

American School & University®

MARCH 2022

asumag.com | schooldesigns.com

SHAPING FACILITIES AND BUSINESS DECISIONS

NEW DESIGN DIRECTION

After the Covid-19 pandemic disrupted normal operations at schools and universities, designers are pondering how education facilities will change in response.

14

ALSO
INSIDE

20

KEEPING
CLEAN

24

WELCOMING
SPACES

27

DON'T FORGET
THE ROOF

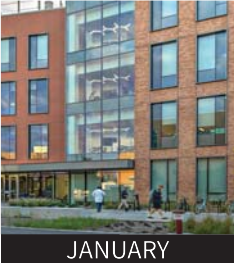


2022
EDUCATIONAL
INTERIORS
SHOWCASE

ENTER TODAY!

Visit [SchoolDesigns.com](https://www.SchoolDesigns.com)

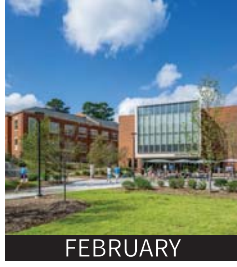
OLD DOMINION UNIVERSITY – NEW CHEMISTRY BUILDING



JANUARY

MOSELEYARCHITECTS

THE WESTMINSTER SCHOOLS CAMPBELL HALL RENOVATION AND HAWKINS HALL ADDITION



FEBRUARY

enneed architects

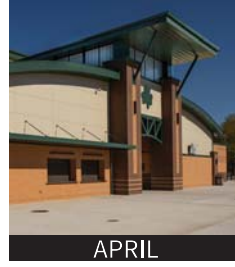
COMMUNITY HIGH SCHOOL



MARCH



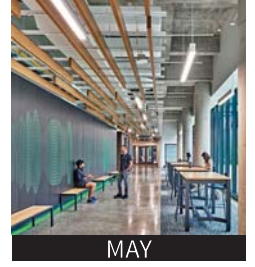
SYLVESTER STADIUM, BERRIEN SPRINGS PUBLIC SCHOOLS



APRIL



THE UNIVERSITY OF TEXAS AT DALLAS SCIENCES BUILDING



MAY



LONG NGUYEN AND KIMMY DUONG STUDENT SERVICES CENTER



JUNE



Click, Print, Plan.

2022 Industry Events Calendar Free at SchoolDesigns.com.

Visit SchoolDesigns.com today to print your complimentary copy of the 2022 American School & University/SchoolDesigns.com Calendar of Industry Events. Includes a detailed list of 2022 live and virtual conference and event dates. Plus a comprehensive directory of industry organizations with complete contact information. Each month showcases an outstanding school or university project.

Visit SchoolDesigns.com to get your copy today!

DePAUL UNIVERSITY SCHOOL OF MUSIC, HOLTSCHEIDER PERFORMANCE CENTER



JULY



NORTHEAST COMMUNITY PROPEL ACADEMY



AUGUST



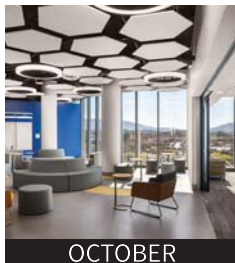
JAMES MADISON UNIVERSITY – ATLANTIC UNION BANK CENTER



SEPTEMBER

MOSELEYARCHITECTS

MT. SAN JACINTO COLLEGE TEMECULA VALLEY CAMPUS



OCTOBER



CENTER FOR NURSING AND HEALTH SCIENCES



NOVEMBER



MARIST STEEL PLANT STUDIOS



DECEMBER



American School & University SchoolDesigns

Introducing **CENTURION**[®]



CENTURION



PVI's Most Powerful Water Heater Yet!

◆ Compact, 2000 MBH water heater

- Up to 65% less footprint vs. the competition

◆ Advanced Edge[®] Controller with O₂ Trim technology

- Self-adjusts and maintains optimal air-fuel ratios for peak efficiency, low emissions and maximum reliability

◆ Durable, corrosion-resistant AquaPLEX[®] duplex stainless steel

- Fire tube heat exchanger backed by a 15-year warranty



(817) 335-9531 | PVI.com

CONTENTS

VOLUME 94 • ISSUE 5 • MARCH 2022



14

COVER STORY

14 NEW DESIGN DIRECTION

After the Covid-19 pandemic disrupted normal operations at schools and universities, designers are pondering how education facilities will change in response.

FEATURES

ENERGY MANAGEMENT

20 Keeping Clean

After coping with the Covid-19 pandemic for the better part of two years, schools should be convinced of the importance of clean air in their facilities

STUDENT HEALTH

24 Welcoming Spaces

Thoughtfully designed wellness centers can destigmatize mental health care for students.

ROOFING

27 Don't Forget the Roof

Schools should conduct semiannual inspections of their roofs to detect problems before they cause serious damage.



24



27

DEPARTMENTS

8 Inside

Washrooms and Locker Rooms

9 Knowledge Center

Flooring and Carpet

10 Construction Zone

Athletic Facilities

34 Profiles

People, Places and Goings-ons

VIEWPOINTS

29 Facility Planning

Say "Yes" for Staff Planning Centers

IN EVERY ISSUE:

6 Editor's Focus 7 On the Web 30 Product Solutions 32 Market Place 33 Ad Index

American School & University, (ISSN: 0003-0945) March 2022, Vol. 94, No. 5. Published monthly except for combined issues in January/February and May/June and November/December. Free to qualified persons in the United States by Endeavor Business Media, 1233 Janesville Ave., Fort Atkinson, WI 53538 (endeavorbusinessmedia.com). Printed in the U.S.A. Copyright 2022 by Endeavor Business Media. Free and controlled circulation to qualified subscribers. Non-qualified persons may subscribe at the following rates: USA: 1 year \$69, 2 years, \$109; Canada: 1 year \$79, 2 years, \$139; other international: 1 year \$99, 2 years, \$159. For subscriber services or to order single copies, call customer service at (847) 559-7598 or send an email to americanschool@omeda.com. Postal/Email List Rentals: Smart Reach sr-assets@endeavorb2b.com. Periodicals postage paid at Fort Atkinson, WI and at additional mailing offices. Canadian GST #R126431964. POSTMASTER: Send address changes to American School & University, PO Box 3257, Northbrook, IL 60065-3257 USA. Allow 6 to 8 weeks for change of address. Copyright © 2022.



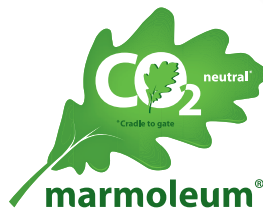
**GET BEAUTIFUL, HEALTHY,
HIGH PERFORMING RESULTS
WITH FORBO MCT. GUARANTEED.**

mct essentials | elementals

- **MCT Coordinates!** Our new collection features pops of bright color combined with a neutral base to create balance in a range of inspirational colors, ensuring efficiency and harmony of design. MCT's organic marbled texture provides a visual connection with nature bringing the outdoors in, while working well with primaries, secondary and tertiary colors. This new palette opens the door to creative and inspiring installations that define spaces, create paths and improve the environment.
- Guaranteed installed cost
- EZvations adhesive solutions are available for installations with no need for moisture testing.
- Clean and Go – immediate occupancy; no initial maintenance required
- Naturally healthy floor mitigates mold risk and is naturally free from phthalates, pesticides and chemical agents



Learn more at www.forboflooringNA.com



FLOORING SYSTEMS

NOBODY'S PERFECT

By Mike Kennedy



Covid-19 has shown us the potentially deadly consequences that come from treating student health cavalierly.



