support a quiet, social learning environment



Flexible learning communities enable these Medford schools to practice 21st Century learning modalities, like project-based learning. The varied furnishings are light enough for students to re-configure easily and the durable flooring, table surfaces and fabrics contribute to ease of maintenance.

Each school building was carefully designed to blend with the scale of buildings in the primarily residential areas they are in.



Above and Right: These “Hearts” of different learning communities are adaptable spaces that nurtures diverse learning styles - note the student display area within the tiny “Cave Space” in the photo above



Fielding Nair International Master Planning Experience

Puerto Rico Schools Modernization Program

Commonwealth of Puerto Rico

Start Date: January 2010

Completion Date: November 2010

Contact: David Alvarez

Executive Director, Public Private Partnership Authority

david.alvarez@bgfpr.com

Mobile: 1-787-594-1124

The Puerto Rico Department of Education, Public Buildings Authority & Public-Private Partnerships Authority invited Fielding Nair International (FNI) to provide initial recommendations and design standards for developing 21st Century educational spaces for all Kindergarten-Grade 12 schools in Puerto Rico. With over 1,500 facilities, many of which had operated for an extended period of time without any modernization upgrades, the Department faced some severe challenges. FNI began by providing a comprehensive facilities assessment that looked at both building physical conditions as well as their educational effectiveness to support 21st Century learning practices.



Above: Louvres control natural light and air flow, and can shut tight during hurricane activity

Left: Rendering of a sample school building, designed for maximum daylighting, every learning space with an outdoor view

Fielding Nair International Master Planning Experience Magnificat High School



Rocky River, Ohio

Start Date: April 2011

Completion Date: September 2011

Contact: Sister Carol Anne Smith, H.M.
President
scasmith@magnificaths.org
(440) 331-1572

Surround Learning, coined by Sister Helen Jean Novy, is a concept that connects the physical environment, new learning methodologies, and information and communication technologies for creating a holistic and enriched learning experience. The spaces that comprise the hub of the school are the Resource Center, Student Cafeteria, Large Group Instruction (LGI), Business and Technology Center (BTC), and the Faculty/Staff Lunch Room.

The goal for re-designing these spaces is to create a greater seamlessness between learning and the physical environment. To begin the process, FNI conducted a series of immersive Discovery Workshops which included Magnificat students, faculty, parents, and community members. The Discovery Workshops were designed to collectively explore concepts and ideas for the Surround Learning Project.



“Thank you so much! That’s a VERY BIG Thank you! After your last two presentations, and actually beginning with the first Board one and including the two intensive workshop days, I have felt a sense of marvel: everything is beyond our initial inchoate ideas and reaching dreams. Thank you for helping so expertly to make dreams reality.”

-Sister Helen Jean Novy, H.M.

Below: Students and faculty brainstorming ideas for sustainability



Below: Rendering depicting a new entrance lobby which defines the entrance to the Surround Learning spaces



Fielding Nair International Master Planning Experience

Regina Public Schools

Regina, Saskatchewan

Start Date: March 2008

Completion Date: In Construction

Contact: Ron Christie

Facilities Director,
Regina Public Schools
ron.christie@rbe.sk.ca
+1 (306) 523-3000

Right: At the entrance to Herchmer Wascana Community School, the landscaping consists of native plants arranged to manage rain flow and snow melt

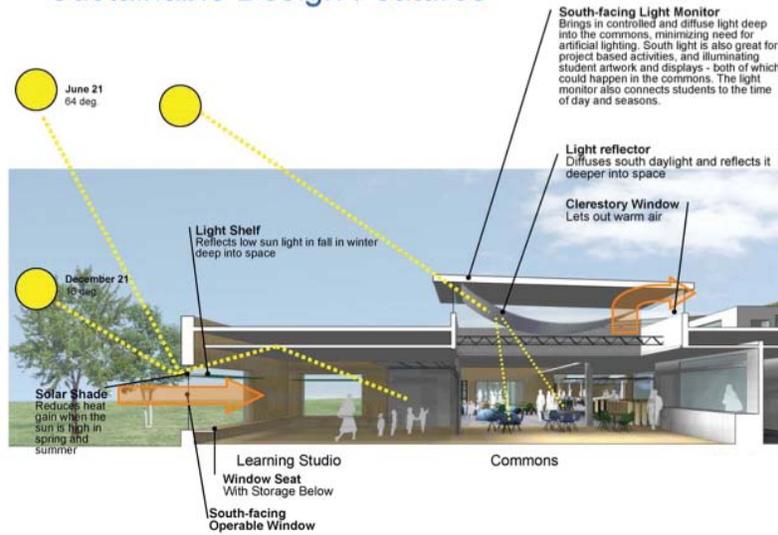


FNI was selected to design six new Regina schools, all crafted to nurture Creative Age learners and support Regina Public School's Structural Innovation initiative. Key attributes of the program and the environment include:

- Flexible teaching arrangements
- Teacher Collaboration
- Interdisciplinary learning
- Inclusive practices
- Safe and secure learning communities
- A technology-rich environment
- Integrated environmental design and curriculum

Left: The Herchmer Wascana Community School central atrium can serve as a play area during the long Canadian Winter

Sustainable Design Features



Left: Diagram showing sustainable design features with an emphasis on natural daylight

Below: Learning Communities surround a central commons at Douglas Park School



Below: Learning Commons at Arcola Community School filled with daylight



Fielding Nair International Master Planning Experience

Victoria Schools: Building Futures Initiative

State of Victoria, Australia

Start Date: January 2005

Completion Date: June 2007

Contact: Darrell Fraser

Deputy Secretary, Office for
Policy, Research and Innovation
Government of Victoria
fraser.darrell.j@edumail.vic.gov.au
+ 61 3 9637 2000

In Australia, the Victorian Government's Building Futures funding initiative has spawned a number of projects with Fielding Nair International's involvement as Planning and Design Consultant. There has been growing recognition in Victoria that school stock built in the 1950's and 60's has exceeded its useful life and that reinvestment in school buildings must contribute to a marked improvement in student learning. The Blair Street School is an example featured in these photos.



Upper Left: classroom space with sliding doors open to a commons area designed for project-based learning

Left: School building as environmental "textbook" - students study solar power and water levels in the cistern using integrated computer programs

FNI participated on eight separate primary and secondary schools projects in three communities: Broadmeadows, Bendigo and Geelong. In this capacity, FNI is providing visioning and educational planning, developing concept designs, performing educational effectiveness evaluations, and providing teacher professional development services. FNI has also begun work with several other Victorian communities on the Building Futures program.

Right: Students work in a commons with flexible furnishings and a student display area



Below: Student canteen serves a learning community commons



studioTECHNE Master Planning Experience

Cleveland Heights-University Heights High

Cleveland Heights, Ohio

Start Date: March 2007

Completion Date: August 2008

Contact: Eric Silverman

Alumni Association President

e_silverman@staff.chuh.org

phone: 216-287-8300

A return to a community building was the mission given to studioTECHNE by the Heights High Alumni Association. In the case of Heights High, a series of additions has rendered the building unusable. Entry for students, parents and the community is past the trash dumpster, and continues through a series of confusing corridors. Classrooms and hallways are small, and there is no space for educational programming to develop and grow. studioTECHNE is working with the Alumni Foundation, School Board and KnowledgeWorks to reclaim the building as a center for community learning. Removal of the 1960's science wing addition will provide a courtyard and restore the Cedar Road presence of the school. In conjunction with this, a new school entry on the north side of the building designed in harmony with the existing facility will provide an obvious place of entry to the building. Community access and use of the facility is improved with the public being invited to use the new auditorium, state of the art wireless resource center, and aquatic center. Designing the facility in harmony with the existing building does not preclude the introduction of state of the art technology and sustainable design principles. The students, teachers, and learning environment benefit from abundant daylight, operable windows and improved indoor air quality. Additionally, providing sufficient space for programs means the students will have generous spaces to meet and interact, as well as study in small and large group settings.





Lee Road Library

Cleveland Heights, Ohio

Start Date: March 2005

Completion Date: August 2006

Contact: Nancy Levin

Director

nlevin@heightslibrary.org

phone: 216-932-3600x240

Cleveland Heights/University Heights Library's Vision is to change the traditional role of a Community Library to create a Cultural Arts Center for the communities of Cleveland Heights and University Heights. This center allows the library to make an even stronger contribution to the residents by offering targeted programming to meet the interests of the citizens in the diverse cities they serve. The addition of education space, performing arts space, visual arts space in conjunction with the lending library will provide a place where the creative arts in Cleveland Heights and University Heights can flourish. Individuals and Families will find a place where an education in and an appreciation for the arts is the central mission. To support this mission, changes to the current facility were necessary.



We engaged community leaders, concerned citizens, neighbors and library staff in a series of meetings designed first to hear their concerns, and second to build a consensus that would provide constructive support for a new design. The design created an appropriate visual statement for the Library's vision of an Arts Center. studioTECHNE worked with the Library Director and staff to achieve the desired adjacencies and efficiencies which allowed maximum oversight of public spaces with the minimum number of staff. The completed center enables targeted programming to meet the interests of a diverse citizenry. New space satisfies the specific criteria for expanded education, performing and visual arts as well as the lending library. Individuals and families now have a variety of spaces where for arts education and appreciation.



Left: Teen Room, and detail of the computer counter. Teen Room uses include studying, mini-concerts, poetry slams as well as teen meeting place.



Above: Exterior building views showing the landmark pedestrian walkway that serves as a place for kids to race each other as well as specifically choreographed dance exhibitions.



Above Right: Main lobby and reading area



Right: Rendering of the Children's Room and story time egg.

studioTECHNE Master Planning Experience

Notre Dame College

South Euclid, Ohio

Start Date: January 2007

Completion Date: August 2009

Contact: John Phillips

Vice President

jphillips@ndc.edu

phone: 216-373-5308

studioTECHNE’s master planning efforts with Notre Dame College are focused on assisting them to implement the change from an all girl’s institution to a co-ed college. Phase one is the development of new dormitory facilities and updating and renovating existing facilities making them universally accessible. Aware of the rising costs of energy, Notre Dame has directed us to ensure the new facilities are focused on sustainability with the goal the buildings will perform above the current energy codes by 20%.



Phase II of the masterplan is additions to the Clara Fritzsche Library and Classroom Expansions. The building project will change the current under-utilized library into a center for learning and student life. Central to the design of this 24-hour building, will be the first floor commons area where students will meet to study and access online content on the wireless network. The Commons is also home to the school book store, the student art gallery, a large reading room and small group study rooms. The second floor is a dedicated learning center. Here students utilize the computer and language labs and connect to their colleagues across the world in the media presentation room.



Above: The commons serves the students, as an active vibrant meeting place.

Left: View of the rotunda designed to sit in harmony with the original gothic main hall



Top: Master Plan blends the proposed buildings with the existing creating a series of quads for student activity

Above: Opening day of the new dormitory building



Top Right: Rendering of the Proposed Dormitory

Right: Graduate Student Lounge a flexible space allowing multiple configurations based on study projects and group size.



Ginn Academy

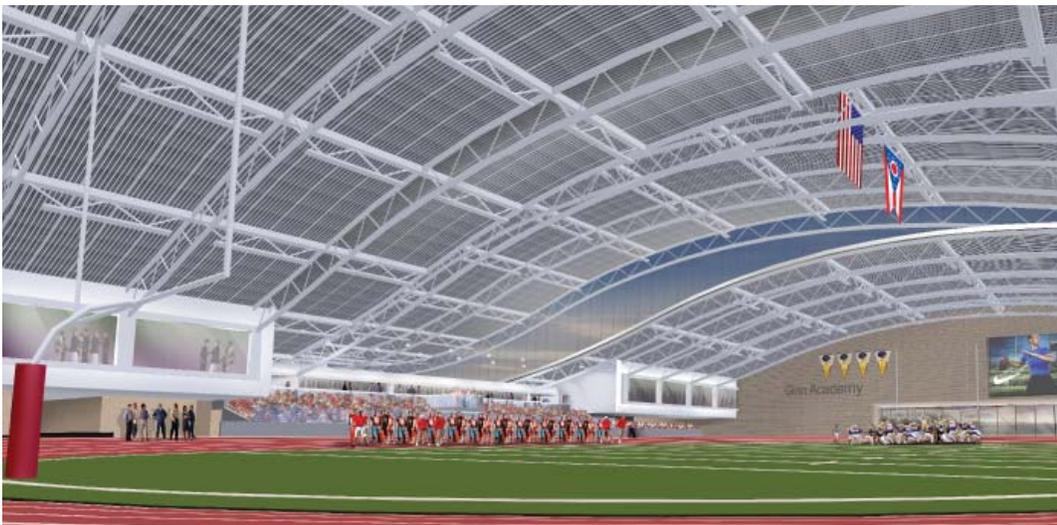
Cleveland, Ohio

Start Date: June 2006

Completion Date: August 2007

Contact: Ted Ginn
Director
phone: 216-406-9131

Working with troubled youth has been the calling for Ted Ginn Sr., current coach of the Glenville High Track and Football Teams. His vision for reaching, developing and saving the youth of the inner city has lead him to partner with the City of Cleveland School District to form a Charter School. The mission of the school is to provide an ideal learning environment where young men will receive individual mentoring, learn respect, and gain the self confidence they need to succeed in life. The campus will consist of 3 buildings surrounding a quad. An academic building is structured to provide a Small School learning environment where the students will be broken down into 4 academic schools with class size limited to 18 students per class. Each academic environment is set up to allow for teaching to multiple intelligences, while allowing space for two classes to combine for special projects. An English-History, or a Math-Science module is easily accommodated in the project area. Many of the students coming to this school will be coming from difficult home circumstances. These students will be accommodated in the dorm facility, where councilors and support staff will provide the social services these students are in need of. Continuing the tradition of athletic excellence, a field house will provide the students much needed space for exercise and fitness, a key component to Mr. Ginn's philosophy of using athletics to teach children self discipline, and self worth. Currently, the school is entering a fund-raising campaign and classes are set to start in the fall.



Above Left: The commons serves as the center of the facility welcoming students in a bright open environment.

Left: The field house will become the center of student athletic endeavors



Top: Exterior View from the Field House

Above: View of the information and media wall



Top Right: Basketball Facility

Right: Night View of the Field House



studioTECHNE Master Planning Experience

Hawken School

Lyndhurst, Ohio

Start Date: January 2005

Completion Date: August 2012

Contact: Tony Wanner

Director of Facilities

twann@hawken.edu

phone: 440-423-2970

In attempting to implement a new middle school curriculum that reflected an educational pedagogy of small class size and flexible learning spaces, Hawken School realized their facilities would not support this new direction. studioTECHNE was hired to refine a master plan and implement the first phase - the design the new middle school building.

Working with administration, faculty, and students, studioTECHNE led a series of workshops designed to first understand the new curricula and secondly to work through model classrooms that would support an educational plan directed at teaching to multiple intelligences. The building design developed inside out, with classroom placement, support spaces and learning centers being designed and arranged within the new facility to reflect the schools need for small group, grade level and school level teaching assignments. Once complete, design attention focused on the exterior. The campus is a collection of buildings each of their own decade, the schools direction was to follow the “truth” found in the character of the original 1920’s Georgian Hall in which the school was founded. We achieved this goal by designing the building’s details and motifs to compliment but not copy the original, allowing a harmony to form between the two buildings.

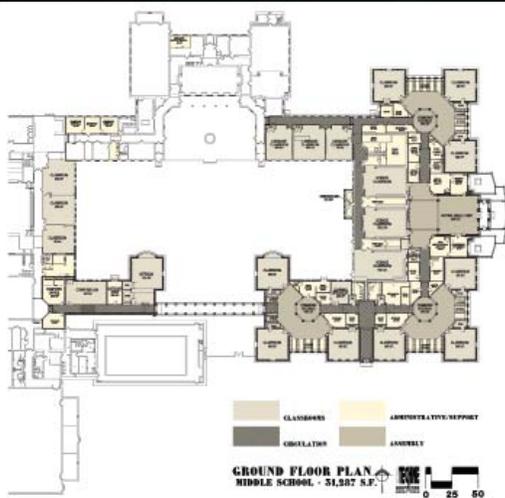


The success of the project led to Phase II - Design of an Early Childhood Enrichment Center set to open August 2011.



Above: Design Sketch

Left: The main lobby serves as a commons for the school where student achievement is celebrated.



Top: View of the Middle School Main Entrance

Above: Ground Floor Plan



Above Right: Rotunda allows students space to change classes and functions as a grade level common space.

Right: Rendering of the main entrance.

Fanning Howey Master Planning Experience

Rightsizing and Bond Program

Detroit, Michigan

Start Date: June 2009

Completion Date: 2012 (est.)

Contact: Robert Boik

Chief of Staff to Emergency
Financial Manager

Phone: 313-870-3372

During the past ten years, Detroit Public Schools has seen enrollment decline by more than 70,000 students. Combined with antiquated buildings and an open enrollment policy, these conditions have created a facilities crisis within the city.

At the request of the Emergency Financial Manager, Fanning Howey was hired to develop a comprehensive rightsizing plan that would align existing facilities with enrollment and curriculum needs. While district leadership desired a long-term Master Facilities Plan, they also recognized the need for immediate improvements. This led to a dual course of action, with the Fanning Howey team developing a Bond Application for November 2009, while simultaneously creating a long-term Master Facilities Plan.

As part of the process, Fanning Howey survey teams analyzed the educational adequacy and physical condition of dozens of district schools. Based on this data, as well as demographic projections and dozens of community meetings, Fanning Howey helped develop a two-phase Capital Improvement Program that would, among other goals, rightsize the district by closing 42 schools, while also investing more than \$1 billion in new and renovated school construction. This fast-track effort was completed in only six months and resulted in the successful passage of a \$500.5 million bond issue in November 2009.

Fanning Howey is currently part of the Project Management team for the bond issue, which includes the renovation or new construction of 18 schools in three years.



Left: All three new high schools and four new elementary/middle schools will achieve a minimum of LEED Silver certification.



MLK, Jr. HS - Before



MLK, Jr. HS - Groundbreaking



MLK, Jr. HS - Rendering

Above: A total of 18 outdated buildings, such as Martin Luther King, Jr. High School, are being rebuilt or reconstructed in a period of three years.



Right: As part of the CIP, Detroit Public Schools Student have a chance to participate in a nine-week summer trades program where they receive a combination of classroom instruction and on-site job experience.

Fanning Howey Master Planning Experience

2006-2010 Master Facilities Plans

Washington, DC

Start Date: January 2006

Completion Date: Ongoing

Contact: Allen Lew

City Administrator

Allen.lew@dc.gov

Phone: 202-478-9200

Faced with rapidly decreasing student enrollment, the District of Columbia Public Schools identified a bold goal - "to reduce existing infrastructure by 1,000,000 square feet in 2007." Fanning Howey, along with Bryant Mitchell Architects and Earth Tech, was first hired to update the 2004 Master Facilities Plan and find ways to meet the stated goal while improving the quality of the educational environment.

The highly successful planning process addressed a wide-range of topics and melded them into a cohesive view of the district's facilities. As part of this effort, our team engaged the community in more than two dozen "town hall meetings."