Here's a fun fact about my past as a student: I went more than six years without missing a day of school. It's one of those things on my permanent record that teachers were always talking about.

Perfect attendance never was a particular goal of mine; it was more the result of inertia than any thought-out strategy or FOMO (which was not a thing back then). Since I was already well enough to get up at dawn and deliver newspapers, I didn't think I could sell the argument that I was too sick to go to school.

I've been thinking about my "perfect attendance" history and how perfectly misguided it seems in 2022 as schools continue to cope with the health challenges brought on by the Covid-19 pandemic. When I was in school, perfect attendance was considered

a notable achievement. It was a sign that you were not only committed to your schooling but also tough enough not to be knocked off course by a common cold or an ear infection.

A grade school classmate was even more "perfect" than me. For eight years, from first to eighth grade, she never missed a day. When her "achievement" was announced at eighth-grade graduation, the audience oohed and aahed in admiration. We fellow students reveled in the story of how she had gotten sick one morning in class and was sent home, but after lunch she summoned up her inner Cal Ripken and came back in the afternoon to keep her attendance streak intact.

Of course, there are no records of how many other students came down sick from the germs she (or I) spread when we were less than healthy

and mingled with our classmates. No one thought about that then; but after two years of Covid, we are thinking about it now.

Covid-19 has shown us the potentially deadly consequences that come from treating student health cavalierly. The guidance to schools from the U.S. Centers for Disease Control and Prevention (CDC) is simple and direct: "Discourage the use of 'perfect attendance' awards."

Instead, the CDC has urged schools to have flexible attendance and sick leave policies that encourage students and staff to stay home when they are sick.

And that seems perfectly reasonable to me.

Mike Kennedy, Senior Editor, has written for *AS&U* on a wide range of educational issues since 1999.

EDITORIAL ADVISORY BOARD

Bruce Mather
Executive Director of
Facilities Management
Elmhurst College, IL

Martin Montañó
Capital Projects Administrator,
Rio Rancho Public Schools,
Rio Rancho, N.M.

James E. Rydeen
FAIA, Armstrong Torseth
Skold and Rydeen, Inc.,
Minneapolis, MN

ENTER EDUCATIONAL INTERIORS SHOWCASE 2022



IT'S not too late to include your project in the 2022 Educational Interiors Showcase. Judging starts in June. Visit SchoolDesigns.com for more information and to enter online.

DON'T miss this chance to include your project in the August Educational Interiors Showcase issue.

SchoolDesigns





Detroit district has \$700 million plan to overhaul facilities

The Detroit district has proposed a \$700 million initiative to rebuild, renovate, reopen and expand many of its schools.

The plan calls for the district to spend \$281 million to rebuild five schools, \$296 million to renovate buildings, and \$128 million to reopen seven previously closed schools, expand pre-K, build five additions at existing schools, and demolish or sell some vacant buildings, reports Chalkbeat Detroit.

The district also is considering building an athletic complex in the city that would be a public-private partnership. The complex would include indoor and outdoor facilities for football, basketball, volleyball, soccer, baseball, track, and lacrosse. The district says the facility could be a revenue generator because it would enable the district to host major tournaments.

Funding for the plan would come from the district's Covid relief funds.

asumag.com/21216676



Tennessee proposal seeks to move 14 schools out of flood plains

Tennessee Gov. Bill Lee has proposed spending \$200 million on a plan to move schools out of flood plains.

The initiative includes 14 schools across the state in urban, rural and suburban districts, the Memphis Commercial Appeal reports. The schools were identified through a study by the Tennessee Emergency Management Agency as high risk for flooding damage, said Penny Schwin, state commissioner of education.

"With the use of state and one-time federal relief funds, Tennessee has the opportunity to proactively address anticipated risks to our students and schools and help rebuild schools in locations not susceptible to predicted flooding," the Tennessee Department of Education said.

asumag.com/21215741



Nun gets a year in prison for embezzling from California school

An 80-year-old nun who embezzled nearly \$835,000 from St. James Catholic School in Torrance, Calif., has been sentenced to serve a year in prison.

Mary Margaret Kreuper, the former principal of the elementary school, admitted to taking tuition money and spending it on casino outings, and personal vacations to Las Vegas and Lake Tahoe, The Los Angeles Times reports.

U.S. District Judge Otis D. Wright II imposed the prison term and ordered Kreuper to pay \$835,339 in restitution to St. James.

Kreuper, who retired in 2018 after 28 years as the school's principal, pleaded guilty last year to wire fraud and money laundering.

When the Archdiocese of Los Angeles confronted Kreuper about her misconduct, she argued that priests are better paid than nuns, and said she believed she deserved a raise, according to the government.

Kreuper promised to follow "more closely in Christ's footsteps" and spend the rest of her life trying to make amends.

asumag.com/21216325



Delaware district will build \$177 million high school on site of existing campus

The Sussex Technical district in Georgetown, Del., is planning to replace the existing Sussex Technical High School with a \$177 million facility on the same campus.

The new 349,000-square-foot building would house about 1,600 students in grades nine through 12, reports The Cape Gazette.

The Sussex Tech high school campus opened in 1961. For years, school officials have said the facility was in is in poor condition and sought state funding to replace it.

School officials say the building is safe but deteriorating and needs significant upgrades.

About 60% of the money to build the replacement campus—\$107 million—would come from the state; local funds make up the rest of the construction budget. ■

asumag.com/21216436

www.asumag.com
www.schoolsdesigns.com

CONTENT DIRECTOR/ASSOCIATE PUBLISHER
Joe Agron • jagron@endeavorb2b.com

SENIOR EDITOR
Mike Kennedy • mkenney@asumag.com

ART DIRECTOR
Timothy Driver • tdriver@endeavorb2b.com

ASSOCIATE EDITOR
Brooke Just • bjust@endeavorb2b.com

EDITORIAL CONTRIBUTORS • Stephen Ashkin; Paul Erickson; American Institute of Architects Committee on Architecture for Education

VICE PRESIDENT, BUILDINGS & CONSTRUCTION GROUP
Mike Hellmann • mhellmann@endeavorb2b.com

GROUP EDITORIAL DIRECTOR - BUILDINGS & CONSTRUCTION GROUP
Mike Eby • meby@endeavorb2b.com

SENIOR MARKETING MANAGER
Molly Roudebush • mroudebush@endeavorb2b.com

SENIOR PRODUCTION OPERATIONS MANAGER
Greg Araujo • garaujo@endeavorb2b.com

PRODUCTION MANAGER
Brenda Wiley • bwiley@endeavorb2b.com

ENDEAVOR BUSINESS MEDIA, LLC

CEO • Chris Ferrell
President • June Griffin
CFO • Mark Zadell
COO • Patrick Rains
Chief Administrative and Legal Officer • Tracy Kane
EVP, Group Publisher - Design Engineering and Power, Utilities & Buildings • Reggie Lawrence
EVP, Special Projects • Kristine Russell
EVP Marketing Solutions & Data • Jacque Niemiec
VP Accounting • Angela Mitchell
VP Content • Travis Hessman
VP Digital Business Development • Monique Leija
VP Digital Innovation Data • Ryan Malec
VP Finance • Jessica Klug
VP Production Operations • Curt Pordes
VP Technology • Glenn Scheithauer

SUBSCRIPTION CUSTOMER SERVICE:
(847) 559-7598
americanschool@omeda.com



CORPORATE OFFICE:

Endeavor Business Media
PO Box 803 • 1233 Janesville Ave.
Fort Atkinson, WI 53538
(800) 547-7377

endeavorbusinessmedia.com

Handwashing wanes

Since Covid-19 became a focal point of our daily lives in March 2020, school administrators have followed the guidance of health experts and have emphasized frequent handwashing as a critical and effective step in preventing the spread of viruses and bacteria.

But after two years of Covid warnings and restrictions, people have become less vigilant about that simple task. According to a new survey, handwashing frequency by adults has decreased 25% from spring 2020 to January 2022.

Results of the Healthy Handwashing Survey conducted by Bradley Corporation found that in spring 2020, Americans were washing their hands an average of 10.5 times per day. In January 2022, that number dropped by one-fourth to 7.8 times per day.

Parents may have become more complacent about handwashing, but they still are stressing the value of it for their children. The survey found that 79% of parents take some sort of action to encourage their children to wash their hands.

About 44% say they regularly ask their children to wash their hands, 26% have added it to their children's routine, and 25% provide "fun" soaps to make handwashing more appealing.

Parents say most schools still are making handwashing a priority—64% of parents say their child's school or daycare builds handwashing into the daily schedule.

"Handwashing has been shown to be a simple, safe and effective way to reduce the transmission of viruses and bacteria, including the virus that causes Covid-19," says medical microbiologist Michael P. McCann, professor and chair of biology at Saint Joseph's University. "It is essential that everyone maintain high levels of personal hygiene and that we do not let down our guard."

According to the survey, before Covid began to spread, about 37% of Americans washed their hands six to 15 times a day. In



Image courtesy of Bradley Corp.

April 2020, when concerns about Covid were at their highest, 78% were washing their hands six to 15 times a day. By January 2022, the percentage had declined to 56%.

Handwashing is especially important in schools because they are environments where germs spread easily. The Centers for Disease Control and Prevention estimates that 22 million school days are lost each year because of the common cold.

The survey found that most American adults have heeded advice about how long they should wash their hands. The CDC recommends lathering up and scrubbing for a minimum of 20 seconds. The survey found that 63% wash for an average of 21 seconds. However, 17% of the population say they only take five to 10 seconds.

Anxiety and actions surrounding the coronavirus have relaxed as the country enters the third year of the pandemic. In the survey, 78% of Americans say that as a result of the coronavirus, they are more aware of germs, compared with 89% in April 2020 and 86% in February 2021.

The survey queried 1,035 American adults in January about their handwashing habits.

Tik Tok vandalism

Many schools across the nation have been dealing for several months with a wave of vandalism in bathrooms prompted by challenges on the Tik Tok social media platform.

CNN reports that since September, the so-called "devious lick" viral challenge has seen middle school, high school and college students vandalizing school property, most commonly bathrooms, and posting what they have done on Tik Tok or other social media applications.

Schools have had to shut down bathrooms to make repairs, and in some cases they have restricted students' access to facilities because of the vandalism.

Some examples:

— Students at Lincoln High School in Lincoln, Calif., say all of the boy's restrooms have been closed because of vandalism from the Tik Tok trend. KXTV-TV reports say that because of the damage, the male students were limited to using only one single-stall bathroom in the library. The school says that soap dispensers have been destroyed, toilet paper has been scattered, and entire urinals have been stolen from school restrooms.

The Western Placer Unified School District said bathrooms at

Lincoln High and other district schools have incurred significant damages. Those facilities have been closed until they can be repaired.

"Despite these challenges, the district is taking extensive steps to not only ensure there is adequate facility use for students, but inform students that acts of vandalism on our campuses will not be tolerated," the district said.

—The Sweetwater (Texas) district has tightened its student bathroom policy after vandalism in the high school and junior high. KTXS-TV reports that soap dispensers were pulled off walls, and light fixtures ripped out of the ceiling in some bathroom. The revised policy states that students are allowed six bathroom passes per six weeks during class time and can use only one pass per day.

—The Nixa (Mo.) district has removed soap dispensers from several bathrooms at Nixa High School after months of vandalism that administrators blame on the Tik Tok challenge. ■



Photo 167206752 © estevesf | Dreamstime.com

HEALTHY CONSIDERATIONS

By Mike Kennedy

Concerns about Covid-19 have heightened people’s awareness of the many materials they encounter as they move through the world and how some substances, often unseen, affect their health.

In school facilities, administrators and maintenance personnel know that the products and materials they choose as they outfit classrooms may create conditions that affect student performance as well as the health and safety of students and staff.

The general trend of education institutions’ becoming more conscientious about their impact on the environment combined with the more urgent call to action in response to the Covid-19 pandemic has made it even more critical for schools and universities to put the health and safety of students and staff at top of mind as they build and finish their facilities.



Photo 239312591 / 3d © Heri Purnomo | Dreamstime.com

With regard to flooring, carpeting may be preferred or more suitable in certain areas of a school facility, and resilient floor may be the choice for other sections. But administrators should be aware of the possible hazards that may arise from some flooring and carpeting and look for products materials that are composed of more environmentally friendly materials.

“Like many products in our built environment, carpet and flooring products are often made with toxic chemicals that threaten our health and the environment,” the Center for Environmental Health (CEH) says.

To help those making facility decisions about flooring, the Center has offered “10 Reasons to Choose Healthier Carpet and Resilient Flooring.”

The reasons:

- Carpet and flooring can be a significant source of exposure to chemicals that are associated with a range of serious health issues, the CEH says. Health problems

linked to chemical exposure are on the rise. CEH guidelines restrict the use of harmful substances—including vinyl, PFAS, bisphenols and flame-retardant chemicals—associated with these and other conditions.

- Conventional carpet and flooring products can release volatile organic compounds (VOCs), which have been found to impair cognition. A recent study has found that in a setting with average VOC levels, people had significantly diminished cognitive functions compared with settings with increased ventilation and reduced VOC levels, the CEH says. In the improved indoor environment, participants scored substantially higher on cognition tests that measured functions including crisis response, information usage and strategy, among others.

- Indoor air can be two to five times more polluted than outdoor air, and people in the United States spend an estimated 87% of their time indoors. Crises like Covid-19 and wildfires have forced people to spend more time indoors. Schools should avoid products that can compromise immune systems and exacerbate the health effects of these crises.

- People are demanding safer, healthier, and more sustainable environments, and employers, designers, and building owners are responding. A commitment to healthier products will help education institutions attract and retain students and staff and protect the health and well-being of those who work in school facilities.

- Selecting healthier carpet and resilient flooring products can help a school facility earn sustainability credits for building certification programs.

- Toxic materials in carpet and flooring endanger health across the product life cycle. People involved in the manufacturing, maintenance, and disposal of these products — and those who live in communities where the chemicals are produced and disposed of — are adversely affected, as are air, water, soil, and wildlife.