The final Master Facilities Plan assessed all 147 of the district's buildings and provided recommendations for the next 10 years of Capital Improvement Programs. The Master Facilities Plan also aligned the district's buildings with the 2006 Master Education Plan, eliminated another 1,000,000 square feet of building space, and laid the groundwork for the adaptive reuse, renovation, or replacement of nearly every school in the district.

When, under the Mayor's leadership, DCPS moved to implement additional consolidations, the Fanning Howey team was once again retained to produce the 2008 Master Facilities Plan, followed by another in 2010.



Left: The first major project to come out of the master plan, Phelps High School received 10 planning and design awards.



Above: Community and stakeholder meetings helped to establish core criteria for the master plan, as well as design guidelines for future renovation and new construction projects.

Right: The master plan placed a premium on community use of schools - the modernized Wilson High School will include a Performing Arts Complex and Athletic Complex open to neighborhood groups.



Fanning Howey Master Planning Experience

Long-Range Strategic Facilities Plan

Muncie, Indiana

Start Date: June 2003

Completion Date: September 2003

Contact: Tim Heller

Superintendent

Phone: 765-747-5205

Fanning Howey conducted a Long-Range Strategic Facilities Plan, which included the assessment of 20 educational and support facilities throughout Muncie Community Schools. The purpose of the study was to evaluate each of the existing buildings and to identify options to meet the present and future needs of the district. Assessments of the buildings were conducted with building staff accompanying the Fanning Howey team on all tours.

As a result, collected data and summaries of findings were prepared for each facility. Along with this effort, a comprehensive demographic study and a Comprehensive Plan for Additions and Renovations were completed for the district. The result was a well-defined plan to assist the district in meeting educational requirements now and into the future.



Left: Southside High School was one of several schools to receive upgrades as a result of the master plan.

Strategic Facilities Utilization Master Plan

Annapolis, Maryland

Start Date: December 2005

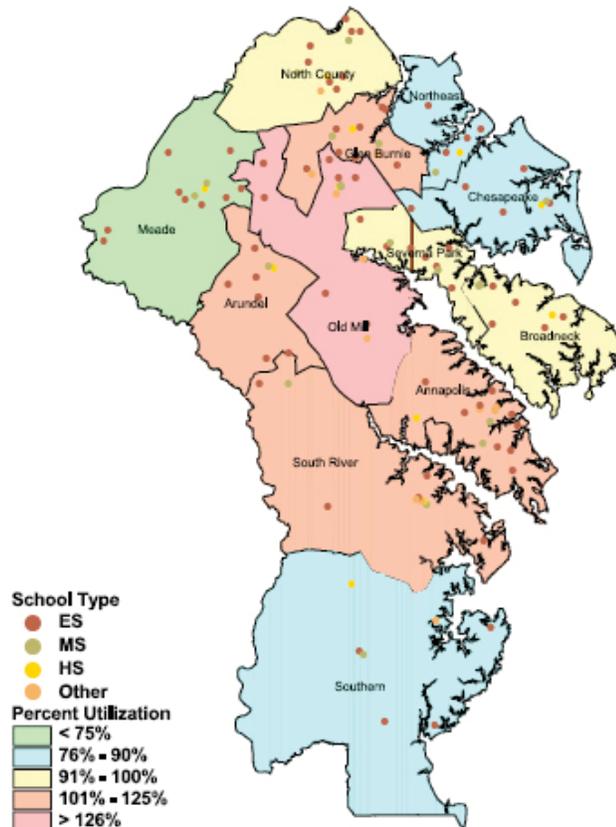
Completion Date: June 2006

Contact: Alex Szachnowicz
Chief Operating Officer
Phone: 410-222-5307

As Anne Arundel County Public Schools examined options for future construction efforts, the district commissioned MGT of America and Fanning Howey to conduct a district-wide Strategic Facilities Utilization Study. Over the course of seven months, the team conducted a complete inventory of 143 different sites, preparing floor plans for all buildings.

As part of this effort, Fanning Howey assisted in conducting physical condition assessments for sample buildings and prepared schematic floor plans of those school facilities and support buildings. The firm also prepared building inventories identifying room sizes and room uses, and prepared cost estimates for all recommended options, including new construction, additions, and renovations.

In addition, Fanning Howey personnel assisted MGT of America in developing the master plan strategy and making public presentations.



Left: The master plan examined projected school utilization in each feeder zone for the year 2015 .

Fanning Howey Master Planning Experience

Eastern High School

Washington, DC

Start Date: January 2009

Completion Date: June 2010

Contact: Allen Lew
City Administrator
Allen.lew@dc.gov
Phone: 202-478-9200

Eastern High School was built in 1923 and is one of the oldest continuously-operating high schools in the District of Columbia. Due to its age and size, the school building was renovated and “right sized” to better meet the needs of the community, as well as DCPS standards.

Renovations reconfigured classrooms and labs to resemble college-level learning environments. A robust technology infrastructure supports self-directed learning and programs such as Project Lead the Way.

While a 21st century learning environment was taking shape, a parallel effort was underway to preserve Eastern’s rich history, including restoration of leaded portico windows at the exterior, woodwork throughout the building, marble in the main stairway, terra cotta flooring in corridors, and interior brick walls and plaster detailing.

All building systems were replaced, and new interior finishes and automated lighting controls were added throughout the building. Other sustainable features include a renovated greenhouse with a supporting rainwater cistern. Eastern is projected to earn LEED Gold certification.



Left: A Practical/ Project Lab on the ground floor includes an ambulance for real-world training in Health & Medical Science.



Light Well - After



Light Well - Before

Above: Two open light wells were transformed into enclosed atriums, which act as gathering spaces on campus.

Right: The formerly dark cafeteria now features windows near the entrance for borrowed daylighting. The space is configured to allow representatives from colleges and universities to meet with students every Wednesday.



Fanning Howey Master Planning Experience

Bucyrus Elementary School

Bucyrus, Ohio

Start Date: August 2006

Completion Date: October 2009

Contact: Kevin Kimmel
Superintendent
kkimmel@bucyrusschools.org
Phone: 419-562-4045

Bucyrus Middle School held a special place in the hearts of its community. Originally constructed in 1922, many residents considered the school historic. When it was determined the middle school would be converted into a PK-5 elementary school, Fanning Howey preserved as many historic elements as possible.

To help make this large, three-story building feel smaller to its younger inhabitants, each level houses two grades, starting with kindergarten and first grade on the first floor and ending with fourth and fifth graders on the third floor. Students only need to leave their “home floor” for specialty classes or for lunch. The music room and student dining areas are on the first floor, while the auditorium, art room, and gymnasium are on the second floor. The media center and computer lab are located on the third floor.

With the school officially opening in 2009, students, staff, and the community now enjoy a facility that has retained its sense of history, but features upgrades for 21st century learning. Existing hardwood flooring was restored throughout the building. Where new materials were required, such as windows, they were carefully chosen to reflect the style of the original building. Other renovations included new furnishings, finishes, lighting, cabinetry, electrical, plumbing, HVAC, and technology upgrades.



Left: Rendering of the newly configured Learning Studios.



Above: The building's historic main entrance was preserved, but behind its walls lies a 21st century learning environment.

Right: A kindergarten addition provided much-needed space and created a secure drop off for the school's smallest students.



Fanning Howey Master Planning Experience

Master Facilities Plan

Providence, Rhode Island

Start Date: April 2009

Completion Date: February 2010

Contact: Thomas Brady
Superintendent
thomas.brady@ppsd.org
Phone: 401-456-9100

From 2003 to 2009, Providence Public Schools experienced a 16 percent drop in enrollment. This development, combined with aging and outdated facilities, led the district to undertake a long-range planning study.

Fanning Howey provided educational planning and consulting services, which included surveying each of the district's 54 buildings. Planners also conducted interviews with school principals, prepared a complete capacity analysis of all schools, and analyzed attendance patterns. Several rounds of community meetings presented the findings to the public and allowed residents to voice their opinion regarding the future of the school district.

The final report, delivered in early 2010, recommended the closure of seven school buildings, as well as the reopening of West Broadway Elementary School. The proposed closures, combined with renovations at certain schools, will align the district's facilities with current and future enrollment trends.

Webster Avenue Elementary School

60% of Students Live within 1/2 Mile of the School



Left: The master plan examined student proximity to each school, to help the district make decisions regarding consolidation.

Fanning Howey Master Planning Experience
District-Wide Master Plan



Syracuse, New York

Start Date: September 2010

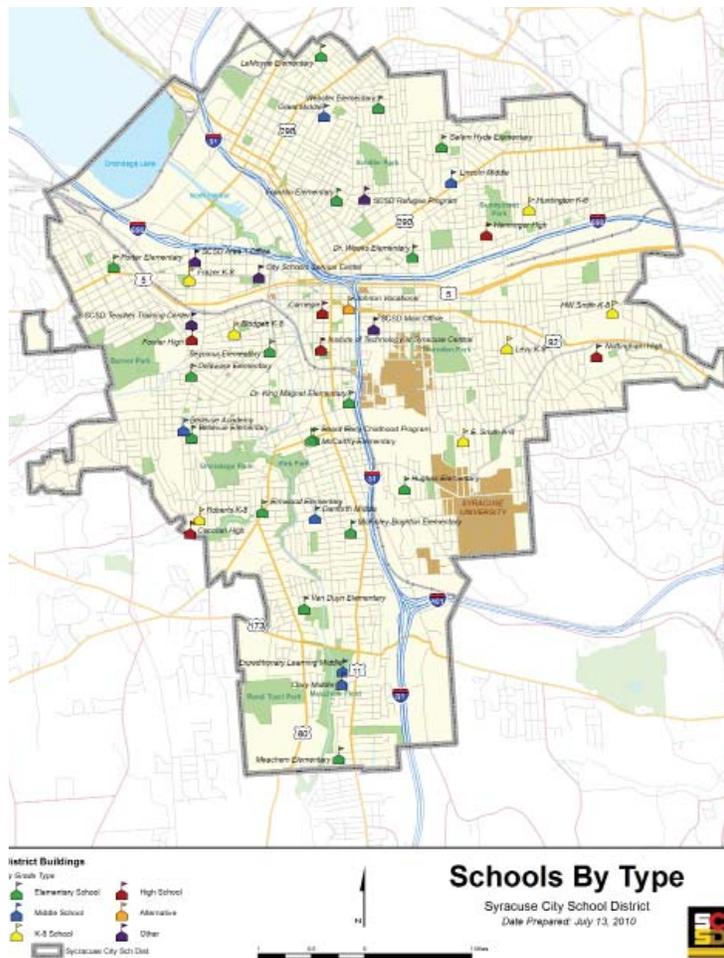
Completion Date: December 2010

Contact: Ron Kenyon, AIA
 Educational Facilities Planner
 Phone: 315-435-4499

Fanning Howey, in association with SEI Design Group, completed a district-wide master plan for the Syracuse City School District.

The study involved educational adequacy assessments of the district's complete facilities inventory, a total of more than 30 schools throughout the city. Other efforts included the development of enrollment projections and a comprehensive and through examination of previous plans and studies, as well as academic and facilities information and data.

The key objective of the master planning process was to make recommendations regarding improvements to the district's facilities. The Master Plan was presented to the School Board of Syracuse City Schools on December 16, 2010. Its recommendations reflected the most efficient use of available resources for the future.



Left: The master plan included educational adequacy assessments of approximately 36 schools throughout the district.

Fanning Howey Master Planning Experience

Master Facilities Plan

Round Lake, Illinois

Start Date: January 2011

Completion Date: June 2011

Contact: Dr. Constance Collins
Superintendent
ccollins@rlas-116.org
Phone: 847-270-9000

Master planning efforts for Round Lake Area Schools District 116 included district-wide facility assessments of nine facilities, an educational adequacy study, energy benchmarking, and an overall facility master plan - all necessary to prepare the district for a successful future.

The physical assessment of all buildings included reviews for architectural, structural, mechanical/plumbing, electrical, and site adequacy. Necessary improvements were categorized and ranked in order of importance, allowing the district to phase updates as money becomes available.

The educational adequacy study assessed how well the facilities provide the learning environment necessary to support and enhance the delivery of the educational curriculum. This included an assessment of the type and size of each learning space.

The energy benchmark used information provided by the district, including such items as utility bills from the past three years, building square footage, number of computers, etc. Fanning Howey compared energy usage with national averages to establish an energy benchmark.

The final step was the creation of a Master Facilities Plan. This plan provided suggested capital improvements, along with a timeline for implementation and a projected budget for completion of the work.



Left: Magee Middle School was one of nine buildings that received a complete assessment and educational adequacy analysis.

Fanning Howey Master Planning Experience District-Wide Facility Study



Raleigh, North Carolina

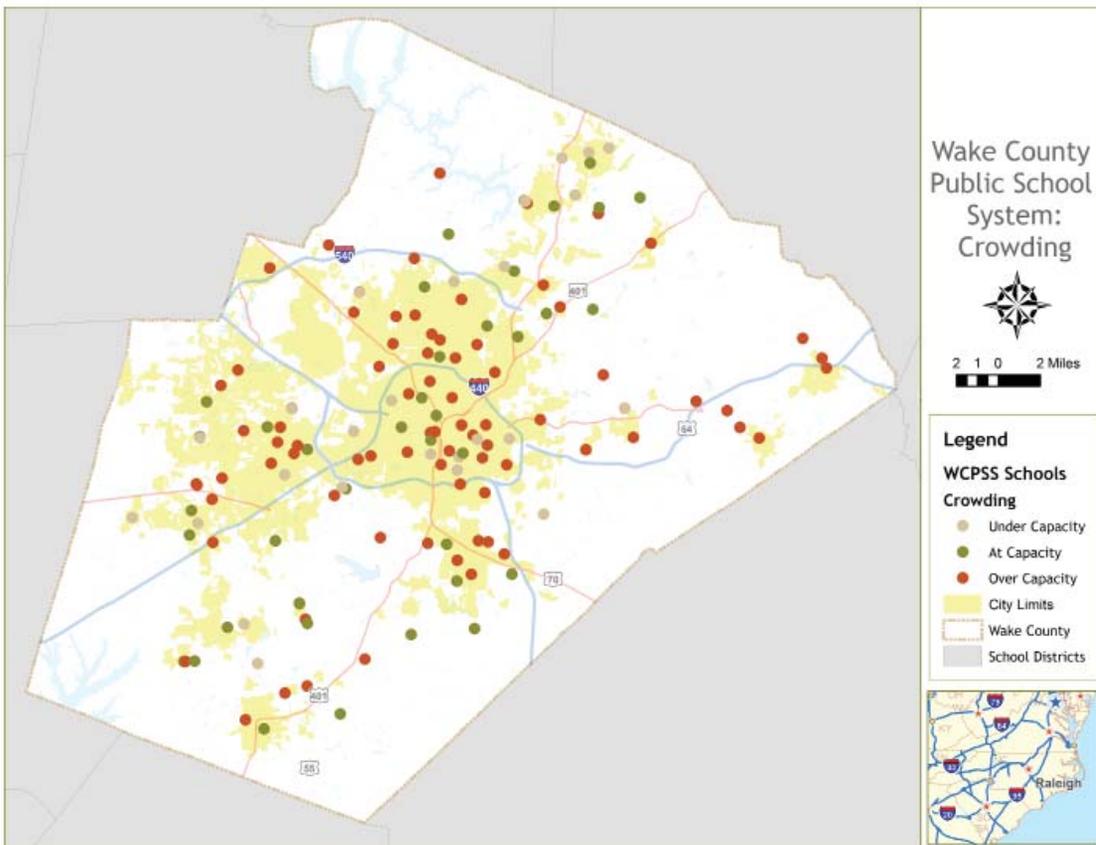
Start Date: April 2011

Completion Date: May 2011

Contact: Donald Haydon, Jr., PE
Chief Facilities & Operations
Officer
dhaydon@wcpss.net
Phone: 919-856-8275

Fanning Howey was retained by the Wake County Public Schools System to conduct a fast-track capacity study of the district's 168 facilities. Faced with approximately six weeks to complete the project, the firm mobilized professionals from the Raleigh office and supplemented them with people from several offices including DC, Indianapolis, and South Bend. Within three weeks of starting, survey teams had assessed every building to get an accurate count of the number of classrooms and how the spaces in each building were being used.

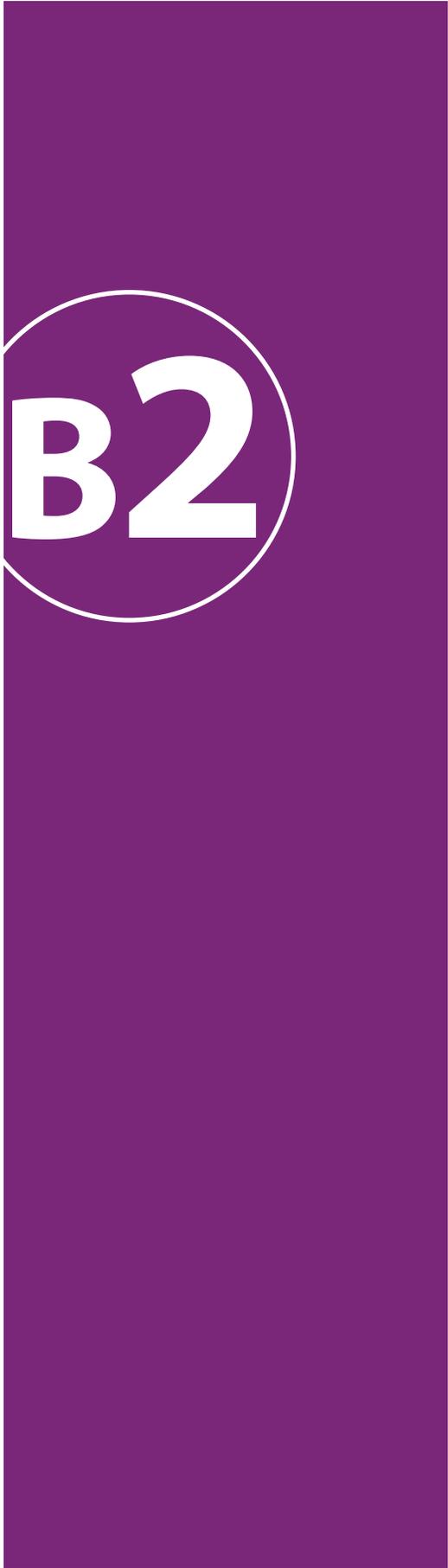
The analysis portion of the project involved the development and deployment of three different methodologies to assess capacity. This provided the Wake County Public School System with an understanding from three different viewpoints, including how the buildings are currently used, how the buildings could be used, and how the buildings would function from a capacity standpoint if the space standards adopted by the system were adhered to.



Left: The Fanning Howey team completed capacity surveys of all 168 Wake County schools in only three weeks.

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Project Team and Organization



B2

Team Roles of Each Firm



This three firm team creates a seamless blend of expertise, with clearly defined roles:

Fielding Nair International will lead the Master Planning process. FNI’s comprehensive expertise includes architects and designers, but also curriculum consultants, tech consultants and financial advisors.