- The products that meet CEH specifications typically require less maintenance than conventional products. Some of the products used to clean and maintain carpet and flooring can harm the health of cleaning and maintenance workers, and the environment. For example, the resilient flooring products that meet CEH criteria don’t require stripping, sealing, waxing, and finishing needed for conventional resilient floors, thereby saving time and money, and protecting health. Many of the healthier products come in tile or plank formats, so pieces that become damaged can be replaced rather than re-carpeting or flooring the whole area.

- Buying healthier products diverts harmful waste from landfills. In the United States, an estimated 2 million tons of carpet is sent to landfills every year, the CEH, and the toxic chemicals can leach into the soil and groundwater.

- Safer, healthier products that meet health and safety criteria come in a large range of designs, colors, and formats. Resilient flooring and carpet products that meet CEH criteria can be found in CEH’s Guide to Selecting Healthier Carpet and Flooring.

- The purchasing power of education institutions can help shift the market toward safer products. “By selecting products with better health and safety profiles, you are joining with other sustainability leaders and are sending a unified message to manufacturers that purchasers don’t want hazardous chemicals in their products,” the CEH says. ■

University wants to buy St. Paul, Minn., golf course

St. Thomas University in St. Paul, Minn., is offering \$61.4 million to buy the nearby Town & Country Club golf course so it can upgrade athletic facilities.

TommieMedia reports that university's Executive Budget Committee announced its plans during a February town hall meeting.

"Town & Country is currently considering this offer and reviewing it with their members," said Mark Vangsgard, vice president for business affairs and chief financial officer.

At about 94 acres, the golf course site would more than double the size of the St. Thomas campus.

"It would allow our expanded St. Paul campus to be more contiguous and walkable," Vangsgard said.

The Town & Country Club golf course opened in 1893 and considers itself the first golf course in Minnesota.

The bid from St. Thomas was unsolicited, according to a communication from a Town & Country Club official, and the property had not been "made available for sale." Club members intend to review the bid, the message said.

Vangsgard said St. Thomas would pay for the acquisition through donations, borrowing money from the tax-exempt bond market and through \$5 million rolling off the university's books from "older debt issuances" over the next two to three years.



The University of St. Thomas in St. Paul, Minn., is seeking to buy the Town & Country golf course. Image courtesy of Town & Country Club/Facebook

Syracuse University plans overhaul of campus field house

The athletic department at Syracuse University in Syracuse, N.Y., is seeking to raise \$150 million to upgrade facilities, including an overhaul of the Manley Field House.

The university says Manley Field House, described as the center of student-athlete life for Syracuse athletics for nearly 60 years, will be transformed into the John A. Lally Athletics Complex, an academic and athletics village.

The first phase of the project will begin in spring 2022 with construction of a new front entrance. The upgrade also will provide the Student-Athlete Academic Support Program with an expanded area to meet student needs through private in-person meeting spaces for expanded tutorial appointments and academic advising, along with career and life skills programming.

The athletics department will announce additional enhancements to the facility as it secures more donations. Among the possible enhancements being considered: creation of a new Football Operations Center; a One Team Center, which will be used by all of Syracuse University's Olympic sports teams; a student-athlete academic center to expand resources for academic support and professional and career development; updated dining and nutrition facilities; renovated locker rooms, medical training and strength and conditioning facilities; and modernized facades on the exterior of the complex.

The renovated field house is being named for alumnus John Lally, who made a \$25 million gift commitment in 2019 for the project.

John Wildhack, director of athletics, says the revitalized complex will benefit all Syracuse student-athletes, improve recruiting and increase retention.



Syracuse University will renovate Manley Field House and rename it the John A. Lally Athletics Complex. Illustration courtesy of Syracuse University

University of Kentucky will spend \$30 million to upgrade track, football facilities

The University of Kentucky has approved a \$30 million plan to build an indoor track and field facility, renovate Nutter Field House and install new videoboards at Kroger Field. The university Board of Trustees approved a \$20 million expenditure for the indoor track and \$5 million each for the renovation of the field house and the new scoreboards. Fundraising efforts will pay for the work.

“Between track and field, football and our other outdoor sports, there is tremendous demand for use of the Nutter Field House,” said Mitch Barnhart, the university’s director of athletics. “Having a facility dedicated to track and field, along with a renovated field house designed primarily for football, will be significant for the production, efficiency and safety of our teams and athletes.”

The new facility will be adjacent to the outdoor track and the teams’ locker rooms and strength and conditioning areas in Shively Sports Center. It will feature a high-banked track, enabling runners to train on a surface that is now standard for NCAA and Southeastern Conference indoor championships.

The renovation of Nutter Field House will create a football-focused environment. Planned improvements include replacement of the existing surface with wall-to-wall turf. The upgrades will



A renovation of Nutter Field House is one of three athletic facility upgrades approved at the University of Kentucky. Image courtesy of UK Athletics

create an environment safer than the existing practice field, which is bordered tightly on each sideline and cut off in the end zones by the indoor track.

Also included in the field house plan are revisions to the mechanical system to improve air circulation and performance as well as new overhead doors and operable windows to add passive circulation to the practice area. New LED lighting will improve visibility during practice, reduce maintenance and improve energy efficiency.

The fan experience at football games will be enhanced with the installation of improved videoboards on the east and west ends of Kroger Field.

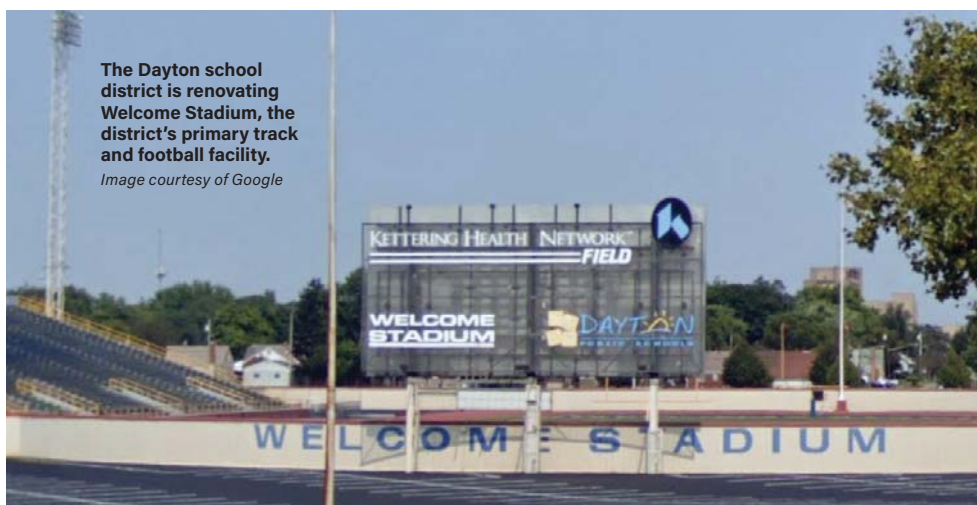
Dayton (Ohio) district will renovation 73-year-old stadium

The Dayton (Ohio) school board has approved an \$11 million contract to renovate Welcome Stadium.

The stadium was built in 1949 and serves as the district’s primary track and football stadium and is also used by the University of Dayton’s football team, The Dayton Daily News reports. The school district says the stadium has not undergone any major renovations since its opening.

The district says it will be working with community members on the design for the stadium. It plans to keep the historical character of the facility as it updates the stadium to comply with accessibility regulations.

The project will update outdated mechanical, electrical and plumbing systems, refurbish or replace the press box, replace



The Dayton school district is renovating Welcome Stadium, the district’s primary track and football facility. Image courtesy of Google

the artificial field and running track, and renovate restrooms and locker rooms.

Skanska USA is the project manager, and Shook Construction is the contractor.



The 51,000-square-foot Racine Aquatic Center opened earlier this year.
Image courtesy of Racine Unified School District

Aquatic Center makes a splash in Racine, Wis.

The Racine (Wis.) Unified School District has opened a 51,000-square-foot aquatic center.

The \$22 million RUSD Aquatic Center is adjacent to Case High School and features a 10-lane pool, a dedicated diving well and a four-lane multipurpose pool. It has seating for 800 people.

Racine Superintendent Eric Gallien says the district is looking forward to providing not only an outstanding swimming venue for

student-athletes, but also opportunities for the entire community, which sits on the shores of Lake Michigan.

“We are a lake community, and all our children need to know how to swim,” Gallien says.

Usage plans are still in development, but the aquatic center offers space for large swim events, parties, fitness classes, and swim lessons.

New recreation center planned at Pitt

The University of Pittsburgh is planning to construct a new recreation and wellness center.

The university says the Campus Recreation and Wellness Center will encompass about 270,000 square feet and will be built on for the site of the former O’Hara Garage and the Learning Research and Development Center.

Visions for a center designed to enhance the student experience at the University’s Pittsburgh campus are coming into focus.

Anastasia Dubnicay, project manager in Pitt’s Office of Facilities Management, says student input was invaluable in designing the center

“Sitting down, talking with the students, asking them their thoughts, brought up inclusivity aspects and needs at current facilities that we didn’t know about, which was incredibly valuable,” Dubnicay said.

Officials say the multistory facility will encompass all aspects of health and wellness. Design plans call for a recreation pool; a jogging track; weight-lifting equipment; multi-activity courts for basketball, volleyball and other activities; and dining options.

In addition to being the largest recreation and wellness center in the university’s history, the center will be the first to adopt a holistic approach to supporting overall student health and wellness.

Mary Beth McGrew, associate vice chancellor in the Office of Planning, Design and Real Estate, describes the “aspirational design” as one that requires technical rigor because of its provisions that empower the mind, body and spirit, as well as its vertical design.



The University of Pittsburgh’s Campus Recreation and Wellness Center is expected to open in 2024.
Image courtesy of University of Pittsburgh

The university intends to break ground on the Campus Recreation and Wellness Center in spring 2022. It is anticipated to open in fall 2024. ■

B-824 SureFlo®

Automatic Liquid Soap Dispenser

HYGIENE YOU CAN BANK ON. THAT'S SMART.

Top fill with bulk soap for
reliable soap availability
and savings

Touch-free activation system
eliminates touching and hand waving

When hygiene is top of mind, Bobrick's touch-free **SureFlo Automatic Liquid Soap Dispenser** delivers. Top-fill SureFlo with bulk soap—instead of costly proprietary cartridges—to save on costs, reduce post-consumer waste and ensure a reliably stocked, safe restroom.

Support good hygiene. Save at the same time.
Use the cost savings calculator at bobrick.com/SureFlo

Build Smarter



NEW DESIGN DIRECTION

After the Covid-19 pandemic disrupted normal operations at schools and universities, designers are pondering how education facilities will change in response.

By Mike Kennedy

In March 2020, nearly every school in the United States abruptly suspended in-person learning because the highly contagious Covid-19 created too great a health risk to carry on with regular operation of education facilities.

Two years later, the threats to health and safety stemming from Covid-19 continue to loom over the education system and the rest of society, and school facility planners have to determine how the experience of dealing with the pandemic should inform the design of learning spaces moving forward.

Many of the key design elements have regularly been present in plans—health and safety, flexibility, sustainability, informal spaces—but some of those features have taken on added urgency because Covid has shown what may happen when those elements are lacking.

“Let’s not allow Covid to be just something that we got past, let’s allow it to be an opportunity,” said Mary Dickinson, Regional Sustainability Practice Leader at Perkins & Will in Dallas.

Covid is likely to deliver more insights about school facilities because the virus and the variants that have arisen are still affecting the decisions being made at schools and universities.

“If this had only lasted two months and people just had to go back to the way things were, we would all be living like 2019 immediately,” Vandana Nayak, Regional Education Practice Leader at Perkins&Will in Dallas. “I think we all have been trying to go back and live like 2019, but it’s just not letting us.”

Air quality

Many of the school facility changes envisioned in the aftermath of Covid already are familiar, but the experience coping with the pandemic for two years has made those changes seem more necessary and valuable. For instance, school leaders have been well aware for years that the air quality inside their facilities can have a significant effect on students and staff. But that didn’t prevent thousands of

schools across the nation from operating facilities with less-than-ideal heating and cooling systems.

Conditions like inadequate ventilation that were not considered an urgent maintenance problem became an immediate crisis when health experts determined that the potentially deadly Covid-19 virus was spread through airborne particles. The immediate changes schools made to clean and disinfect their facilities and upgrade their HVAC systems are likely to be given a higher priority as administrators assess their facility needs.

“There’s really a heightened awareness of health, wellness, safety of the students—whether it is air changes, the cleaning protocols—I think they’re here to stay,” said Nayak. “I don’t think they’re just going to go away anytime soon. That’s kind of becoming a new standard.”

Because of Covid, schools are more likely to recognize that building elements like touchless fixtures in washrooms and more thorough cleaning regimens will deter the spread of not just Covid but other germs that cause more common illnesses like the flu or the common cold.

“There could be a chance that we’re not going to keep having these big flu seasons because we can help schools learn from [Covid] in terms of controlling microbes and keeping kids healthy and staff healthy,” Dickinson said.

Outdoor spaces

After schools learned that to combat Covid, they had to establish social distancing and reduce the number of students in classrooms, administrators knew that had to be more flexible about their learning spaces. In the short term, that has led some schools to use cafeterias, gymnasiums and other non-classroom space for



Outdoor spaces support the social life at Collin College in Allen, Texas, and create opportunities for collaboration. Image courtesy of Steinkamp Photography



There could be a chance that we're not going to keep having these big flu seasons because we can help schools learn from [Covid] in terms of controlling microbes and keeping kids healthy and staff healthy."

MARY DICKINSON

REGIONAL SUSTAINABILITY PRACTICE LEADER,
PERKINS & WILL

Outdoor learning spaces and biophilic design are incorporated into the design of Willow Wood Elementary School in the Melissa (Texas) district.

*Image courtesy of Charles David Smith, FAIA
Architectural Photography*

RECONFIGURING CLASSROOMS



Most students and teachers have returned to school campuses even as Covid-19 and its variants continue to affect the health of people around the globe.

To better protect students and staff from Covid, many schools have taken steps to alter their classrooms to place a greater emphasis on health and wellness.

A poll of teachers released in December 2021 by National Business Furniture detailed the changes that have occurred in classrooms in response to the pandemic.