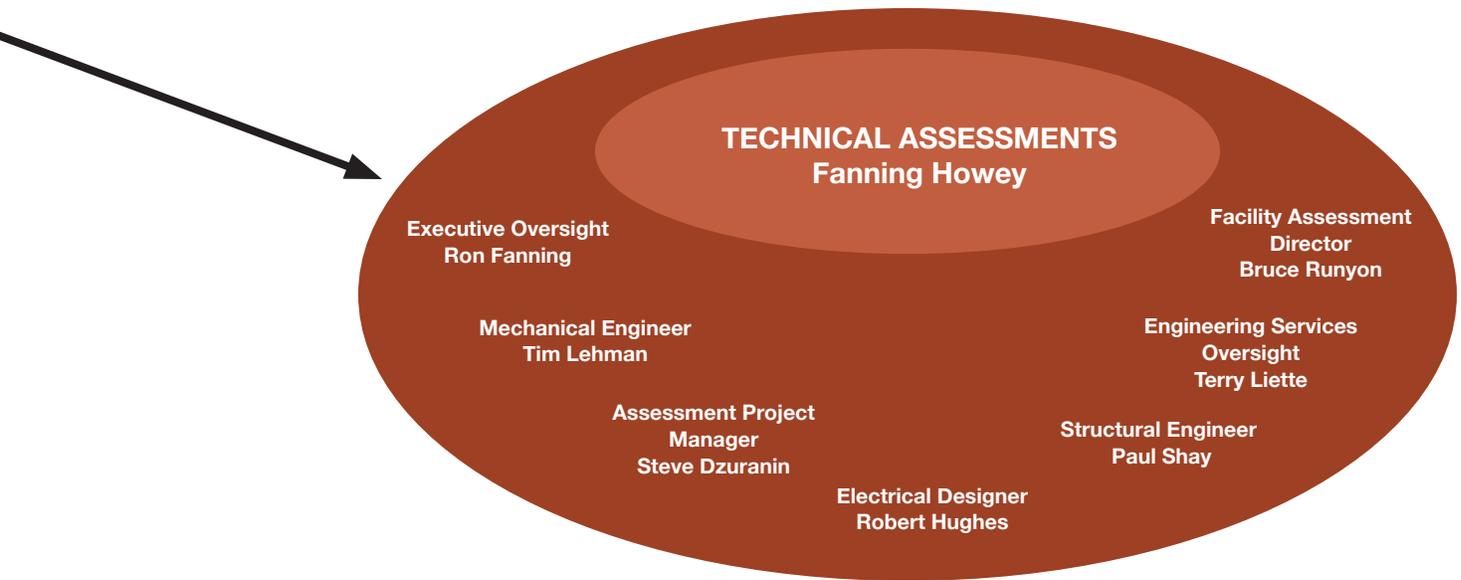
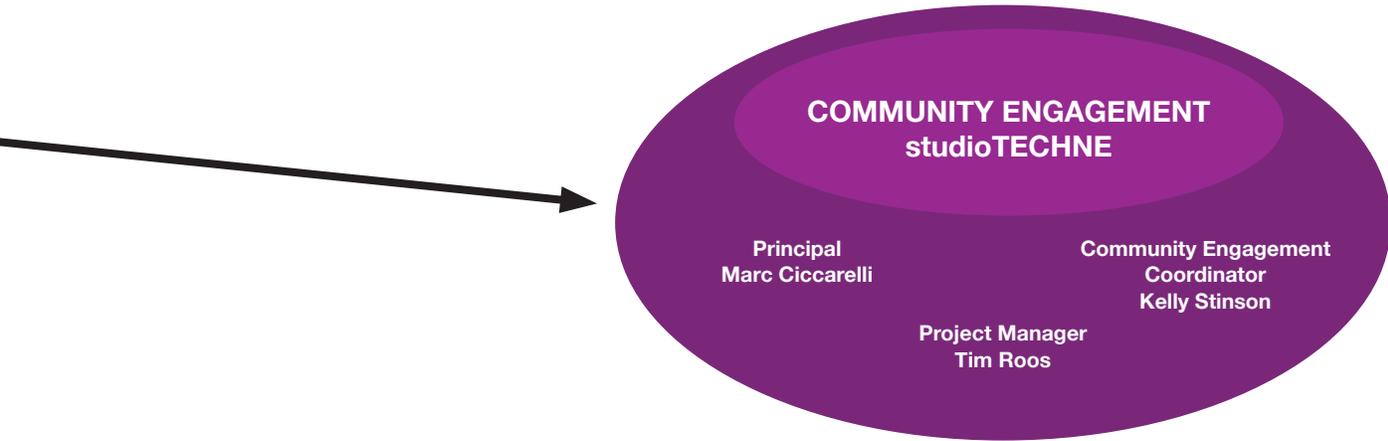
studioTECHNE will assist in the community engagement process; as experts in the CHUH school district area, they will provide valuable insight into local issues and resources.

Fanning Howey will provide technical assessments of all buildings in the district area. Their knowledge of local regulations and climate, and their vast personnel resources add another important strength to the team.



studioTECHNE architects

FANNING HOWEY





Randall Fielding, AIA



Chairman, Fielding Nair International, LLC

Project Director

As FNI's Chairman, Randall Fielding will oversee the entire project and will ensure that the quality of work meets the expectations of the District. Randall will actively participate in the Discovery Visits and will present at major public presentations. He will be accessible at any time to the District's Leadership Team.

“One of Randy’s “signatures” is his ability to come down off of the podium, sharing ideas with heads of state, educators, and children with equal passion.”

Randy's achievements have earned him more than a dozen design awards from the American Institute of Architects, The Council of Educational Facility Planners International (CEFPI), the American Association of School Administrators, and School Planning and Management Magazine. He is internationally recognized as an authority on innovative school design and received the CEFPI Planner of the Year Award in 2007—the most prestigious honor of any individual in the field of educational design. He has been selected to serve as an architect, consultant, presenter and/or keynote speaker in Australia, Azerbaijan, Canada, Cayman Islands, Chile, Finland, Great Britain, India, Indonesia, Kazakhstan, Malaysia, Portugal, Qatar, Singapore, The Czech Republic, The Netherlands, Sri Lanka, Spain, Switzerland, and the United States.

One of Randy's “signatures” is his ability to come down off of the podium, sharing ideas with government leaders, educators, and children with equal passion. This spirit of sharing extends to two million people each year, through DesignShare.com, an online forum for innovative learning environments that Randy founded in 1998. He continues to serve as DesignShare's editorial director, but the focus of his work is to lead communities in the design of environmentally responsive campuses that foster personalized learning and strong connections to the community.

Randy's design work leverages more than 500 case studies from 30 countries — the largest library of innovative school designs in the world. The interactive planning and design process pioneered by FNI is also grounded in a seminal book that Randy co-authored with Prakash Nair, entitled *The Language of School Design*. The book establishes key learning modalities for success in the post-information society, and provides a series of design patterns to support these modalities. Randy is licensed in the state of Ohio and recently produced, “Right-Sizing School Facilities for a Global Learning Network” for the Cleveland Heights /University Heights School District.

In addition to serving as a lead design architect, teamwork underpins all of Randy's work, which takes him around the world to collaborate with public and private institutions, educators, developers, and local architects. Whether it's a high school near ground zero in New York City, a series of vocational schools for the tsunami-damaged areas of Sri Lanka, a school for at-risk students in Minneapolis, a K-12 campus in Indonesia, or a college preparatory school in Switzerland, he finds more commonalities in each community than differences.



Prakash Nair, REFP



President, Fielding Nair International, LLC

Executive Planning Advisor

Prakash Nair will serve as the Executive Planning Advisor. His role will be to oversee the development of the master plan options, giving team members the benefit of his international master planning experience.

Prakash Nair is a futurist, a visionary planner and architect with Fielding Nair International, one of the world's leading change agents in school design. He is also the Managing Editor of DesignShare.com which attracts over one million visitors each year. He is the recipient of several international awards including the prestigious CEFPI MacConnell Award, the top honor worldwide for school design.

He has written extensively in leading international journals about school design and educational technology and their connection to established educational research. He is also the author of two guidebooks on school planning including the landmark 2005 publication, *The Language of School Design* which he co-authored with his partner Randall Fielding.

Prior to co-founding Fielding Nair International, Prakash worked for ten years as Director of Operations for a multi-billion dollar school construction program for New York City. In 2003, Prakash completed a project with the University of Wisconsin on a Rockefeller Foundation-funded grant to develop international best practice standards for tomorrow's schools. He also led the effort to develop a new research-based tool to evaluate the educational effectiveness of schools. This tool, now being tested by schools and governments in the United States, Australia and Singapore will revolutionize the way we look at how school buildings and campuses actually work to support teaching and learning.

Prakash Serves as a Managing Principal on several projects scattered around the world. He has served as a school planning and design consultant, presenter and/or keynote speaker for clients in Australia (five states), Canada, Cayman Islands, Finland, India, Indonesia, Malaysia, New Zealand, Qatar, Singapore, Thailand, The Netherlands, Spain, U.A.E., U.K. and the United States (19 states). By staying current with the research as well as national and international social, economic and cultural trends, Prakash is always able to bring best practice thinking from many disciplines and fields to bear on education-related problems and projects. This approach has helped education clients save millions of dollars while still achieving or exceeding their schedule and quality expectations.

Prakash's signature talent lies in his ability to communicate his passion for a new approach to education across the globe. He has consistently built strong partnerships with local firms, helped client communities visualize their future, built consensus for uniquely tailored solutions, and helped execute them successfully.

“Prakash is always able to bring best practice thinking from many disciplines and fields to bear on education-related problems and projects.”



James Seaman, AIA, REFP, LEED AP



Senior Designer, Fielding Nair International, LLC

Project Manager

James Seaman will serve as the overall Project Manager. He will coordinate the responsibilities and work of all three firms and make sure that information is flowed in an unencumbered manner. James will work with CH-UH to set project schedules and deliverable requirements. He will serve as the principal contact person to the District.

“It is the cross-pollination of disciplines, and a holistic approach to design that form the cornerstones of James’ career.”

James Seaman has over a decade of professional experience primarily focused on the design of educational facilities. A well-rounded architect, he has worked on numerous projects from initial programming all the way through the construction phase. He approaches every project with a focus on creating enriched learning environments that embrace sustainability. A recent project he completed, the Bowers Academy in Bloomfield Hills, Michigan, integrates many sustainable elements including a geothermal system, daylight harvesting, and a wind turbine.

Passionate about education, James serves as an adjunct faculty member at College for Creative Studies in Detroit, Michigan. He teaches beginning and advanced three-dimensional modeling and animation classes in the Interior Design department, where his students learn to use digital tools to effectively design their ideas and build strong portfolio pieces for future careers.

James is currently the Michigan Chapter President of the Council of Educational Facility Planners International (CEFPI). He holds the organization’s professional designation, Recognized Educational Facility Planner (REFP), which is a mark of distinction for educational facility planners world-wide. Through the organization, he received a Regional Service Citation Award in 2010 for his work on the Midwest Great Lakes Regional Conference and for co-creating the educational social networking site www.relearning2.org.

It is the cross-pollination of disciplines, and a holistic approach to design that form the cornerstones of James’ career. His influence extends beyond architecture as he regularly collaborates with educators. James believes that research is essential for the realization of new ideas. It is from this research that James has authored articles about 21st century learning, career and technical education, and sustainability. In his article, Agile and Information-Rich Learning Environments, he describes ways in which educational environments can be designed to enhance 21st century learning.

James enjoys sharing his research through presentations at educational conferences and critical discussion amongst colleagues on topics related to architecture and educational design. Recent presentations include: A Holistic Approach to Implementing Green in Career and Technical Education, Collectively Designing the Future of Education, and Educational Trends that Affect School Design in the 21st Century.



Isaac Williams, LEED AP



Senior Designer, Fielding Nair International, LLC

Project Planner

As the team's Project Planner, Isaac Williams will creatively balance desired goals and practical realities to develop master plan options. He will be involved with the community engagement process for gathering input, and will coordinate with the assessment team to understand the constraints of the existing buildings and sites.

“Isaac combines a stellar design capability and big picture thinking with the detailed, analytical eye of a skilled university researcher.”

Isaac Williams brings over a decade of professional experience from programming through construction administration to help FNI's clients locate within their program, schedule and budget opportunities for innovative architecture that supports learning. As a senior designer with FNI, Isaac has provided design leadership in FNI projects around the world, including Douglas Park School and Herchmer School in Regina, Saskatchewan, Thomas Jefferson High School for Science and Technology in Alexandria, Virginia, Georgetown Primary School in the Cayman Islands, Sir James Douglas School and Acadia School in Vancouver, and most recently F.H. Collins High School in Whitehorse, Yukon Territory.

Isaac has lectured on school design and presented his design work nationally and internationally. He has served as juror for the American Institute of Architects Honor Awards, the National School Board Association's "Learning by Design" awards, DesignShare's international awards program, and served as a resource team member and panelist for the American Architectural Foundation's Great Schools by Design program.

Isaac also brings to bear his academic background as an assistant professor at the University of Maryland where he has taught undergraduate and graduate design studios, including a graduate design studio on school design. His graduate seminar "Learning Places" explores the potential of architecture as a form of pedagogy in places of learning. Isaac has also taught architecture internationally in several study abroad programs around the world, including Dubai, Rome, Copenhagen, and Helsinki.

In 2007, Isaac was awarded a Henry C. Welcome Fellowship and a three-year grant by the Maryland Higher Education commission to continue his research and creative work focused on the relationship between space and learning.



Gary Stager, Ph.D.

Senior Educator and STEM Consultant, Fielding Nair International, LLC

Education Expert

As an educator, Dr. Gary Stager will provide expertise in 21st century learning as it relates to the built environment. He will interface with administrators and educators to identify educational goals and will translate these goals to the planning team. Dr. Stager will be involved in the Discovery Process and will present Best Practices for 21st century learning in educational facility design.

“Having seen Gary work with children around the world, I can attest that he is a true champion of children.”

Peter H. Reynolds, Award-winning author, illustrator, animator & software developer

Teacher educator, journalist, speaker, teacher, activist and consultant, Dr. Gary Stager, is driven by a belief that “things need not be as they seem.” He has worked since 1982 to help teachers on six continents make sense of their roles in the digital age. In 1990 Stager led development efforts at the world’s first two “laptop schools” in Australia. Since then, Gary has worked with countless laptop schools from Maine to Melbourne to Mumbai. Most recently, he helped a new Korean international School launch 1:1 computing and project-based learning from grade one.

Stager taught at Pepperdine University’s Graduate School of Education and Psychology from 1993 to 2010, most recently as a Visiting Professor. In 1998, Gary helped design Pepperdine’s ground-breaking Online Master of Arts in Educational Technology degree program and has taught online for fifteen years. Dr. Stager was a collaborator in the MIT Media Lab’s Future of Learning Group and the One Laptop Per Child Foundation’s Learning Team. He is the Executive Director of The Constructivist Consortium, founder of the Constructing Modern Knowledge summer institute and an associate of the Thornburg Center for Professional Development.

Gary was Senior Editor for District Administration Magazine, Founding Editor of The Pulse: Education’s Place for Debate and Editor of ISTE’s Logo Exchange. He is a frequent consultant, conference presenter, workshop leader and keynote speaker at conferences across the USA, Canada, China, Spain, Australia, New Zealand, Qatar, Brazil, Mexico, India, Switzerland, France, Bermuda, Costa Rica, Peru, South Korea, South Africa, The Slovak Republic and Venezuela. Dr. Stager studied early childhood education innovations in Reggio Emilia, Italy and has been sharing “The Best Educational Ideas in the World” through conference presentations and a forthcoming book.

Dr. Stager has worked with public schools, private schools, gifted students, at-risk learners, governments and homeschooling communities, Dr. Stager’s corporate clients have included: Disney, Microsoft, LEGO, Apple Computer, Compaq, Tom Snyder Productions, Universal Studios, Toshiba, Logo Computer Systems, Inc., Generation YES and Claris. He co-founded We Learn @ Home, a company providing services to homeschooling families and The Constructivist Consortium, an alliance of six competing education publishers committed to children, creativity, computing and constructivism.



Chris Hazleton

Senior Education Consultant, Fielding Nair International, LLC

Program Assessment

Chris Hazleton will perform an in-depth and rigorous district-wide assessment of the educational schedule for determining school capacity and developing design options. He will work directly with administrators and educators to identify scheduling requirements and will translate how they impact the program.

Chris Hazleton has been an education innovator, entrepreneur and school leader for eighteen years. Prior to joining the FNI team, Chris cut his teaching teeth while working with struggling teens in the outdoors. Outdoor therapeutic recreation and education proved to be a gateway for Chris to teaching in public schools but he struggled with the static systems and practices that continually got in the way of great learning opportunities for students. After teaching high school and middle school social studies, Chris was moved by the opportunity to incite change in education by starting a charter school in Duluth, Minnesota.

Chris believes that the fundamental underpinnings of effective education are dependent on teacher and student ownership of the learning process and experience. Teachers and students thrive when they are challenged with relevant learning experiences tied to their own interests in an environment that fosters critical thinking. He brings both a teacher's and administrator's mind-set to the school design and transformation process.

Richard Murray

FNI Financial Consultant, Fielding Nair International, LLC

Alternative Funding Expert

Richard Murray will help with identifying potential partnerships for sharing resources and funding. He will work directly with the District's Business Services and Community Partners for establishing these relationships.

Richard Murray has extensive experience in education and real estate, involving work on more than \$3 billion of projects. He is most recognized for his creative solutions involving school formation, operations, and capital finance.

In 1995 Mr. Murray invented the Equity School model for Cristo Rey Jesuit High School (Chicago). Today, more than 20 high schools in 16 states use that Equity School model.

As an educator, Mr. Murray has taught at two public high schools, and at undergraduate and graduate levels. He is also active with a variety of environmental, business, human rights, and refugee organizations.



Marc Ciccarelli, ARCHITECT

Principal, studioTECHNE | architects

During the master planning process, Marc will be working with the planning team and the Cleveland Heights University Heights Communities to ensure the passion the community has related to its distinctive historic character, artistic ingenuity, and passionate craftsmanship is preserved; while maintaining the vibrant village character that makes each neighborhood unique.

Mr. Ciccarelli serves as the principal partner for studioTECHNE and is responsible for project and firm management, planning, design, project research and client development. He is directly involved with clients during Master Planning, Assessment and Design, utilizing a collaborative approach to provide innovative solutions that are focused on developing and enhancing the unique characteristics of each project, and ensuring each client feels a sense of pride and ownership in the final design solution. He has learned the best design solutions arrive from an interactive dialog of ideas and information which allows for rational design solutions and effective decisions relating to aesthetic, budget and schedule. The firm's dedication toward design comes from knowing the decisions made during the design process directly effect our client's success. Because of this, and the impact of design and planning decisions on our environment and the quality of life, Mr. Ciccarelli directs the office research efforts on education and sustainability as they relate to our clients and the improvement of the built environment.

Marc lead studioTECHNE's community engagement process for several important projects in Cleveland Heights. The first was to engage the community in an active process that lead to the successful design and completion of the award winning Lee Road Library, and then working closely with the Cedar Lee Merchants Association and surrounding neighborhood developed a master plan that re-imagined the public spaces and streetscape for the district from Cain Park to the Library. Finally, working with the school board and the alumni association to develop a master plan for Heights High that envisioned a community focused school that returned the clock tower to a prominent place in the community.

Mr. Ciccarelli lectures across the country on issues of developing 21st century libraries as centers for life long learning, as well as strategies for developing state of the art high quality early childhood education centers focused on their need to understand and accommodate the learning modalities of children in their design.

An avid mountain biker, on weekends he can usually be found juggling scones from On the Rise Bakery (and more recently crepes from Luna) as he pedals through the heights on his way into the Metropark woods.



Kelly Stinson, LEED AP

Community Engagement Coordinator, studioTECHNE | architects

A resident of Cleveland Heights, Kelly brings her experience working with the Cedar Lee Merchants Association and other Cleveland Heights Business and Non-Profit Organizations to the master planning process. She has developed an understanding of how these groups interact and support the local neighborhoods in which they operate, and how their resources can be used to supplement the school curricula, either through mentoring or innovative internship programs.

Ms. Stinson has extensive experience on projects with diverse backgrounds which provides a strong understanding of client need and the required spatial experience. Her work has evolved to include a variety of project types, with a focus on master planning and design for educational facilities including medical education, environmental education as well as spaces for religious education. In her recent work on the Beaumont Environmental Resource Center she demonstrated great sensitivity to meeting the unique demands of students engaged in environmental research and education. This project, and projects like it become essential in the development of young minds, and in allowing students to take the necessary steps toward understanding their own impact and involvement in the environment.

Additionally, her focus on the quality of construction and budget has been indispensable for our clients in grasping project economics and its impact on design. It is this ability to incorporate social, financial and aesthetic components in our projects which makes her approach to architectural inquiry unique.

Kelly's current project which will be open for students in August of 2011 is the reconstruction of Hawken School's Lower School into a new early childhood center. This center is Regio Emilia based and a collaboration between Hawken School, Creative Environments Design Collaborative and studioTECHNE. The design is grounded in the belief that the aesthetic environment plays a significant role in a child's development; an educational environment should inspire children to explore, support a full range of social learning experiences and encourage fine and large motor skills.

Kelly can often be found wandering, or more to the point being pulled in two directions through the street fairs and farmers markets around Coventry Village by her two basset hounds who are intent on trying to absorb the scents of people and food.



Tim Roos

Project Manager studioTECHNE | architects

Tim has spent the last few years slowly restoring his Cleveland Heights home from the slightly worn fixer upper he purchased four years ago back to its original 1928 appearance. Through this, Tim has developed a passion for the detail, craftsmanship and materiality used to construct the homes, schools, and buildings of Cleveland Heights. It is this understanding and appreciation for how the buildings and streets knit the community together that Tim brings to the planning process. Ensuring that the district doesn't just get any school, but gets learning centers that are integrated into the neighborhoods in which they reside.

Mr. Roos honed his design and project management skills on eclectic residential, library and transportation projects. He has designed loft apartments in renovated warehouses, designed the expansion for an historic Carnegie Library, as well as a new station for the city's light rail system. All of those efforts relied on his talent for applying three dimensional modeling technology that enhance project visualization and documentation. He is currently responsible for the firm's research initiatives focused on building performance, proto-typing and custom fabrication, and advanced materials. His interests include the study of generative form and architectural geometry, performance and pathology of construction assemblies, and graphic design. He is currently working with the director of The Sculpture Center on a graphics re-branding campaign, and Notre Dame College on a campus master plan and library.

Recently, Tim lead studioTECHNE's master planning effort in University Circle and worked with the member institutions locating a new transit station and developing the supporting buildings and green spaces surrounding it. The firm worked closely with the museums and University Circle Incorporated first to understand their interactions, transit need and use, and connections to the surrounding communities and then locate and design a station that centralized these connections. Through this process, the office learned how the surrounding community interacts with the institutions and how the institutions outreach and provide educational opportunities to the students and families of Cleveland and the neighboring cities.

Tim's use of our fabrication studio often sends him to meetings brushing sawdust out of his hair and carrying a carefully crafted model of his current design ideas to client meetings.



Ronald Fanning, AIA, PE, REFP

Chairman of the Board, Fanning Howey

Executive Oversight

As Chairman of the Board of Fanning Howey, Ron Fanning will provide executive oversight throughout the master planning effort, giving team members the benefit of his 50+ years of experience in the Ohio design and construction industry. Ron will ensure that the full resources of Fanning Howey are devoted to Cleveland Heights-University Heights City School District at all times.

One of the original founders of Fanning Howey, Ron has provided national leadership in the effort to bring visibility to the condition of America's school buildings, advocating the modernization of school facilities to support the educational program and improve the quality of learning. He is the lead author of three highly acclaimed books on educational facility design: Community Use Of Schools: Facility Design Perspectives, Making A World Of Difference: Elementary Schools, and Shaping The Future: Middle Schools.

Ron is the former President of the Council of Educational Facility Planners International (CEFPI), a worldwide professional association whose sole mission is improving the places where children learn. During his work with CEFPI, Ron served as International Director for eight years and as President of the Midwest/Great Lakes Region. He has also taught a course in educational facility design as part of the Professional Certification Program in Facilities Planning offered by CEFPI and San Diego State University.

Over the course of his career, Ron has provided leadership and oversight for more than 1,000 projects, with combined construction costs of \$2.8 billion. He has served as Project Executive for Lima City Schools' \$106 million district-wide building program and multiple projects as part of Dayton Public Schools' \$600 million district-wide building program. In addition to his experience in Ohio, Ron has been a part of the \$200 million Glen Oaks Elementary/High School Campus in Queens, New York, as well as multiple new elementary schools in Hammond, Indiana, two of which earned the 1993 James D. MacConnell Award for excellence in educational facility planning.

In addition to his professional activities, Ron has volunteered his time and efforts to promote the cause of exceptional learning environments throughout the world. He has been heavily involved in organizations such as the Appalachian Service Project, Heart to Honduras, and Schools for Children of the World.



Bruce Runyon, AIA

Executive Director, Fanning Howey

Facility Assessment Director

Bruce Runyon will serve as Executive Director for Fanning Howey's facilities assessment team. He will oversee the efforts of all in-house personnel and will draw from the firm's 99-person Ohio staff to provide the resources necessary to complete the assessments on time and with a high level of accuracy. Bruce will also assist in working with the district's cost and constructability firm to develop estimated construction costs, operational costs, and construction phasing options.

As a Principal with Fanning Howey's Dublin, Ohio, Bruce has an in-depth knowledge of the school design and construction industry in central and northeastern Ohio. During his 22 years with Fanning Howey, he has focused solely on K-12 school planning and design, leading the firm's efforts on more than 300 projects, with combined construction costs in excess of \$1.3 billion. This experience includes assessments and master planning for dozens of buildings, with resulting recommendations ranging from consolidation to new construction to renovations.

His recent projects run the gamut of school construction, ranging from the renovation and expansion of the historic Bucyrus Middle School in Bucyrus, Ohio, to the new construction of Ralph Waite Elementary School in Medina, Ohio. His work with Olentangy Local Schools in Lewis Center, Ohio, has addressed everything from the need for fast-track new construction to the successful completion of minor upgrades to schools and support facilities. In all, Bruce has directed Fanning Howey in the planning and design of 63 projects totaling \$259 million in construction costs for the district.

A dedicated member of Ohio's architectural and educational communities, Bruce has shared his thoughts on subjects ranging from best practices in educational planning to proper strategies for building closeout. He presented "What to Expect When Your Expecting a Visit from the OSFC" at an annual conference of the Ohio School Boards Association and has also presented "Sustainability is Key to High Performance Design," "Qualities to Look for When Selecting an Architect/Engineer," and "How to Building a Building - Project Closeout" at conferences of the Buckeye Association of School Administrators.



Terry Liette, PE, LEED AP BD+C

Director of Engineering, Fanning Howey

Engineering Services Oversight

As Director of Engineering, Terry Liette will oversee all engineering services involved in the assessment of district facilities. He will provide insight and direction in the development of recommendations regarding new construction and renovations.

Terry has spent 29 years providing engineering services for new and renovated K-12 schools in Ohio. He has been involved in the assessment, planning, and design of more than 600 educational facilities across the state. His experience includes work on dozens of school projects funded through the Ohio School Facilities Commission; he also contributed to early updates to the Ohio School Design Manual. In 2009, he was invited to give a presentation on integrated planning and design to the OSFC Project Managers.

As Director of Engineering, Terry has led Fanning Howey in the development of innovative energy savings strategies for K-12 schools. He has co-authored several articles on renewable energy options for the Trends in Green section of *School Planning & Management*. He has also presented on the latest trends in energy-efficient schools at the annual conferences of the Midwest/Great Lakes Chapter of the Council of Educational Facility Planner International, the Buckeye Association of School Administrators, and the Ohio School Boards Association.

During his professional practice – whether it involve design or facilities assessments – Terry advocates an approach to energy-efficiency that Fanning Howey calls Student-Centered Sustainable Design. This philosophy places a strong focus on the educational benefits of sustainable practices such as indoor air quality, thermal comfort, and daylighting. Terry has presented this concept at the annual conference of the Association of School Business Officials.

Terry's recent work includes executive oversight of the renovation and expansion of Clyde Elementary School, one of the first OSFC-funded renovation projects to receive LEED Gold certification. He was also responsible for oversight of Meadowdale High School and Edison K-8 School in Dayton, Ohio, both LEED Gold certified schools, as well as the new Fremont Middle School in Fremont, Ohio, which is currently pursuing LEED Platinum certification.



Steve Dzuranin, AIA, LEED AP

Assessment Project Manager, Fanning Howey

As Project Manager for Fanning Howey's assessment teams, Steve Dzuranin will coordinate and direct the comprehensive evaluation of each facility within Cleveland Heights-University Heights City School District. He will work with the rest of the planning team to develop recommendations related to new construction, renovation, or expansion, as well as future construction phasing options.

Steve Dzuranin has spent the last 16 years of his career focusing exclusively on the planning and design of K-12 schools. As a Project Manager and an Architect, he has significant recent experience with the northeastern Ohio K-12 school construction market. Currently, he is involved in the construction of a new high school for Maple Heights City Schools in Cuyahoga County. This project gives him specific insight into the bidding climate in the Cuyahoga construction market. In the past, Steve has also been involved in the design of new K-8 schools for Warren City Schools and Campbell City Schools. In all, he has experience with more than \$690 million in new and renovated school construction within Ohio.



Tim Lehman, PE, LEED AP BD+C

Mechanical Engineer, Fanning Howey

As our team's lead mechanical engineer, Tim Lehman will be responsible for directing the evaluation of Heating, Ventilation, and Air Conditioning systems within each building. Using his knowledge of current market trends, he will work with other team leaders to develop recommended construction options and associated estimated costs.

Tim Lehman has 20 years of experience in the evaluation, planning, and design of mechanical systems within K-12 schools. He has completed hundreds of projects within the state of Ohio, and has been involved in several updates to the Ohio School Design Manual.

In addition to his experience within the state, Tim has been responsible for leading the assessment of existing schools, many of them historic, within the District of Columbia Public Schools and Detroit Public Schools. In each case, the evaluation of these existing facilities were completed on a fast-track schedule and led to large-scale Capital Improvement Programs that are currently redefining these educational communities.



Paul Shay, PE, LEED AP

Structural Engineer, Fanning Howey

As the team's lead structural engineer, Paul Shay will direct the evaluation of the structural systems of all existing buildings within the Cleveland Heights-University Heights City School District.

For the last 14 years, Paul Shay has focused on structural engineering for K-12 schools throughout the Midwest. He has been involved in building assessments for projects ranging from comprehensive K-12 schools on a single campus to district-wide capital improvements involving more than 20 buildings. His recent assessment work includes structural analysis of multiple historic school facilities for the District of Columbia Public Schools, as well as a complete facility audit of every building on the campus of Saint Mary's College in Notre Dame, Indiana – a facility inventory comprising more than one million square feet.

Paul is extremely knowledgeable regarding the Ohio Building Code and the Ohio School Design Manual. His current Ohio projects include work for Eaton Community Schools, Licking Heights Local Schools, and Pike-Delta-York Local Schools.



Robert Hughes

Electrical Designer, Fanning Howey

Robert Hughes will lead the electrical system portion of our facilities assessment team. He will be responsible for analyzing existing conditions and recommending upgrades either through new construction, renovation, or expansion.

Robert joined Fanning Howey in 1985 and has spent the last 26 years focusing on K-12 school planning and design. His experience with electrical design ranges from upgrades to the historic Hughes Center in Cincinnati, Ohio, to the new \$120 million Princeton City Schools' Middle/High School, a cutting-edge STEM school.

Because of his vast knowledge of electrical design for K-12 school, Robert has been asked to contribute to updates to the Ohio School Design Manual throughout the document's existence. He has contributed to Manual updates in 1999, 2006, 2008, 2009, 2010, and 2011.

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Local
Participation



Project Team and Organization

Local Participation

We are very excited about this opportunity and have assembled a talented and well qualified team that has world class experience and a thorough understanding of your community. Our combined team has extensive knowledge and experience in 21st century learning best practices throughout the world, understands the local ethos and can leverage local educational partnerships, and has the technical and engineering experience specific to educational facilities. We have clearly identified our roles so that we can seamlessly work together in providing you a sustainable solution that will last for generations.



Right-Sizing School Facilities for a Global Learning Network



Recommendations for Cleveland Heights / University Heights City School District

Submitted by
Fielding Nair International, LLC
March 31, 2011



Fielding Nair International

Fielding Nair International will oversee and lead the Master Planning process. FNI has worked on innovative educational master plans all over the world. With this experience, we bring a wealth of knowledge about best practices in 21st century learning. We also have recent experience in the Cleveland area with a master plan that we are completing for Magnificat High School in Rocky River.

FNI will develop master plan options that will take into account your specific academic, cultural and athletic needs. Through an extensive community engagement process, identifying educational partners and looking into your academic and athletic schedules in rigorous detail, we will determine a district-wide building size efficiency that will optimize resources and educational output. Our on-staff educational consultants will work intimately with your school principals and leaders to understand their academic schedules and requirements. Being educators themselves, our educational consultants understand the language and complexities that are involved with managing schools.



studioTECHNE architects

FANNING HOWEY



studioTECHNE

studioTECHNE is as local as local gets. Located only minutes from the district, studioTECHNE will work in close collaboration with FNI and will lead in facilitating the community engagement process and indentifying local educational partnerships. Having worked with various stakeholders in the community, they are knowledgeable about the ethos and cultural needs. They have the experience to form true partnerships with the community. For instance, working on the Lee Road Library, they invited members of the community into their studio for a design charrette. Not only does this process gather input, but it fosters community support and buy-in. Being close to the community, they will be able to organize engagement activities at the schools, community centers, libraries, coffee shops and other local venues.



Fanning Howey

Fanning Howey is an Ohio based firm with major offices in Dublin and Celina and a project office in Cleveland that shares space with studioTECHNE. They have completed hundreds of school projects throughout the State and Nation. They have the experience with designing quality educational facilities that can last 50+ years. With their extensive work in the State of Ohio, they are extremely familiar with the Ohio Building Code, OSFC, and local building practices. Fanning Howey will lead the effort in performing assessments of the existing facilities and will make recommendations for renovating versus building new. They have the technical and engineering muscle that a project of this magnitude requires. With in-house engineers in every discipline, they will be able to make informed and well-coordinated judgments about existing buildings and will provide strategies and recommendations for building new. They will work closely with the cost and constructability firm, providing them accurate information for determining construction costs, operational costs, constructability and construction phasing.

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Sustainability

B4

Approach to Master Planning

Sustainability

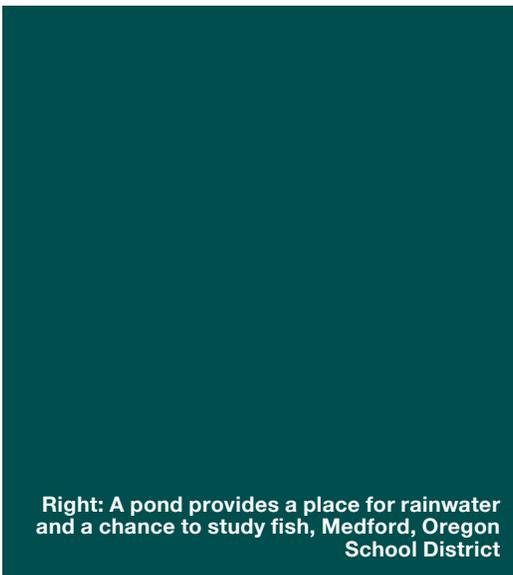


Above: Arcola Community Elementary School, Regina, Saskatchewan: A living wall is in the central part of the Commons - Biology students will maintain the plants as part of the curriculum. The openings act as a 3D textbook, exposing some of the wall's framing and irrigation components

It is our responsibility as human beings to take care of the environment and to leave it in as good or better shape for future generations. For the first time in history, this young generation faces a world that is no longer sustainable. Students must learn a respect for the earth, and sustainability must be the foundation of any curriculum. As educators and facility planners, we are obligated to set the example, and provide a learning environment that is responsible.

Our team approaches every project with a sustainability focus. We strongly feel that it is our responsibility to plan and design buildings that provide healthy environments, reduce waste, and have a low-impact on the environment. Schools are particularly important for sustainability. The buildings themselves can serve as hands-on teaching tools. This concept is expanded in FNI's book, *The Language of School Design*. Design Pattern 22: Sustainable Elements and Building as 3-D Textbook identifies ways that sustainable elements can be integrated into the curriculum. Resonating with FNI's philosophy, Fanning Howey has coined the term Student-Centered Sustainable Design to describe their approach to sustainability which focuses on learning opportunities for students.

Fanning Howey has worked on numerous school projects that have received LEED certification. Firm-wide, they have 56 LEED Accredited Professionals. They have a wealth of experience and can bring the full-spectrum technical knowledge (architecture and engineering) for strategizing sustainable approaches during the master planning phase.



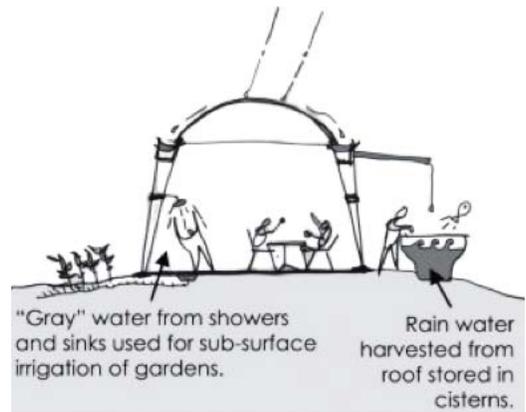
Right: A pond provides a place for rainwater and a chance to study fish, Medford, Oregon School District



FNI is currently designing an innovative new charter school campus in Lutz, Florida, the Global School of the Arts, Technology, and Environmental Sustainability, or GATES. FNI has been selected as the school's Visioning, Master Planning and Architectural Designer and will be looking at opportunities to create the first Net Zero (Zero Carbon Footprint) school in Florida. GATES is an extension of The Learning Gate Community School, which is the first public school in the US to gain the prestigious LEED Platinum recognition. The campus reflects their curriculum and provides teaching models for sustainable best practices.