- 46% of teachers say they have increased space between seats
- 35% have incorporated more flexible seating into their classrooms
- 20% say they have limited the amount of classroom seating and 21% have limited the capacity in classrooms and meeting rooms.

Teachers are concerned with ensuring that students are provided with the most comfortable and flexible learning environment that they can provide.

Teachers surveyed said they believed the classroom of the future will be focused on wellness, collaboration, movement and flexibility

Some of the wellness strategies:

- More emphasis on social-emotional learning and “calm down corners.”
- Non-cloth or non-porous surfaces that are easy to clean with disinfecting cleaners.
- Rooms arranged to provide more personal space for mental wellness.
- Continued use of hand sanitizers and wipes.

Teachers also indicated that having flexible seating in classrooms, such as movable tables and chairs, standing desks and soft seating will enable students to collaborate more easily while providing movement and exercise. ■

instruction. Folding walls, dividers, and movable chairs and desks enabled many schools to create areas for one-on-one or small group discussions while maintaining social distancing. The use of outdoor areas also eased the space crunch on many campuses, because it took students away from possible indoor air quality problems and it made it easier to carry out the necessary social distancing.

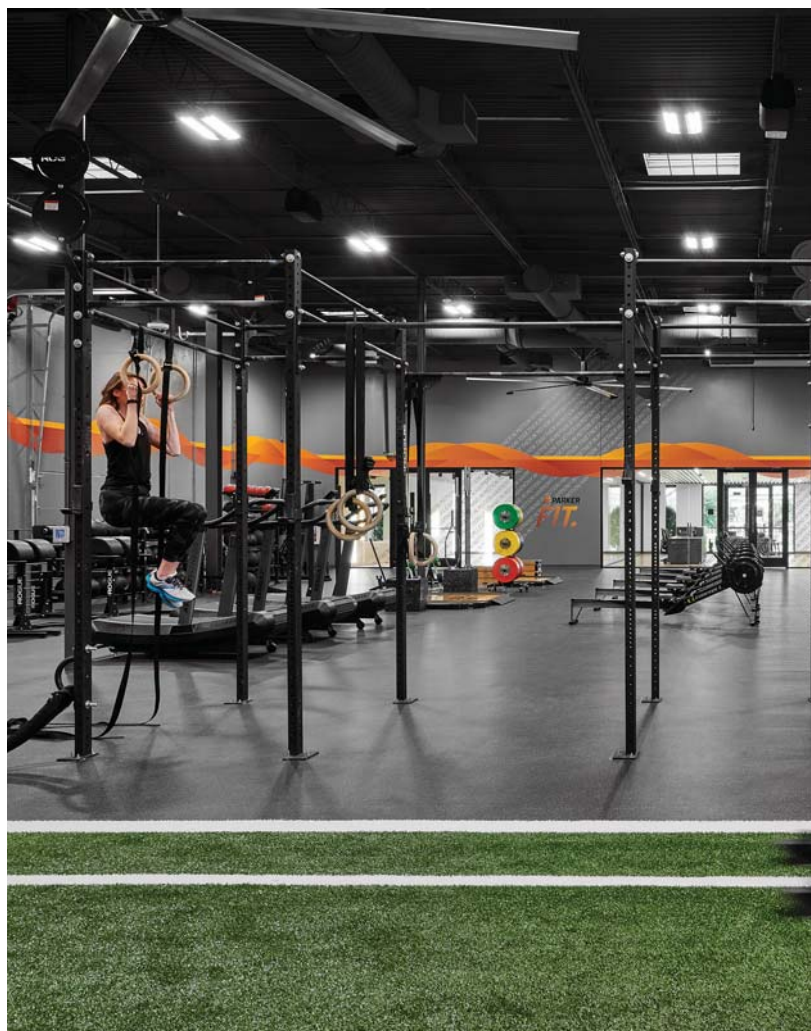
In the longer term, schools and universities may decide to incorporate more outdoor learning spaces in their campus designs.

“One of the things that I don’t think will change out of Covid is this desire for all of the green space and this blur of the indoor versus outdoor environment,” Dickinson said. “Schools are looking to have the flexibility to be able to move their classes to the outdoors.”

Outdoor spaces may have large overhangs to shelter students who want to be outside even on days when the weather isn’t ideal. “Students can still go out and enjoy themselves even if it’s a little rainy or misty. The space will still be accessible.”

Technology also makes outdoor learning more feasible.

“Now that students have all the technology, they’re not just sequestered in the classroom,” Dickinson said. “They can take their iPads out there. And it’s not just the students. It’s the faculty that wants to get out there, too. It’s a space where folks want to learn. It’s a where they want a reprieve.”



Mental health

The escape to an outdoor space can help improve a student's mind set, a critical concern for schools and universities who have seen their students and staff struggle mentally and emotionally because of the disruption brought about by Covid-19.

"Learning under a tree is as old as human race itself," Nayak said. "I think that's been going on for a long time. But I think Covid has allowed us to understand is that for people's mental health, the connection to outdoors is critical."

Formal and informal outdoor spaces can lead to a more desirable atmosphere on a campus.

"Access to outdoors, access to daylight, access to fresh air—they are simple things," Nayak said. "They don't really cost so much more, but what we have found is it just really improves your mental health, your ability to feel good about yourself. We see that as an important part of planning—where everyone feels like they belong on the campus. There's big push to make sure that the environments are more inclusive and more welcoming.

"We design spaces that are loud, noisy, and social, but also ones that are quite reflective, passive and a whole range in between," Nayak said. "All of that because what we have found is that people really need that kind of support beyond just academic support."

ParkerFit, a fitness facility at Parker University in Dallas.
Image courtesy of Peter Molick Photography



SAFETY & PERFORMANCE



DUAL PURPOSE X TWO

Bradley's new combined faucet and Halo eyewash is a space saver for any laboratory environment. Use the faucet for everyday washing and activate the built in eyewash when needed. Combine with the new duo Navigator™ Thermostatic Mixing Valve that delivers tempered water to the faucet and tepid water to the Halo eyewash in an emergency.

Emergency safety solutions brought to life.

VISIT [BRADLEYCORP.COM/INDUSTRIAL](https://www.bradleycorp.com/industrial)





Daylighting and connections to the outdoors enhance the environment at The Collin Technical Center at Collin College in Allen, Texas.
Image courtesy of Peter Molick Photography

You can encourage behavior of inclusivity, behavior of being welcomed, behavior of wanting to be in a space.”

Sustainability

Pursuing sustainability and constructing environmentally friendly education facilities has been embraced at many schools and universities, but after seeing how facilities with poor air quality and inefficient energy use have made it more difficult to check the spread of Covid and other airborne germs, the desire for sustainable school facilities may gain momentum.

“There isn’t a project we have worked on that where we haven’t done a daylight analysis,” said Dickinson “We’re looking at if the finishes are reflective enough, or can it be more bright and ethereal, as opposed to the warmth that you need. And we also are trying to make sure we’re not running into situations with glare that would make the space uncomfortable. Then, there’s this portion that we’re

The mixture of in-person and remote instruction during Covid had its pros and cons, but at the college level, many students want to have the option for either.

doing from the acoustic side, working on textures and trying to bring all of those in. But we’re also thinking, OK, from a planning standpoint, where are those points of noise versus where we need concentration, because you have introverts and extroverts, folks that want to socialize and folks that really want to sit and think.”