In developing a Facility Master Plan for CH-UH, a sustainable strategy that we believe can be implemented is reducing the overall footprint of the school facilities. By designing for 21st century learning and leveraging partnerships, the school facilities can be right-sized for efficiency. Not only is this sustainable, but it can save the district money. We will also engage the community in sustainability workshops. The goal of these workshops is to get everyone talking about environmental concerns and brainstorming solutions that are unique to the local area. We have conducted dozens of these workshops and each one brings about different ideas. For instance, at a recent sustainability workshop that we conducted at Magnificat High School in Rocky River, students identified the Old School Architectural Salvage located in Cleveland for salvaging parts from demolition, diverting the material going to landfills.

Below: Prakash Nair and Jay Litman of FNI in a planning session for the first Net Zero school in Florida, named GATES



Above: Design Pattern 22: Sustainable Elements and Building as 3-D Textbook

Arcola Community Elementary School | Regina, Saskatchewan

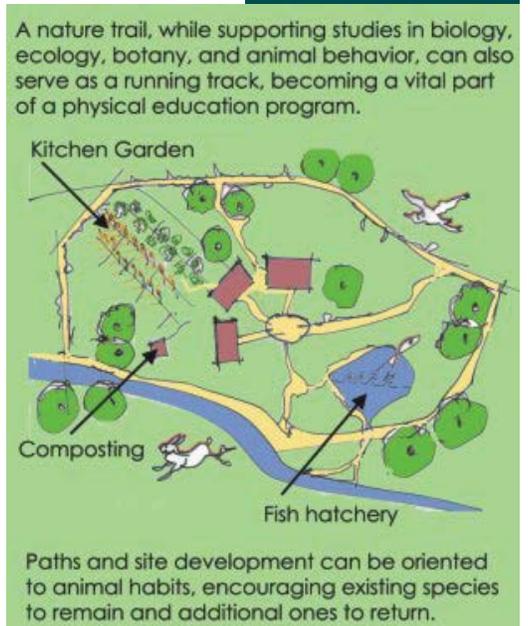


Above: Sustainable strategies for a cold climate - south facing windows solar collectors for hot water and green roof for insulation

Below: This Design Pattern by Randall Fielding, shows how a nature trail can be incorporated into a school's curriculum



Above: Douglas Park School, also in Saskatchewan, uses extremely large windows in the commons atrium for day-lighting and passive solar heating





More Sustainable Projects:

studioTECHNE Green Projects:

Beaumont Environmental Education Center – Boy Scouts of America

Highbrook Lodge Environmental Center – Cleveland Sight Center

Hawken Middle School

Hawken Early Childhood Center

Community Assessment and Treatment Services

Notre Dame South Dorm

Notre Dame Library

Temple Emanu El

Case Western Reserve University – Carlton Commons

Case Western Reserve University – think fabrication lab

LMM Offices

Heights Library Community Center

Zion Lutheran Church

Rez Threads – VA Housing

TRI-C Demonstration Sustainable Home

Fanning Howey currently has many projects that have either achieved or are pursuing LEED certification:

Projects certified LEED Gold

Clyde-Green Springs EVS, Clyde, OH
Clyde Elementary School A/R

Dayton Public Schools, Dayton, OH
Meadowdale High School
Edison PK-8 School

Projects certified LEED Silver

District of Columbia Public Schools, Washington, DC
Phelps High School

Projects pursuing LEED Platinum

Fremont City Schools, Fremont, OH
New Middle School

Louisville City Schools, Louisville, OH
Louisville PK-5 Building

Projects pursuing LEED Gold

Cincinnati Public Schools, Cincinnati, OH
North Avondale Elementary School
Winton Montessori at Schwab School

Clyde-Green Springs EVS, Clyde, OH
McPherson Middle School

Detroit Public Schools
Martin Luther King High School

District of Columbia Public Schools, Washington, DC
Eastern High School Renovation
Wilson High School Modernization
Takoma Elementary School Reconstruction

Huber Heights City Schools, Huber Heights, OH
5 New Elementary Schools
Wayne High School
Weisenborn Middle School

Louisville City Schools, Louisville, OH
Louisville High School A/R

Manheim Township School District, Lancaster, PA
Manheim Township High School

Recovery School District, Baton Rouge, LA
Fannie C. Williams Elementary School

Rio Rancho Public Schools, Rio Rancho, NM
V. Sue Cleveland High School

Projects pursuing LEED Silver

Austintown Local Schools, Youngstown, OH
New PK-2 Elementary School
New 3-5 Elementary School

Bellevue City Schools, Bellevue, OH
New PK-5 Elementary School
New 6-8 Middle School

Cincinnati Public Schools, Cincinnati, OH
Chase Elementary School

Columbus Grove Local Schools, Columbus Grove, OH
New PK-12 Additions/Middle School Renovation

Projects pursuing LEED Silver Continued

Coshocton City Schools, Coshocton, OH
New PK-6 Elementary School

Dayton Public Schools, Dayton, OH
Residence Park PK-8 School
Eastmont PK-8 School

Detroit Public Schools
Brightmoor PK-8 School
Clark PK-8 School

Downingtown Area Schools, Downingtown, PA
Downingtown Middle School

Eaton Community City Schools, Eaton, OH
Eaton Elementary School
Eaton Middle School

Elgin Local Schools, Marion, OH
Elgin K-12 School

Hopewell-Loudon Local Schools, Bascom, OH
Hopewell-Loudon K-12 School

Madison Local Schools, Madison, OH
New Elementary School
New Middle School

Maple Heights City Schools, Maple Heights, OH
New PK-1 Elementary School
New 2-3 and 4-5 Elementary School
Milkovich Middle School
New High School

New Orleans Public Schools, New Orleans, LA
Greater Gentilly High School

North Baltimore Local Schools, North Baltimore, OH
New High School/Middle School
Powell Elementary School Renovations

Port Clinton City Schools, Port Clinton, OH
New Middle School
Bataan Memorial Elementary School A/R

Princeton City Schools, Cincinnati, OH
New Middle/High School

Vanguard-Sentinel Career Centers, Fremont, OH
Vanguard Career & Technology Center A/R
Sentinel Career & Technology Center Renovations

Western Reserve Local Schools, Berlin Center, OH
Western Reserve K-12 School

Xenia Community Schools, Xenia, OH
5 New Elementary Schools

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Innovative
Educational
Planning



Approach to Master Planning

Innovative Educational Planning

FNI plans and designs school facilities for today and tomorrow with one primary goal in mind — to improve learning. Not only are we architects, but we are change agents for creative learning communities. We approach every project with innovative strategies and 21st century learning principles that are backed by research. From this research, FNI has authored numerous articles (see the Appendix) and the book, *The Language of School Design*, which identifies 28 patterns for effective learning environments.

Our philosophy resonates with your vision for *Preparing All Students for Success in A Global Economy*. The world into which students will enter is a technologically-driven global playing field and it is highly competitive. Students need to be prepared to be agile and lifelong learners so they are capable of adapting their skills to new and emerging career pathways. We are dedicated to designing educational spaces that enable such goals to succeed.

The Pathway structure that you will begin implementing in the 2012-2013 school year is a forward-thinking and inspiring concept. We sincerely believe that students have unique learning styles and their needs and interests vary. The factory model of the 20th century cannot effectively facilitate student-centric learning. Twenty first century learning environments must be varied and adaptable to meet the student's needs.



“We now have abundant evidence from the frontiers of brain-based research that learning is not linear, but holistic, and that it is not unidimensional but multifaceted.

As we move into the post-knowledge economy, we should be looking beyond the “knowledge worker” who in now a global commodity. Our most valuable export as a country will be creativity and innovation and these skills are not developed in the cells-and-bells model of school.”

- The Language of School Design



Before

The Hillel School Story:

Hillel School of Tampa is a Jewish Day School with a strong commitment to preparing students to become knowledgeable, 21st century learners, a similar philosophy to your vision for Preparing All Students for Success in A Global Economy.

As is true in the CH-UH school district, the old buildings in which the school was housed no longer served the needs of teachers and students.

These “Before” and “After” pictures show the transformed intermediate school (2nd thru 5th grades) that was accomplished in record time with a minimal investment of funds.

A traditional classroom has become a flexible learning studio, connected to the studio next door, with lots of transparency and broader visual access to the outdoors. The Hillel project shows how a renovation can better support student-centric learning and multiple modalities.



After

The following pages contain some of the 21st century learning principles that FNI regularly initiates on projects. The 20 Learning Modalities are essential when designing learning spaces that are personalized and learner focused. The 12 Learning Drivers are actually unique to CH-UH. These were developed specifically for the report “Right-Sizing School Facilities for a Global Learning Network” which was prepared for CH-UH to determine 21st century school facility size. When the notion of school is expanded to include the community and is connected globally, the physical size contracts. And last, the Learning Community replaces the classroom as the core planning block in 21st century learning environments.

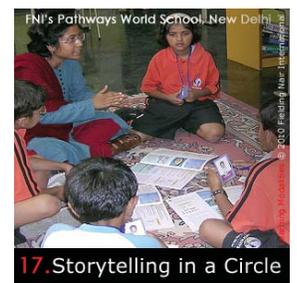


Innovative Educational Planning

The 20 Learning Modalities

Many of us experienced a traditional school classroom as a student, with only a few learning modalities supported in that setting. FNI uses the 20 Learning Modalities concept to expand the vision of how people learn. Understanding these is the first step to understanding 21st century educational best practices.

21st century education is about the evolution of a teacher-centric to a student-centric model. This requires a variety of flexible learning spaces to succeed.





3. Team Collaboration



4. One-on-one with Teacher



5. Lecture-Teacher Center Stage



8. Distance Learning



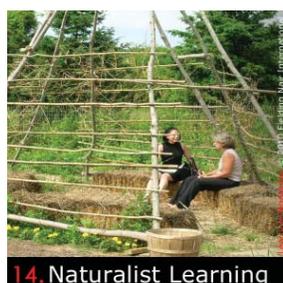
9. Internet-based Research



10. Student Presentation



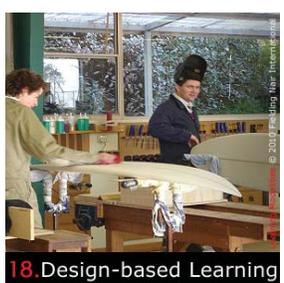
13. Interdisciplinary Learning



14. Naturalist Learning



15. Social/Emotional Learning



18. Design-based Learning



19. Team Learning/Teaching



20. Play/Movement Learning

Innovative Educational Planning

Twelve 21st Century Learning Drivers



1

1. Global Network, or World as School

Learning is no longer confined to the classroom or school facility. Through technology, the World is brought to the student at any place and at any time. Rather than serve as passive consumers of information, students are thinkers, seekers of understanding, and producers of creative content, a concept Randall Fielding calls The Creative Age. Clay Shirky, in his book “Cognitive Surplus,” notes that for the first time in the last 50 years, young people are spending more time creating content and sharing it though the internet than they are in passively consuming media though television. The world now has a surplus of creative thinkers and content providers available to it to solve the problems of our globe.



2

2. Community as School

The school can share community resources in many venues, including libraries, museums and sports facilities. Students can connect with local businesses through internships and work-study programs. Communities can share school assets like performing spaces and campus parks, creating activity and safe places for all. At the new elementary schools in Medford, Oregon, senior citizens gather in the central gathering spaces on a weekly basis to mentor students in reading.

3

3. Shared Asset Campus

Elementary, Middle and High Schools can effectively share a campus, including athletic, performance, and food service facilities. 21st century learning principles support the value of multi-age groupings. The idea that students should all be segregated by age is arbitrary, and akin to the industrial age idea that students of the same age should be siloed in a classroom. We all learn differently and at different paces. Multi-age groupings and campuses allow students to learn at their own pace, and serve as mentors to younger children.

4

4. Learning Teams / Shared Spaces

The model of one teacher to 25 – 30 students shifts to four or six teachers to 100 to 150 students in a small learning community. Teachers, organized into Professional Learning Communities, work together as a team to nurture a group of up to 150 students. Teachers have shared workspaces and meet regularly to facilitate the use of a varied suite of spaces for lecture and presentation, small group rooms, wet and messy space and gathering space. Flexible space and movable furnishings allow for more varied and customized use of the learning communities.



5

5. Self-directed Learning

Sugata Mitra, Professor of Educational Technology at Newcastle University (UK) has proven through replicated research that students can teach themselves. His paradigm shifting “Hole-in the Wall” studies show that students need each other to learn, but do not require a school facility or even teachers. The key to success is engagement and collaboration with peers, and access to information through technology. He demonstrated remarkable results in learning language and even biochemistry through self-directed programs in informal learning settings outside of school building. Surprisingly, educational outcomes decreased when the same programs were implemented inside tradition school buildings.



6

6. Nature as School

In FNI’s experience around the globe, a common factor is that engaged students love to be out in nature. A popular saying in cold weather communities is that “there is no such thing as bad weather, only bad clothing.” Through thoughtful curriculum planning and the right clothing, students can learn outdoors in any weather. Effective outdoor learning spaces with shade, storage, and seating can typically be constructed for 25% of the cost of enclosed, heated space. Simple measure like the construction of mudrooms, boot rooms and storage space for equipment for outdoors activities can extend the breadth of learning facilities dramatically at minimal cost.

7

7. Data-driven

Global, National and Provincial metrics in science, math, language arts, social studies and history are all important in a globally connected society. International Baccalaureate, Advance Placement, national and state standards are all part of the mix. The application of these various standards to the individual learner is both a challenge and an opportunity. By using software with algorithms that track each student’s progress, tests, homework, independent projects, collaborative projects, lecture attendance, peer and tech adult tutoring, scheduling and space utilization can be maximized. In the School of One program in NYC, each student’s daily progress is tracked through software based on business intelligence, to show their progress in meeting both their personal learning goals and state standards.

Innovative Educational Planning

Twelve 21st Century Learning Drivers



8

8. Interdisciplinary

Innovation in science, business and culture often come through the blurring of boundaries between established fields. Today’s global citizens require skills in multiple areas of study in order to solve complex social and technical problems and innovate new ideas and services. Curriculum and spaces must support this exploration with flexibility and customizable design. Science, Technology, Engineering and Math (STEM) centers are in development around the world as response to this trend towards interdisciplinary studies. FNI’s Davinci Studios have been developed to serve the needs of Science, art and Invention in an integrated indoor-outdoor space, where various kinds of wet and messy projects can be staged and rapidly re-configured. Particularly in grades K-9, significant savings in space can be achieved by combining science, art and invention in interdisciplinary studios.

9

9. Personalized

The idea of a child-centered versus teacher or curriculum-centered approach to education is widely accepted around the globe. We all learn differently and at different times. Personalized or differentiated learning is an inclusive approach that allows all learners to be successful. Harvard Professor Howard Gardner identified nine different kinds of intelligence, all of which are equally important to society. The typical 20th century “factory model” of school only supported two of these types effectively, verbal and mathematical. Many students are more engaged through a kinesthetic, musical, or collaborative intelligence. Varied learning environments that provide spaces for all nine intelligences can afford significant savings in space, since many types of space outside a conventional classroom can be used effectively—small spaces between other spaces, circulation spaces, outdoor spaces and nooks are all equally effective in a personalized learning environment.

10

10. Inquiry and Project-based

We all learn faster and with better retention when we are personally engaged; the significance of this concept has been documented through the empirical research of psychologist Mihaly Csikszentmihalyi and shared widely in his book called “Flow.” When we pursue a question or project that engages us personally, rather than follow direction from a prescribed work sheet or lecture, we function at a higher level, as our mind, body and emotions are all working together in a flow state. World As School, Community as School, Nature as School and learning spaces of varied size and quality support individual inquiry and projects more effectively than classrooms that are designed for lectures and 25 students.



11

The use of varied spaces and environments outside the school building not only increases student engagement, it also means less reliance on traditional school facilities.

11. Culture of Excellence

Research has shown that hard work trumps native talent in successful educational outcomes. Ron Berger, in his book *An Ethic of Excellence*, illustrates this by creating a culture of excellence, wherein students critique each other's work, and will often go through 22 drafts of a project to get it right. Academic outcomes from Ron's programs have demonstrated that success is based on a passion, hard work and accountability, not excessive equipment or facilities. Many of the projects that Ron's students engage in are outside the school facility, relying on local community resources instead. A culture of excellence begins with adult leadership, and then is taken up by the students through peer mentoring, which takes place before, during and after school, efficiently leveraging student homes and community facilities.



12

12. Safe and Secure

During the last five decades, anthropologists have shown that we can only feel truly connected to a group of 150 or less. Breaking down the scale of schools into small learning community of 80 to 150 allows students to get to know other students and a small group of teachers while reducing isolation and bullying. The small learning community model is an efficient spatial organization, where corridors that might be used to connect larger groups can be used for leaning and interaction. The learning community model facilitates learning teams, collaboration and shared space, which can function effectively in 20% less space than a traditional cells and bells classroom / corridor plan. The concept of "eyes on the street," where all learning spaces are visible to adults, though transparent, permeable edges, means that all spaces can be fully utilized.

Innovative Educational Planning

The Learning Community Model



Above: Learning Commons, Hillel Elementary School, Tampa, Florida



Right: A Variety of Flexible Furnishings, Sinarmas World Academy, Indonesia

The traditional industrial model that makes up the majority of schools in the U.S. today are configured with individual classrooms and learning spaces that are linked by corridors. This design compartmentalizes learning by moving students between spaces much like an assembly line; however, learning can happen at anytime and anywhere.

To foster informal and spontaneous learning, seamlessness between spaces must be created. This is achieved through transparency and permeability. For instance, classrooms can be arranged around common areas instead of corridors. With transparency, teachers can passively supervise activities from both the classroom and the common area. Learning can flow seamlessly between these spaces allowing for a more efficient and varied learning community.

The current layouts of CH-UH schools don't always support the many learning modalities of the innovative curriculum now practiced in the district.



Above: Hallway used as a small learning commons, CH-UH's Noble Elementary School



Left: Small Group Breakout at Noble Elementary aptly placed next to the window to take full advantage of natural daylight

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Public
Engagement



B6

Approach to Master Planning

Public Engagement

Our approach begins with a rigorous and data-driven engagement process. All stakeholders will be given meaningful opportunities to directly participate in the process of visioning and planning the district-wide master plan. A variety of tools are used to solicit their input from best practice workshops to focus groups and online surveys.

Developing a district-wide master plan requires extensive public engagement. This process seeks not only to gain input, but it also helps to gain public support. In this day and age, it's difficult to get people out for seeking community input. An "active" public engagement process is needed. This will require multiple meetings and sessions throughout the community in an effort to make it convenient to the public. With studioTECHNE being located only minutes from the community, we are perfectly situated to facilitate these sessions at many venues throughout Cleveland Heights and University Heights. In addition, we will employ online surveys and project blogs to provide many avenues for seeking community input.

To make sense of all the data and input that is gained through the public engagement process, we will have regularly scheduled meetings with the decision-makers to give updates on the pulse of the community. A final Discovery Report will memorialize the results of all the workshops, focus groups, surveys and will provide a clear blueprint for moving forward. The Report will be clearly written and backed by supporting data, giving the decision-makers the necessary information for making decisions which will positively affect the community for generations to come.

Discovery Reports are compiled with data from multiple sources. Intense community involvement gives everyone a voice and a chance to provide ideas.