Hybrid learning

The mixture of in-person and remote instruction during Covid had its pros and cons, but at the college level, many students want to have the option for either or both..

“We do see the generation that is coming into the college today has slightly different expectations,” Nayak said. “They still expect classes to occur in person, but they want to have a virtual ability at all times—kind of a hybrid. The silos of when you eat, when you work, when you play, when you socialize were blurring. Now it has blurred at a really high intensity. So when clients come talk to us, they are



Fitness facilities like ParkerFit at Parker University in Dallas give students opportunities to exercise and maintain their health. *Image courtesy of Peter Molick Photography*

more interested in a hybrid model of all spaces. They're interested in a 24/7 offering of spaces. They are interested in spaces that can change their tone and function throughout the day."

Universities that might have been isolated in the past from the surrounding community are more likely to be responsive to such changes.

"Things have changed where they really would like to know the other business needs of the community," Nayak says. "We used to have campuses with a central nucleus and everyone had to go to that nucleus to study. But now they are kind of branching out, and they're putting their small branches in the heart of the community, closer to where people

work, where people live, where people raise their children. The reason for this change is that the model of your typical student has changed. It's no longer, "I will finish my years of K-12, move to college, finish four years in a far-away university and then come to the workforce.

"People might be working for a while before they decide they want to go get a degree. So that kind of college for life requires a college to rethink beyond just being a nucleus and instead having tentacles back into the hearts of the community."

One obstacle for facilities in a post-Covid world is that it may be difficult to adapt some of older buildings to function efficiently and meet the needs of a modern education institution.

"Universities, when they build buildings, they are built for hundreds of years," Nayak says. "So a lot of buildings that we built back then are still operational today. One of the big challenges they have is adapting those buildings to the new, healthier, more collaborative, more social generation." ■



KALWALL®
high performance translucent building systems

photo: Alex Upton

Makes more light bulbs go off

Today's LEDs may last up to 50,000 hours, but Kalwall will continue harvesting sunlight into museum-quality daylighting™ for a lot longer than that. The fact that it filters out most UV and IR wavelengths, while insulating more like a roof than a skylight, is just a nice bonus.

FACADES | SKYROOFS® | SKYLIGHTS | CANOPIES

schedule a technical consultation at KALWALL.COM

KEEPING CLEAN

After coping with the Covid-19 pandemic for the better part of two years, schools should be convinced of the importance of clean air in their facilities.

By Chuck Morrison

The ongoing Covid-19 pandemic has put greater emphasis on public health in school facilities.

Education officials around the nation have rolled out significant improvements in an effort to make sure that schools are safer than ever for students and staff—from social distancing measures to mask mandates, surface disinfecting guidelines and testing regimens.

But what about cleaner air?

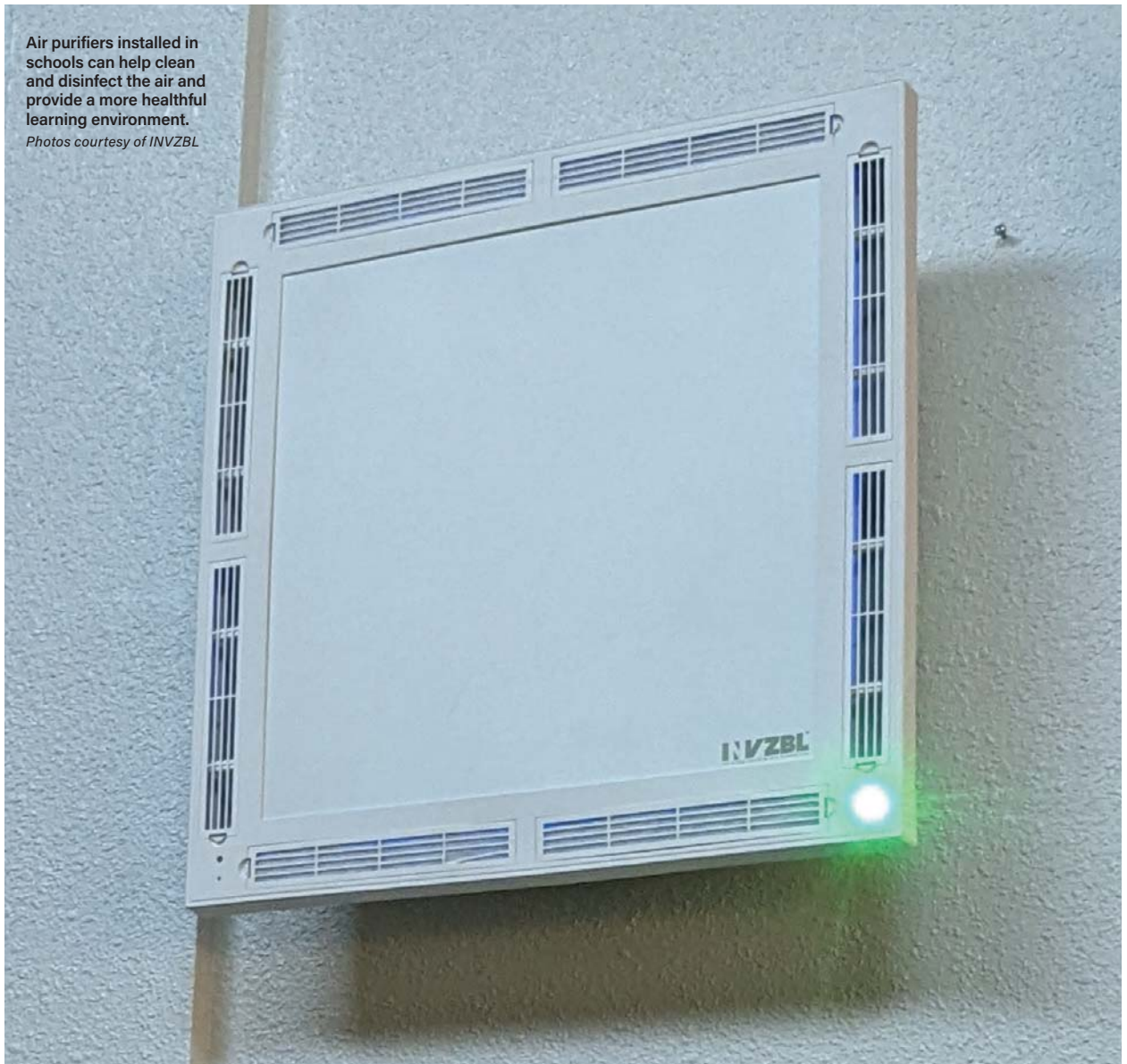
Most people generally are aware that outdoor air pollution can negatively influence health and well-being. But they may tend to downplay the effect that indoor air pollution can have on occupants' health and performance.

It goes without saying that education institutions should prioritize clean indoor air as they deal with the Covid-19 pandemic. But the costs and benefits of air quality in schools are not limited to the effects of Covid-19.

The same poor indoor air quality (IAQ) that has made the spread of Covid-19 such a hazard in school facilities also creates a breeding ground for moisture and molds, radon and asthma triggers. In some school buildings,

Air purifiers installed in schools can help clean and disinfect the air and provide a more healthful learning environment.

Photos courtesy of INVZBL





Good IAQ is an important component of a healthy indoor environment and can help schools reach their primary goal of educating children.”