FNI and studioTECHNE will work in close collaboration to manage the input from the community. Some of the strategies we will employ are to the right:



Best Practices Workshop

This workshop starts with a presentation of international best practice in education, architecture and technology. Several award-winning case studies will be featured. The purpose of this session is to collect valuable quantitative and qualitative feedback from CH-UH stakeholders. It will also Inspire, Inform and Involve them in the community's educational future in a very meaningful way.

Visioning Workshop

This is a high-level meeting to discuss CH-UH short, medium and long term Vision. Of particular relevance will be the manner in which the Vision will impact the level of innovation in the delivery of education in the District. We know that facilities have an impact on teaching and learning. Therefore, this session will discuss how the design of school facilities can positively impact teaching and learning outcomes -- both in the short and long term.

Focus Groups

Focus groups will be conducted with students, parents, and community residents. These will allow our team to understand where these three key stakeholders stand with regard to important decisions regarding the future of education in Cleveland Heights-University Heights.

Teacher Workshop

The purpose of this workshop is to introduce teachers to national best practice in education in order to solicit their response. It is important to know where teachers stand with regard to innovation in education and this workshop will provide valuable feedback in this regard.

Assessment Tool Refinement

FNI's proprietary EFEI assessment tool will be customized to prioritize and weight different criteria to reflect CH-UH's priorities.

ICT Workshop

This workshop will result in recommendations regarding the extent of educational technology in the new facilities, the manner in which it will support the education vision and be integrated into the curriculum.

Community Fireside Chats

Fireside Chats are a great way to informally seek input from small groups of community members in a relaxed setting. There is no agenda and the goal is simply to listen to the community members and to have open dialogue about the educational future of Cleveland Heights-University Heights. Community members typically state that they feel they are really being heard.

Approach to Master Planning

Public Engagement

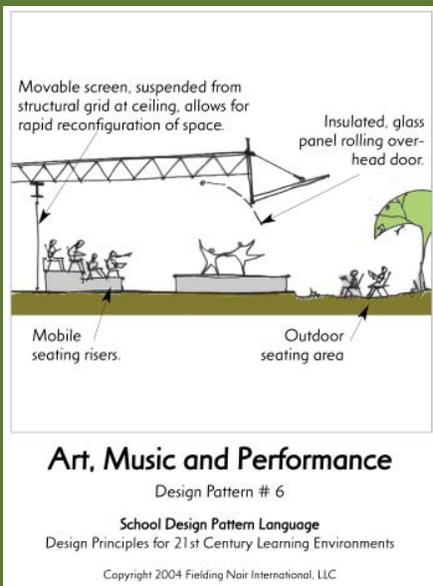
Visioning: Design Patterns Workshop



From our own experience and research in environmental and architectural psychology, we have begun to understand that one of the biggest roadblocks to effective planning is the lack of a common vocabulary that all school stakeholders can share.

We believe that schools need to grow from a shared vision. But we know that much can be lost in the translation of a written vision into built form. And so, we have developed a graphic pattern language that is simple enough that every participant in the planning process can not only understand it, but also can actually create their own patterns or easily amend ones developed by their design professionals.

Above: At a Design Patterns Workshop at Strathcona-Tweedsmuir School in Calgary, Canada, a student participant explains her Design Pattern created from a campus map. This “Outside-in” exercise enables the school community to express ideas they have for the outdoor portion of their campus environment.



Left: These two Design Patterns illustrate the process of developing patterns for a project. The pattern on the left, Art, Music and Performance (Design Pattern #6) comes directly from The Language of School Design book and initiates discussion with client groups. The pattern on the right, Drama Studio, is an illustration of how Design Pattern #6 developed and evolved after several iterations.

Approach to Master Planning

Public Engagement

Visioning: Educational Facilities Effectiveness Instrument

EDUCATION FACILITIES EFFECTIVENESS INSTRUMENT -- MASTER WORKSHEET					
Name of School:					
Original Survey Date:					
Original Survey by:					
Date of Amendment:					
Pattern #	Design Patterns For a High Quality Learning Environment	Raw Score (5=best and 0 = worst) Results from "Main" Worksheet	Weight (on a scale of 1-10) -- These were assigned by Hobart College	Weighted Score	Comments "Main" score accompany rate this ca
1a	Classrooms, Learning Studios			0	
1b	Small Learning Communities			0	
2	Welcoming Entry			0	
3	Student Display Space			0	
4	Home Base and Individual Storage			0	
5a	Science Labs			0	
5b	Arts Labs			0	
5c	Life Skills Areas			0	
6	Music and Performance			0	
7	Physical Fitness			0	
8	Casual Eating Areas			0	
9	Transparency			0	
10	Interior and Exterior Vistas			0	
11	Technology			0	
12	Indoor/Outdoor Connection			0	
13	Furniture: Soft Seating			0	
14	Flexible Spaces			0	
15	Campfire Space			0	
16	Watering Hole Space			0	
17	Cave Space			0	
18	Designed for Multiple Intelligences			0	
19	Daylight and Solar Energy			0	
20	Natural Ventilation			0	
21	Full Spectrum Lighting			0	

What are the advantages of EFEI?

1. It provides a reliable and consistent measure of quality.
2. It is easy to understand: The criteria is based on environmental qualities of learning and living spaces that have been well researched and documented.
3. It can be finely tuned to the needs of an individual school yet results of EFEI can be compared across a region, state, country and even the world.
4. It is weighted for importance: EFEI accommodates a broad range of criteria that are important to the school community yet, because of the built-in weighting system, it permits the most important criteria to factor more heavily in the actual scoring of design solutions.
5. It is a formative and not a summative tool: EFEI allows a school community to closely monitor the success of solutions throughout all phases of Master Planning and Design of a campus. This enables the making of small, but meaningful changes throughout the process, a better guarantee of quality than a summative tool which only allows the school community to realize after the fact if a design was a success or a failure.
6. EFEI allows the school community to “test” and “score” many different solutions on paper at both the campus-wide level as well as at the individual building component level very early in the planning and design stages.
7. It is highly participatory and democratic. EFEI enables transparent decision making and the establishment of priorities. While trained experts must be available to realize the full benefits of the tool, EFEI is designed to encourage participation and buy-in from the entire school stakeholder community.
8. EFEI can result in significant cost savings. Individual schools can save money by properly prioritizing spending decisions, building only what is likely to yield the maximum educational value, creating greater net-to-gross efficiencies, helping with funding, proper selection of materials, improving the long-term energy savings and maintenance costs, recruiting students and teachers to participate directly in the day-to-day upkeep of the facility and grounds as an integral part of the curriculum and building only what is absolutely necessary from a teaching and learning standpoint.

FNI's Trademark Educational Facilities Effectiveness Instrument (EFEI) forms the overriding framework of the entire project, from planning, design and construction, through post-occupancy evaluation. EFEI is a formative evaluation tool we use to continuously evaluate the design at every stage in the delivery process against project goals established by the user client providing immediate feedback to the architect during all phases of the project. In essence, the EFEI tool provides a unique and transparent framework for accountability not only for the benefit of the client but also for the members of the Design Team.

Who is using EFEI?

EFEI has been used to evaluate \$100 million worth of school facilities projects in Devonport, Launceston, Kingston and Hobart, Tasmania; Geelong, Echuca and Bendigo in Victoria; Perth and Bunbury in Western Australia; Albuquerque, New Mexico; Minneapolis, Minnesota; and Durham, North Carolina.

Approach to Master Planning

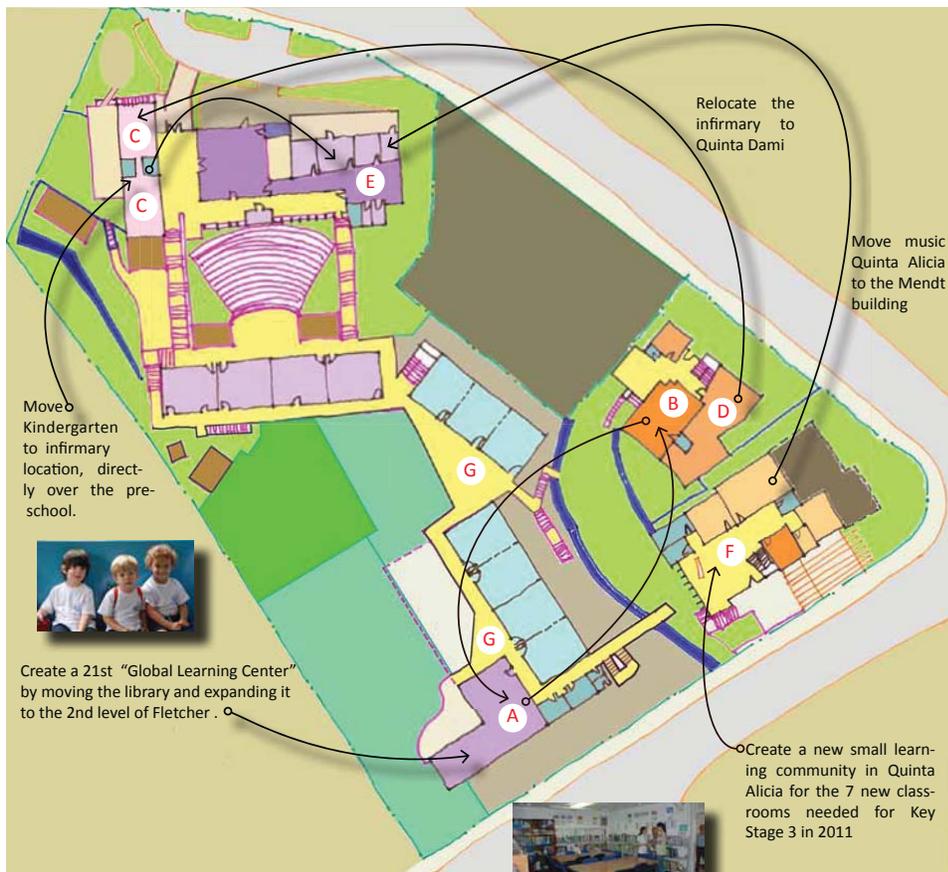
Public Engagement

Visioning: Discovery Reports

Reporting is an important piece of the Master Planning process, especially when an entire district is involved. Clearly written reports are an important tool when funding referendums approach, as community support is vital to success. FNI also can provide other tools of support, like project blogs, videos and other marketing tools that enhance community engagement.

III. Preliminary Concept Sketches

Campus Plan - Main Level



PHASE 1 – September 2011

A – Relocate the **Library** from the first floor of **Quinta Dami** to the second floor of the **Fletcher Building** in the current location of the **Faculty Workroom**. This location has a commanding view of the valley below and provides a much larger area for the library to expand to accommodate the academic requirements of the new secondary school. In this location the library can evolve into a **"Global Learning Center"** combining the functions of the traditional school library, research center, internet café and study / lounge. This location also places the GLC central to the academic core of the campus.

B - Renovate the former library area in **Quinta Dami** as the new **Faculty Workroom** and **Lounge**. This location still offers the faculty wonderful views, provides for an outdoor terrace and places it central to the administrative offices while still close to all academic classrooms.



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Partnerships

B7

Approach to Master Planning Partnerships



Above: Heights Arts



Above: Cain Park



Above: Teen Room, Lee Road Library

In this time of challenging economic change, the need for cost-effective, sustainable solutions for our schools and communities has never been greater. Leveraging local educational partnerships are critical to the success of school districts. Schools can share community resources in many venues, including libraries, museums and sports facilities. Students can connect with local businesses through internships and work-study programs. Communities can share school assets like performing spaces and campus parks, creating activity and safe places for all. More efficiently sized facilities are a necessity, and also a wonderful opportunity.

FNI has extensive experience with incorporating district-wide educational partners into a Facilities Master Plan. For instance, at Cristo Rey Jesuit High School, a partnership was established with Urban Ventures' Colin Powell Center, providing services and support to help local teenagers graduate from high school and pursue a college education. Students attending Cristo Rey share white-collar jobs in the community. This opportunity provides the students with hands-on, real-world learning experiences and their income is used to pay tuition.

FNI's MacConnell Award-winning Reece Community School in Australia has developed extensive partnerships with community organizations. These are two-way partnerships that enable students to access community resources while allowing community access to the school's common facilities.

FNI's Master Plan for Puerto Rico detailing the expenditure of \$800 million across 78 schools called for locating community facilities within each school campus and designing several spaces to encourage after school programs and community cultural and recreational programs.



Right: Heights Youth Club

Approach to Master Planning Partnerships

North Central Shared Facility: Developing Partnerships and Learning Across Community



Above: Central Green, North Central Shared Facility, Regina, Saskatchewan

FNI's master planning work for Regina Public Schools, in Saskatchewan, leveraged the power of more than a dozen key public and partnerships. Six projects, including prekindergarten, elementary, middle, high school and a shared school-community facility are all based on a common, holistic vision of integrated living, learning, and working. The phrase "Learning Across Community" was adopted to describe the vision underling all of the projects:

Building a shared vision is the first step in developing effective partnerships like the ones in Saskatchewan. FNI's process involves a series of active, shared experiences, many outside of conventional meeting rooms. For example, a series of field trips was planned for the North Central Shared Facility (NCSF) partners to visit schools, businesses, and cultural-recreational facilities in Minneapolis. After each visit, both formal, seminar style, and informal, gathering-around-the-fireplace meetings were planned to discuss and brain storm about what we learned and its relevance to the NCSF project.

The most effective shared experiences are tailored to match the needs of each community. FNI planners and designers attended a Sweat Lodge ceremony in Regina with First Nations Elders to better understand their culture, and later staged a design festival and feast to present design concepts in a culturally sympathetic context. The whole community participated in a drum dance and NCSF partners sat on the floor for a pipe ceremony (the chiefs brought out four peace pipes at the festival, a rare level of approval).

Below, Visioning Workshop, shows neighborhood learning network



4 Directions Academy of Health & Science

Regina Qu'apelle Health Region (RQHRI), Scott Infant & Toddler Center, and a Community Day Care are integrated with a Personal Learning Community (PLC) of up to 125 students (on a typical day, many will be off site, involved with community service projects, or working with an adjacent PLC).

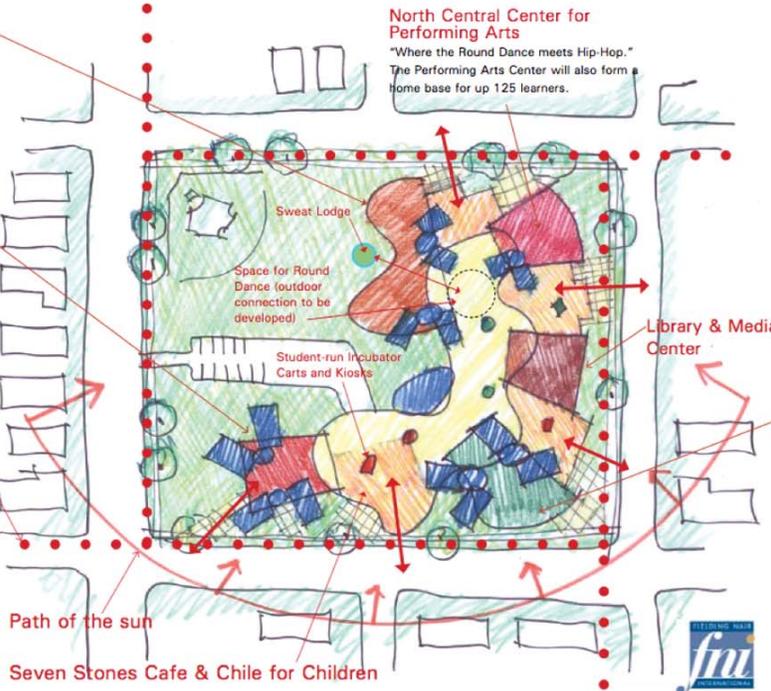
Albert Scott Center for Leadership & Justice

Regina Police Service, City of Regina, North central Community Association are integrated with a Personal Learning Community (PLC) of up to 125 students (on a typical day, many will be off site, involved with community service projects, or working with an adjacent PLC). Includes Aboriginal Healing Room.

Learning Street Network

The dotted red lines represents a learning network that extends through the streets of North Central—a realization of the North Central Partner's vision to "Learn Across Community."

- Commercial Redevelopment:** Nearby sites are to be identified for redevelopment. For example, a tenant may be sought for the building currently occupied by Four Direction Clinic to the North—one that can contribute to the revitalization of the neighborhood.
- Front Porch Network:** Houses along paths to new anchor developments may be provided with economic grants to improve their yards and front rooms—creating spaces with eyes on the street. Improved street lighting and sidewalk landscaping will also contribute.
- Street Curriculum:** Selected spots along the learning network can include a focus for student projects, such as a bird feeder or weather station, engaging students in natural observation, data aggregation, and interaction with residents.



Purpose of this Diagram:

- This design pattern is intended to build a common language about planning, design, and learning across the community. It is not an approved floor plan, nor is there a consensus yet about the location of various partner organizations.
 - The Scott Collegiate Facility is a beloved icon in the community and there has not been a determination that it will be torn down. It's possible that the existing facilities or portions thereof will be incorporated into this pattern, or variations of this pattern, which will be further developed with active community participation.
 - This diagram is intended for discussion during the design process and may not be published without permission.
- Randy Fielding, April 16, 2008

Regina Center for Entrepreneurial Studies

Regina Public Schools, and Regina Education and Action on Child Hunger (REACH) are integrated with a Personal Learning Community (PLC) of up to 125 students (on a typical day, many will be off site, involved with community service projects, or working with an adjacent PLC).

North Central Shared Facility
Regina, Saskatchewan

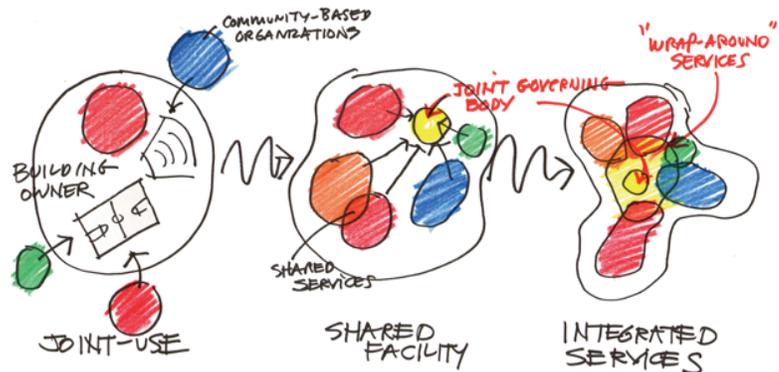
Design Patterns for Creative Communities

Global Village Design Pattern



Above: FNI's Randall Fielding leads Community Activity Mapping

Visits to local businesses and institutional partners included informal interviews, sit-down coffee sessions and also activity mapping workshops. FNI aggregated floor plans of each of the key partners, and mapped the flow of activities at different times of the day. This occurred at the public library, day care center, health clinic, police station, community association, city of Regina offices, tribal council offices and food pantry. FNI's community activity mapping is complementary with our curriculum mapping process—an active method for integrating learning, working, space, and time.



Right: Design Patterns of shared community spaces and integrated services

Approach to Master Planning

Partnerships

North Central Shared Facility: Developing Partnerships and Learning Across Community

Neighborhood meetings included real time mapping of neighborhood living, working and learning. Small group table meetings, each with an FNI team member, preceded whole group discussions, wall map sessions, sharing of videos and best practice presentations.

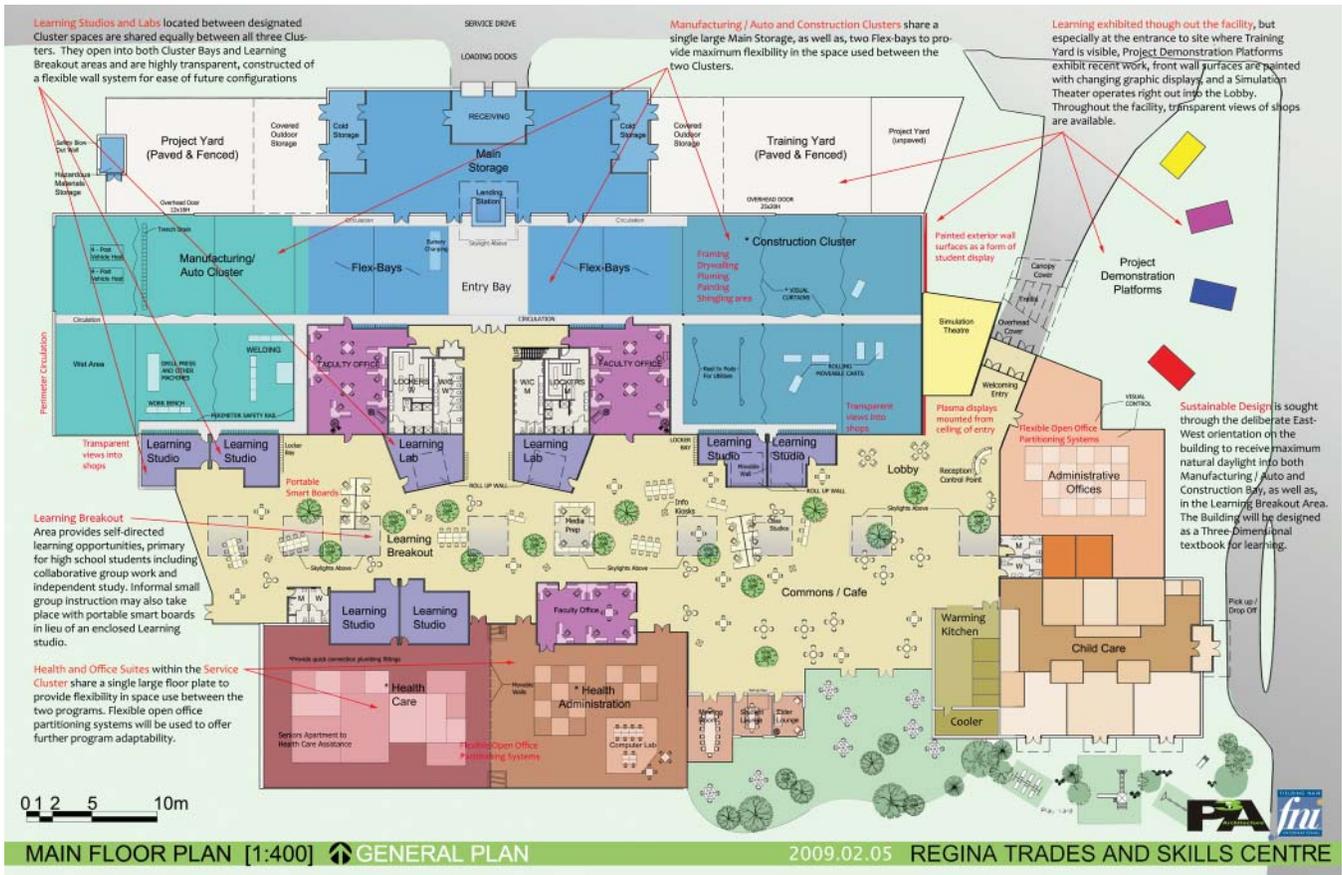
One of the highlights of the master planning work in Regina was the student dinner theater event, where students wrote a screenplay about their community, addressing the many problems and also the potential for positive change. Students helped prepare and took responsibility for serving a wonderful meal to a packed gymnasium. The students were glowing with pride when they received a standing ovation, and the adults answered the call to innovation, internships, and learning across community with a resounding yes!



Above: Library Entrance 3D Rendering, NCSF



Left: A community Round Dance in the gym, celebrating a facility that will benefit everyone in the neighborhood



Above: Floor plan shows a large indoor commons/cafe that links the individual areas

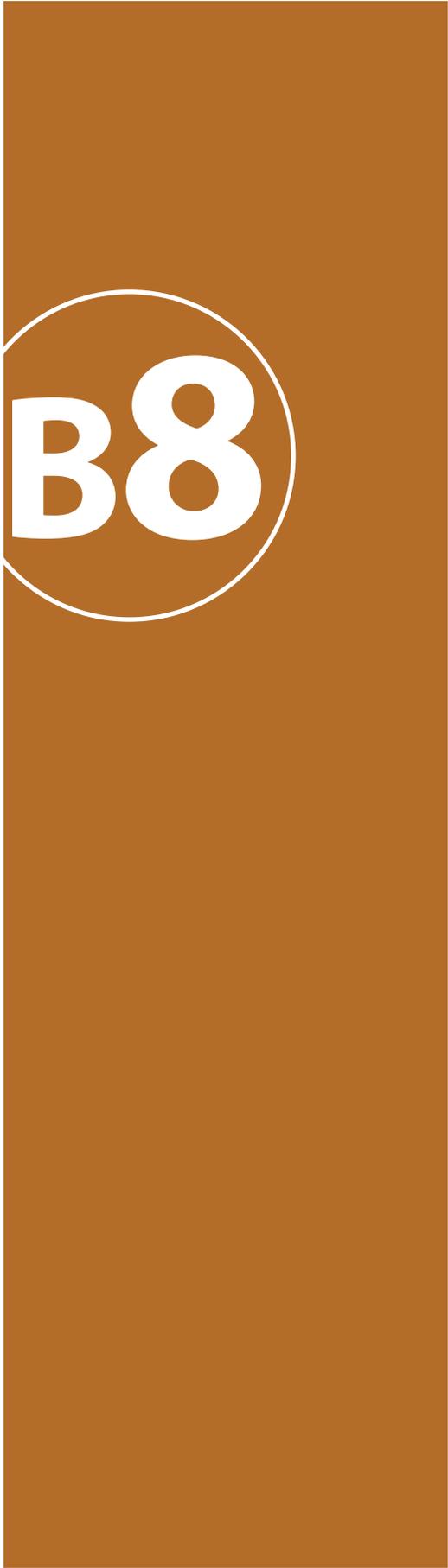
The Regina Trades and Skills Centre provides vocational training in partnership with local business sponsors. To enable at-risk students to succeed, health care and child care is available in the building.

As with many of the planned buildings in Regina, an Elder Meeting Room allows this positive tribal influence a place to congregate and mentor the students or conduct business.

This community-wide approach shares resources, parking, heated spaces, technical amenities and cultural display spaces between schools and the community at large, for the benefit of all. This concept resonates with the native cultural values in Regina.

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Cost and Constructability



B8

Approach to Master Planning

Cost and Constructability

During the development of a facility master plan, it is critical that all team members – the owner, the planning and design team, and the constructability consultant – work together to achieve a common goal. The process of identifying potential options and then assessing their financial impact on the district is not a “Step 1, Step 2” endeavor. Instead, it requires the constant input of all parties, with issues of constructability and cost addressed at the beginning of the planning process and reevaluated at critical steps along the way.

In many cases, we find that our own internal database of cost information can augment the efforts of the cost and constructability consultant. In the same way, the consultant’s expertise is invaluable to the early development of reasonable and realistic master planning options.

Our team has extensive experience working with cost and constructability consultants in just such a manner. In Ohio, Fanning Howey has completed more than 300 new and renovated K-12 school projects while in collaboration with a Construction Manager. This has allowed the firm to build strong relationships with many of the major construction companies in the state, and should enhance our team’s partnering capabilities if the selected consultant is a CM.



Above: Fanning Howey and the CM used an efficient phasing strategy to complete Lima City Schools’ \$106 million building program six months ahead of schedule and \$2 million under budget



Left: Fanning Howey teamed with a CM to examine cost and constructability issues as part of Maple Heights City Schools’ \$77 million district-wide building program





Our experience with cost and constructability consultants includes facility master planning efforts for districts ranging from nine buildings to 147 buildings in size. During these efforts, we worked with the consultant to jointly develop detailed budgets, to identify construction phasing plans, and to provide an estimate of the overall savings due to school consolidation.

In the District of Columbia Public Schools, we worked with a cost and constructability consultant to identify more than 2 million square feet of excess school space. In Detroit, we partnered with a constructability firm to provide program management services for a \$500.5 million bond issue including 18 new and renovated school projects – all of which are currently under budget.



In the past, we have also worked with constructability and cost consultants to develop construction phasing plans ranging from 5-Year phased Capital Improvement Programs to the use of swing space to support school consolidation. In Ohio, Fanning Howey worked with a CM to develop a construction phasing plan that minimized the amount of new land required for Lima City Schools' \$106 million district-wide building program. The solution was to locate many new buildings on existing school sites, with those schools remaining in operation until the new facilities were open. As a result of this collaborative solution, the district's building program was completed six months ahead of schedule and more than \$2 million under budget.

Above: Heritage Elementary School and Berkshire Middle School will open in time for the 2011-2012 School Year - both projects are on time and under budget

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Owner's
Schedule

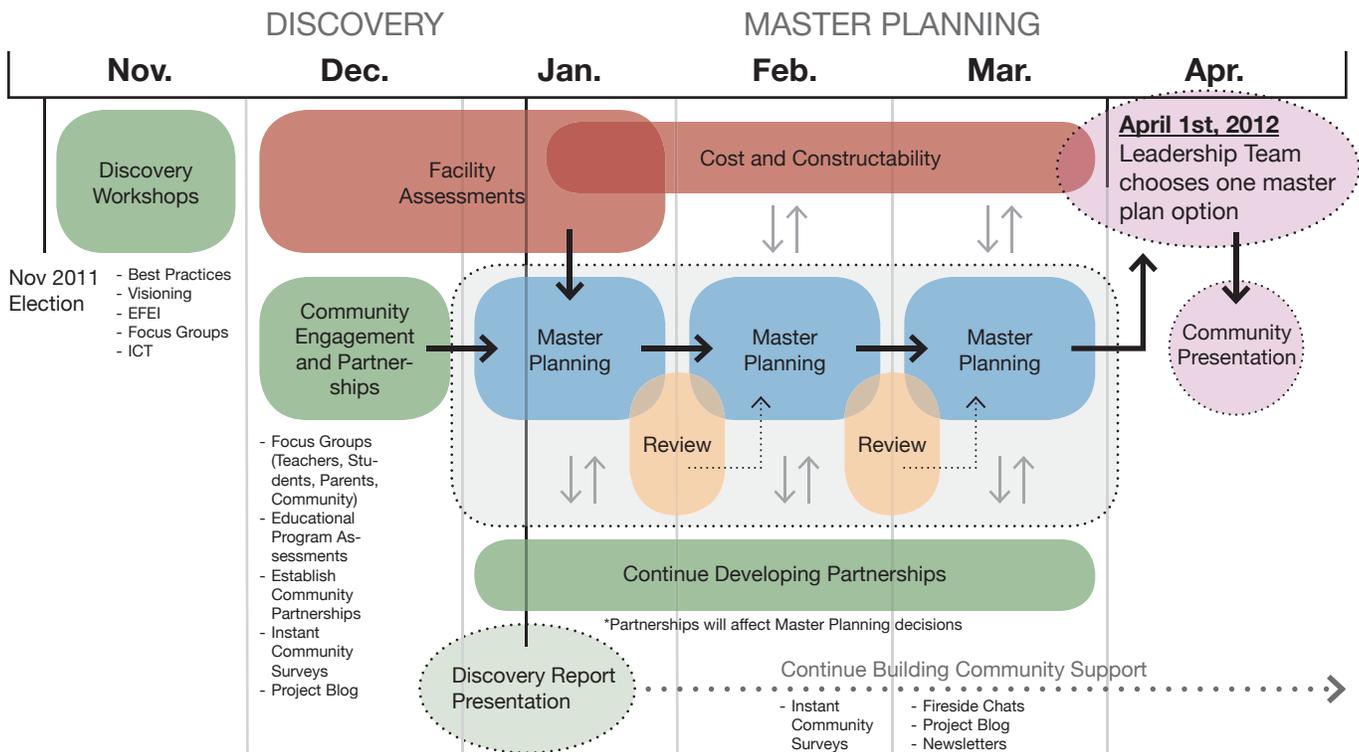


Approach to Master Planning

Owner's Schedule

Our team is ready and eager to begin work on this project. We understand that the Master Planning Consultant will be selected in mid-September and that October will be used for planning and scheduling of the Scope of Work. Below, we have outlined a potential schedule that begins the Scope of Work immediately following the November, 2011 election with completion for choosing the master plan April 1, 2012. This is a fast-paced schedule, but we are very capable of completing it on time and without sacrificing any quality. Between our three firms, we have additional staffing resources that can be devoted to this project as needed.

In general, our process would begin with Discovery Workshops for initial information gathering. The next piece is assessing the existing facilities which parallels further Community Engagement and identifying Partnerships. After the initial Discovery process is at a substantial point, then Master Planning will begin. This is not a linear process and there will be many overlaps and circular feedback loops. Most importantly, building community support will need to be ongoing throughout all phases of the schedule. Our three-firm collaboration brings an enormous advantage to this process. Each of our firms are clearly responsible for a main task which will allow efficiency in the schedule by running parallel to one another.



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Appendix

C



STATE OF OHIO

BE IT KNOWN THAT

RANDALL J FIELDING

Having qualified as required by law is hereby
ADMITTED to PRACTICE ARCHITECTURE

in the State of Ohio on

May 10th, 2011

Under the title of

ARCHITECT

Until December 31st of the current renewal period and
thereafter upon the biennial renewal of this certificate,
and is, therefore a REGISTERED ARCHITECT.

In witness whereof this
CERTIFICATE OF
QUALIFICATION No.

1115342

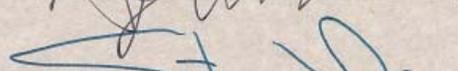
Is hereby issued by the

OHIO
ARCHITECTS BOARD

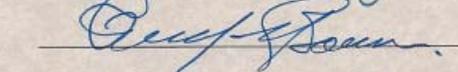



President











Secretary

EDUCATION WEEK

Published Online: April 6, 2009

Published in Print: April 8, 2009

COMMENTARY

Don't Just Rebuild Schools – Reinvent Them

By Prakash Nair

The recently enacted American Recovery and Reinvestment Act proposes to spend many billions of dollars on school construction. As communities gear up to utilize these much-needed funds, let us remember that what may be great for bridges and highways may be exactly the wrong thing for schools.

The deep decay of our school system is best represented not by falling plaster and leaking roofs but something much more fundamental than that --- the underlying philosophy behind the design of more than 99% of our school buildings. By simply repairing broken buildings we will ignore the real problems with American education while giving renewed life to a model of teaching and learning that has been obsolete since the end of the industrial era.

Let's start with the fundamental building block of almost every single school in this country – the classroom. Who seriously believes that locking 25 students in small rooms with one adult for several hours each day is the best way for them to be “educated”? 21st century education is about project based learning, about connecting with peers around the world, about service learning, about independent research and about design and creativity and, more than anything else, it is about critical thinking and challenging old assumptions.

So what can we do to change all this? It's really quite simple. We should attach strict conditions under which federal dollars can be spent for school facilities. Those conditions should send a clear message to each community that school facilities spending should be leveraged to change the educational paradigm from the largely teacher-centered model now practiced everywhere to a 21st century student-centered approach.

Here are some effective ways to assess whether a school community is deserving of capital funds to rebuild its schools with federal dollars.

Create Personalized Learning Communities: Will the money be used to break down the anonymity of the larger school by creating small, personalized learning communities of

between 100 to 125 students and 4-6 teachers? These communities would replace classrooms with multi-faceted learning studios and commons areas for various collaborative and hands-on activities.

The idea is for each student to be known, respected and educated at a very personal level. Positive relationships with adult mentors and older peers are keys to academic success and critical to the development of good social and emotional skills. This can only happen if students belong to a community that is small enough not to exceed their ability as human beings to relate on a very personal level with other human beings.

Make Technology Ubiquitous: Will adequate funds be set aside for school buildings to finally enter the 21st century in the arena of technological sophistication? Capital dollars should be given to schools that are committed to redressing the imbalance between students' technology readiness and the school's willingness to let them use it for learning at all levels. Students should have anytime, anywhere access to the Internet via high-speed wireless laptop computers, smart phones and hand-held computing devices. Experts from all over the world should be able to pop in on demand via distance learning programs accommodated by two-way video conferencing facilities. Schools should be the coolest places in the community when it comes to high-end equipment and for testing new and experimental software.

Connect with the Outdoors for Health, Fitness and Improved Academics: Will schools start paying attention to the mountain of data which directly correlates human health and well-being with the amount of time spent communing with nature and the outdoors? Instead of focusing only on large, expensive sports facilities, schools should also create indoor-outdoor fitness centers that all students can benefit from through dance, yoga, working in kitchen gardens and exploring nature trails.

Focus on Student Comfort: Do schools recognize the common myth that spending money to make students comfortable is wasteful and represents an unnecessary level of pampering that might actually be bad for them? Nothing can be farther from the truth. New research suggests that students need to be comfortable (just like adults) to learn. This includes ergonomic seating and other comfortable furnishings, ample daylight, lots of fresh air, and well-designed artificial lighting and acoustics. Facilities that are created with respect for students are, in turn, respected by students.

Celebrate Art, Music and Performance: As Leonardo DaVinci has proven there is no inherent conflict between the sciences and the arts but this understanding has been slow to seep into the educational mindset. In fact, the sciences and the arts are much more closely aligned in the 21st Century than at any other time in human history. In this Creative Age artistic enterprises that have existed on the fringes of our education system need to assume their rightful place as the centerpiece of each student's educational experience. Schools should be encouraged to direct their facilities dollars toward improving their offerings in art, music and performance.

Embed Sustainability as a Core Principle of Facilities Spending: To what extent will educators take the notion of sustainability seriously by going beyond the selection of “green” materials and technologies in designing schools? Will they heed the words of renowned environmental educator David Orr? According to Orr, schools should, “Collectively, begin a process of finding ways to shift the buying power of the institution to support better alternatives that do less environmental damage, lower carbon dioxide emissions, reduce use of toxic substances, promote energy efficiency and the use of solar energy, help to build a sustainable regional economy, cut long-term costs, and provide an example to other institutions. The results of these studies should be woven into the curriculum as interdisciplinary courses, seminars, lectures, and research.”¹

It is not hard to imagine how much more engaging such a curriculum would be and how students learning in this manner would be more likely to grow up as responsible stewards of our fragile eco-system.

Treat Teachers Like Professionals: Are schools proposing to utilize facilities funds toward amenities for teachers with the knowledge that it will enhance their ability to help students become better learners? We know that happy employees are productive employees and result in happy customers. And so, it is time to stop treating teachers like second-class citizens even as we place greater demands on them to educate our children. Teachers need quiet places to plan lessons and work one-on-one with students that need extra help, areas where they can collaborate in interdisciplinary teams with peers and they need access to the latest technology.

Engage Parents and Community: Do schools plan to fully tap the wealth of community resources that are available to benefit their bottom line of delivering a sound education? Funds can be directed toward changing the intimidating, institutional design of most school buildings to one that is cheerful, colorful and welcoming. By creating well-outfitted parent and community centers within schools we can better enable them to participate and contribute positively toward the education of our children.

Rather than simply invest in short-term capital fixes, the new federal funding will encourage school districts to develop tomorrow’s facilities as infrastructure responses to an educational philosophy whose goal is not to control students but to empower them to take charge of their own learning.

Prakash Nair is a futurist and architect. He is the president of Fielding Nair International, a Minneapolis-based school planning and design firm with consultations in 36 countries. Nair can be reached at Prakash@fieldingnair.com.

¹ What is Education For by David Orr. One of the articles in [The Learning Revolution \(IC#27\)](#) Winter 1991, Page 52

Student-Centered Sustainable Design™:

How Conserving Resources Can Also Boost Student Performance

By Michael E. Hall

Student-centered sustainable design™ has become a valuable approach that allows for the exploration of many avenues through which sustainable goals and strategies can be realized while also improving student performance, increasing teacher satisfaction, and keeping operating costs to a minimum

As a concept that continues to evolve and gain influence, student-centered sustainable design™ has refocused the perspective of many administrators and designers as they approach school construction projects. In particular, thoughtfully conceived connections with the natural environment have become vital, along with a corresponding consideration: how can schools be designed to cre-

ate a positive impact on learning while causing a minimal impact on the environment—both initially and over the long term?

School systems should also look to another ambitious goal—one that ultimately impacts both the student and the community at large. Schools today are now being designed in such a way that students can develop a deeper respect for the environment, and a better understanding of

nature at work. Accordingly, those involved in the planning and design of schools should aspire to reflect a true sense of harmony between buildings and their settings—including the land itself, the climate, and the natural resources required for facility operations.

School districts recognize that they must give careful consideration to the advantages and impact of building performance—in particular as a means of boosting student performance. At the same time, it is vital to keep operating costs low and address sustainability requirements that have become imperative today. Student-centered sustainable design™ has become a valuable approach that allows for the exploration of many avenues through which sustainable goals and strategies can be realized while also improving student performance, increasing teacher satisfaction, and keeping operating costs to a minimum.

Two examples may help to underscore the student-centered sustainable design™ approach. In the first example, a district is considering an on-site stormwater catchment and recycling system for a new school project. The cost is determined to be \$1.5 million, bringing the project over the budget at the conceptual design phase. The district's board of education must



V. Sue Cleveland High School: The new V. Sue Cleveland High School in Rio Rancho, New Mexico, features an energy-efficient façade with light shelves that shade lower window areas and transfer natural light through the upper windows into the classrooms. (Design team of Fanning Howey and Van H. Gilbert Architects)

review the situation, and consider the appropriateness of this type of expenditure as compared to preserving the school's proposed classroom daylighting scheme. A student-centered sustainable design™ approach embraces the classroom daylighting as the most beneficial expense for students.

A second example might involve the potential inclusion of a roof monitor daylighting scheme. After the scheme is designed and priced, it is determined that rising steel prices have pushed the option beyond anticipated costs. In this case, the board of education might elect to use a scheme that accomplishes much of the same intent, but at less cost. The concept of daylighting is not abandoned, only modified to meet the budget parameters.

Improving Performance

There is ample research to support the recognized connections between learning and the built environment. Mark Schneider's landmark article, *Do School Facilities Affect Academic Outcomes?*, published in 2002 for the National Clearinghouse for Educational Facilities, describes a growing body of research that documents those facility attributes that have the most impact on academic outcomes. Schneider explores seven categories:

- Indoor air quality
- Ventilation
- Thermal comfort
- Lighting
- Acoustics
- Building age and quality
- School size/class size

Those involved in school design and construction should be diligent in monitoring the results of ongoing research and look for opportunities to incorporate the findings from studies such as these into building design while maintaining the typical school construction budget.

Key priorities include the following:

Indoor Air Quality

Research clearly indicates that improved indoor air quality (IAQ) can reduce student and teacher absenteeism.

- Utilize low VOC (volatile organic compound) materials
- Provide CO2 monitoring in the classroom
- Utilize building commissioning to ensure a healthy start-up

Ventilation

Improved ventilation can minimize or reduce poor indoor air quality issues, sick building syndrome, and problems related to asthma and respiratory ailments.

- Provide operable windows
- Provide adequate mechanical ventilation for all occupied spaces
- Incorporate a displacement ventilation system

Thermal Comfort

Studies indicate that the best temperature range for learning is 68-74 degrees Fahrenheit, and that the ability to learn is adversely affected by temperatures above 74 degrees.

- Provide individual room control heating/cooling systems
- Incorporate air-conditioning, even in cold climates
- Include shading capabilities at window areas
- Incorporate a digital control system to maximize comfort levels and energy efficiency

Daylighting

There is extensive research that documents the impact that natural daylight has on student achievement and behavior. Several studies indicate that students with the most classroom daylight progress faster than those in environments receiving minimal amounts of natural

light. Those findings directly support the widespread feedback of schoolchildren and teachers throughout the U.S. when asked to cite their priorities in school facility design—responses such as “sunlight,” “daylight,” or “lots of windows and skylights” appear at or near the top of nearly every wish list. Options include:

- Attempt a good roof monitor daylighting scheme
- If budgets won't permit a roof monitor scheme, develop a window-lit scheme that is shaded and permits light to reach far into the building
- Utilize light sensors and multi-level lighting schemes to supplement the daylight while controlling operating costs and increasing lighting efficiency



At H.G. Blake Elementary School in Medina, Ohio, sound reinforcement systems amplify a teacher's voice 10 to 12 decibels above classroom noise levels.

Acoustics

As the ability to learn depends in large part on how well the brain receives incoming signals from a teacher, acoustically appropriate learning environments are critical to learning. A properly designed acoustical environment is less stressful for teachers and students and improves student behavior and attentiveness.

- Evaluate placement of buildings, environmental systems, and components such as mechanical rooms in terms of acoustical trespassing from outside sources.

For example, carefully locating mechanical decks away from academic areas can avoid unacceptable noise transfer.

- Classroom sound reinforcement systems are inexpensive (about \$1,500/room) in relation to the benefits obtained. Budget accordingly and protect this component from being omitted.
- Consider carpet in the classrooms
- Maintain the acoustical design parameters of ceiling tile and other absorptive materials in the face of value engineering suggestions to downgrade
- The latest ANSI standards for acoustics in the classroom should be considered

Physical Conditions

Studies clearly indicate that the physical condition of school facilities impacts teacher morale and effectiveness. Studies also show that there is reduced vandalism, improved relationships between students and teachers, improved motivation, and an overall enhanced learning environment as the building quality improves.

- Help communities understand the benefits of remodeling aging buildings
- Utilize low-maintenance, long-life materials and finishes
- Provide attractive, uplifting interiors
- Include exterior amenities that are user-friendly
- Provide good exterior security lighting

Small Learning Communities

Study results are also available that explore the impact of small learning communities on student performance. The goal is to connect teachers with students, and reduce isolation, violence, and an atmosphere that breeds discouragement.

- Utilize a “school-within-a-school” design to create small learning communities

- Decentralize administration spaces

Connecting to the Community

One important aspect worth considering in terms of the impact of buildings on learning is the degree to which the building can facilitate connections to the community. Many superintendents and educators have reported an increase in student motivation and a reduction in discipline problems when the community is welcomed into the facility and able to take part in a host of student programs.

Examples include facility partnerships for recreation and wellness, use of performing arts facilities, tutoring programs, distance learning, and use of school technology.

- If choosing a new site for a school, consider locations that keep students in proximity to downtown areas and central community areas, rather than remote, isolated locations
- Incorporate community rooms, with kitchens, resource areas, computers, storage, and meeting space
- Provide spaces for distance learning that are available to community members
- Zone buildings effectively so that academic spaces can be secured from public areas
- Foster creative partnerships with municipalities and community groups to share facilities and operating costs and responsibilities

Ultimately, the support of the school district in advocating student-centered sustainable design™ is paramount to its success. Many districts are framing their objectives for this approach in carefully crafted language that informs the planning and design process for each school project. For example, Dayton Public Schools in Ohio has developed the following as an important statement of the district’s vision:

“Dayton Public Schools is committed to enhancing our students’ ability to learn by providing environments that support teaching and learning most effectively. We believe the research supports school design practices that include:

- Integrated daylighting
- Improved indoor air quality
- Energy-efficient building systems
- Environmentally preferable building materials
- Improved classroom acoustics
- Design approaches that allow the building itself to be used as an instruction tool

We believe that these practices assist in providing superior learning environments, while reducing life cycle costs through conservation of energy, and we embrace these student-centered sustainable design™ practices as the most appropriate means to achieve our goals.”

This type of clearly defined policy-level support sends the right message to both the community and the design team that student-centered sustainable design™ is not just the current trend, but a vital component of educational design criteria. By using this approach creatively and comprehensively to improve the performance of educational facilities, districts will also help improve the performance of their students and teachers. ■

Michael E. Hall is a principal and chief marketing officer with Fanning Howey, one of the nation’s leading educational facility planning and design firms. He has been designing schools throughout the U.S. for more than 34 years.

Getting Beyond The School as Temple

Our concept of a community school must evolve—rapidly and intelligently.

BY PRAKASH NAIR

The concept of the community school and the related idea of the school as literally the center of its community have in a short time become sacred cows in many education circles. As soon as someone expresses either idea as a goal, or attaches it to a design proposal, any meaningful discussion of where it fits in the future of education becomes almost impossible, and the need for tomorrow's schools to deal with tomorrow's needs gets lost in the mist of nostalgia for yesterday's schools.

Community schools are by definition open to the community after school hours and on weekends. They are places where students and local people can gather for extracurricular, social, and academic pursuits. The noble goal is to provide a place where the divide that often exists between a school and the community can be eliminated. It's a perfectly laudable idea, and one that might seem worthy of sacred cow status.

The idea of a school as the center of its community goes a step further. If a community school is about catering both to the needs of students and those of the entire community, why not place the school near the center of that community? Certain town planners and architects have interpreted this inclination literally, making the community school easily accessible to all. Another interpretation is metaphorical, elevating the school to the status it deserves regardless of its physical location. Once again, these are laudable goals that might seem hard to find fault with.

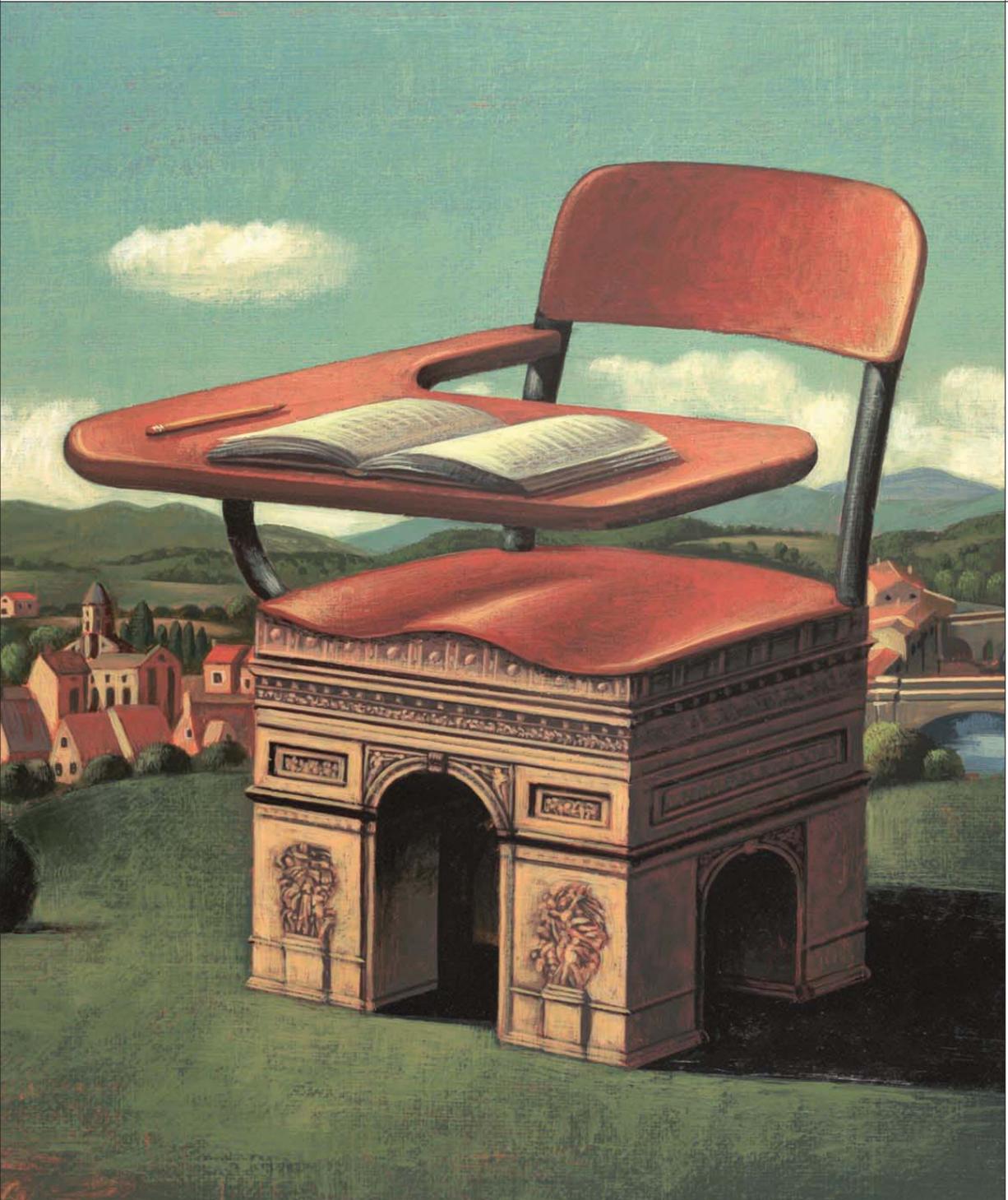
Go below the theoretical surface, however, and the concept becomes a lot less ideal. The problem with community schools, whether at the center of a community or not, is that they tend to

confirm an existing institutional shibboleth—that a central repository of knowledge called school will be the place where all or most learning takes place. The community component is an add-on that rarely represents a fundamental change in the traditional education model. The word *community* has such emotional power, however, that it precludes a close examination of the school itself.

In their eagerness for a school to achieve the status of a community school, education stakeholders, from administrators and planners to parents, are distracted from asking crucial questions such as "As we move deeper into the twenty-first century, what will education look like?" and "How should teaching and learning and, by extension, learning environments respond to changing needs?"

Ironically, we already know the answers to these questions: In order for education to work in this century, it should be student centered, not teacher centered; it should be personalized, not mass produced; it should be connected to real-world experiences, not classroom simulations; its communications technologies should cut across local, state, and national boundaries in real time; it should be a testing ground for new ideas and technologies; and it should model and then build new social, economic, and democratic structures. Simply put, today's educational vision should be vastly different than what we had (mostly) for the past fifty years. By necessity, the places in which children and adults learn in the future should also look very different from the schools that we too often continue to build.

The community school, however, accomplishes none of the above goals. Instead, it takes an existing, outdated fortress/temple model of education and perpetuates it for the next several years. And



VEER



Community Nest: A joint-use library such as the Mawson Centre, in Mawson Lakes, South Australia, caters to the community while meeting the needs of a nearby school.

if we are drawn in by the allure of the community-schools model, or that of schools at the center of the community—mesmerized by the magic of that focal word—we are all too likely to ignore a new paradigm of education that requires equally novel physical structures.

So, what are the alternatives? Let's consider two other ways to go (each of which, by the way, incorporates the *C* word): the community learning center and the community as school.

The Community Learning Center (CLC)

In this model, focus is shifted away from school and onto learning. By changing the focus from the school at the center of the community to learning at the center of the community, we are able to evoke a richer, more diffuse twenty-first-century vision.

The change is not just semantic. The community's role in this approach goes well beyond simply using school buildings after hours. Instead, community residents and institutions become active partners in education. Just as the school serves the community's interests, so also the community serves the school's purpose. School under this scheme becomes redefined as a learning center with pedagogy as a two-way street, as resources are passed back and forth between the center and the community.

The advantages of this design are that the traditional isolation of the fortress model breaks down. Whereas a community school might easily become

just a typical cells-and-bells model into which the community is granted entry after hours, the CLC model engages various segments of the community in the day-to-day life of students of all ages and naturally enables project-based learning. One good example of a CLC is the Brookside Centre, in Melton, near Melbourne in the Australian state of Victoria. Here, a common piazza serves both the school and the community at large, and facilities such as a library, an art room, and a fully equipped technology center are shared between a government school and two private schools. The gymnasium, meanwhile, is a joint venture between local government, a nonschool sports group, and the schools, and the playing fields represent a partnership between the community, the schools, and a local soccer club.

The Community as School (CAS)

The differences between a CLC and a CAS are subtle but important. Both models rely heavily on the community to participate actively and directly in the educational process, but it is the CAS that truly moves beyond the time- and space-based framework of learning most community schools are stuck in today.

The CAS model sees the learning lab as the community itself—including the home; the school campus becomes a gateway to the larger world of learning outside rather than a location-dependent

HOT LINK

For information about schools mentioned in this article, go to www.designshare.com

font of all knowledge. In its ultimate incarnation, the CAS would eliminate the physical school altogether, because the school could be any place in the community on any given day. The best places to learn are often outside the classroom, and school can exist in a hundred places in a hundred forms.

Mawson Lakes School, in Mawson Lakes, near Adelaide, South Australia, itself has no defined boundaries, and K-12 students routinely use the various community facilities alongside higher-education students and community residents. Some of these facilities, such as the resource-rich Mawson Centre, were designed from the ground up to serve the learning needs of the community at large.

Closer to home, two Minnesota schools—the Interdistrict Downtown School, in Minneapolis, and Duluth's Harbor City International Charter School—depend extensively on students using community resources as an integral part of learning. The Metropolitan Regional Career and Technical Center (the Met), in Providence, Rhode Island (see "High School's New Face," November/December 2004), and Sevenoaks Senior College, in Western Australia, are also good examples of schools at which students obtain a significant part of their education through outside work experiences.

As the pace of change increases, lifelong learning has become a necessity. Everyone in the communities of tomorrow (not the day after tomorrow) will be a client of education, and it will be pointless simply to try retrofitting aging paradigms. The phrase "old school," once an indicator of bedrock tradition, has about as much relevance to our technological, social, and educational lives today as golf clubs that admit men only. As for the word *community*, in the new world of education, it must be applied in its fundamental meaning of essential connections. Schools, whether real or virtual, will in the future be about connecting individual aspirations with a joint vision, and about creating a road map to get there. The fortress won't get that job done. ☺

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