U.S. ENVIRONMENTAL PROTECTION AGENCY

outdoor pollutants, such as vehicle exhaust, are able to seep indoors.

According to the U.S. Environmental Protection Agency, the levels of human exposure to indoor air pollutants typically may be two to five times (and sometimes as much as 100 times) higher than outdoor levels.

“Comparative risk studies performed by EPA’s Science Advisory Board have consistently ranked indoor air pollution among the top five environmental risks to public health,” the EPA says. “Good IAQ is an important component of a healthy indoor environment and can help schools reach their primary goal of educating children.”

An EPA presentation on indoor air quality and student health and academic performance states that when the average indoor air quality in a school facility is worse, it has a negative overall effect on health and consequently, performance in school.

“Scientific evidence demonstrating the relationship between IAQ and human performance and productivity is becoming more robust,” the EPA says.

In one study cited by the EPA, students in classrooms with higher outdoor air ventilation rates scored 14 to 15 percent higher on standardized test scores than children in classrooms with lower outdoor air ventilation rates.

Absenteeism and poor performance

The EPA draws a straight line from poor indoor air quality to increased exposure to germs and pollutants, to increased absenteeism, and from increased absenteeism to poorer performance in school.

Improving the indoor air quality in a school facility tends to increase productivity and improve the performance of

ISIMET
Simple. Safe. Utility. Control.

LSP-GO
The **simplest** gas controller to install, operate and service.
(FOR SCHOOL SCIENCE LABS AND OTHER APPLICATIONS)

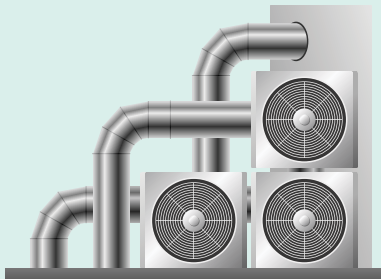
- **Simply** controls access to gas in science classrooms. Helps prevent accidents and vandalism.
- **Everything you need** to control gas in science labs is included in one compact box, including pre-wired and tested gas valve assembly.

Helps keep students, teachers and schools safe.

#1 Utility Controllers in U.S. | 5-YEAR LIMITED WARRANTY | PROUDLY DESIGNED IN THE USA AND ASSEMBLED | UL US | QR CODE

903.781.6994 • isimet.com

PRIORITIZING HVAC UPGRADES



The American Rescue Plan Elementary and Secondary School Emergency Relief (ESSER) Fund has provided \$122 billion in aid to help school systems return to regular operations in the aftermath of the Covid-19 pandemic.

The rules governing how the money can be spent say that schools are permitted to use ESSER funds to upgrade their HVAC systems, and many districts have opted to do so.

Improving HVAC in the nation's schools had been recognized as a critical need even before Covid focused renewed attention on how air quality affects students and staff.

A Government Accountability Office survey released in June 2020 found that about 41 percent of districts needed to update or replace heating, ventilation, and air conditioning (HVAC) systems in at least half of their schools. That equates to about 36,000 schools.

A recent analysis of ESSER allocations shows that districts in poor areas are more likely than affluent areas to use their federal relief funds to renovate aging ventilation systems in their school facilities.

FutureEd, an education think tank based at Georgetown University, looked at ESSER spending plans of more than 2,600 school districts. The research found that the higher the poverty rate among a school district's student population, the more likely the district has earmarked relief funding for renovating aging ventilation systems and other school repairs.

Among the 10 percent most affluent districts studied, about a third planned to spend Covid relief funds on HVAC upgrades. Among the 10 percent of districts with the most children in poverty, about two-thirds are planning HVAC improvements. HVAC upgrades are the top priority for use of ESSER funds among poorer districts.

"Baltimore City Public Schools in Maryland is planning to spend nearly \$47 million...to upgrade units in six schools and install an entire system in a new high school," FutureEd says. "The district, where a third of the 79,000 students qualify for Title I services, has long struggled with faltering infrastructure and has actually shut down schools on days when temperatures were too hot or too cold." ■

mental tasks, such as concentration and recall. Conversely, evidence shows a direct relationship between performance decreases and student absences.

Schools that are well maintained and have better physical conditions show improved academic performance; schools with fewer janitorial staff and higher maintenance backlogs show poorer academic performance.

In short, indoor air quality matters.

So what can schools do about indoor air quality, in this pandemic-stricken landscape, where everyday air pollution problems have collided with once-in-a-lifetime airborne viruses to create a superstorm of threats to student and staff well-being every time people are anywhere indoors in a group?

The answer is for education institutions to take this invisible threat more seriously and commit to proactively managing the air quality in school environments.



Many school systems are using some portion of their federal Covid aid for facility and equipment upgrades that will provide improved indoor air quality.



Improving the indoor air quality in a school facility tends to increase productivity and improve the performance of mental tasks, such as concentration and recall.

Longstanding problem

For many years, poor indoor air quality has plagued U.S. education facilities. In the 1990s, more than half of all school facilities tested were found to have indoor air quality problems, and little has changed since.

Now, the deadly strength of Covid-19 over the last two years has forced those who work indoors in schools or other facilities to pay more attention to the invisible threats in the air. The pandemic has brought tragedy to nearly every corner of the world, but in some cases it has created an opportunity to improve indoor air quality and make schools safer and more healthful.

Education institutions have been given a chance to invest in better air, and by extension, a chance to enhance the well-being for students, teachers, and staff.

Schools' financial ability to make that investment received a massive boost from the billions of dollars in Covid relief aid that Congress has allocated for school improvements. School systems should take advantage of the assistance by earmarking some portion of the federal aid for facility upgrades that will result in improved indoor air quality.

Cleaning technologies

In response to Covid-19, technologies have emerged to detect the coronavirus, mitigate its effect, and protect students and staff who depend on good indoor air quality to keep them safe. These advances in technologies need to be used in a coherent and coordinated manner to ensure the health and well-being of students.

From optimizing HVAC systems and upgrading the quality of air filtration to UV-light disinfecting machinery, schools need to take air quality seriously by conducting air quality audits and planning for summer upgrades.

With the right combination of government funding and new technology, schools can upgrade the indoor air quality in their facilities. The finances and the tools are there for any institution that seeks them. The question is whether school systems will answer the call. ■

Chuck Morrison is chief executive officer at INVZBL, a provider of UV-C disinfection products.

Need to update your magazine subscription contact information?



If so, please enter www.asumag.com/Update into your browser then type in your account number (see your mailing label) and last name to access your information.

Don't like updating online?

Please feel free to contact customer service at **847-559-7598**.

If you would like to subscribe to *American School & University* magazine, please enter www.asumag.com/NewSub into your browser and sign up today.

American
School & University

WELCOMING SPACES

Thoughtfully designed wellness centers can destigmatize mental health care for students.

By Scott Baltimore, Brendan Beachler

Over the past decade, the rate of depression and anxiety among students has doubled. In 2019, before the Covid-19 pandemic, 90% of college counseling centers reported increased demand for their services. In a 2020 study, nearly 40% of students reported experiencing depression, one in three reported having anxiety, and one in seven had experienced suicidal thoughts in the past year. These findings have intensified the focus on student mental health and have elevated designs that enhance emotional wellness to the forefront of university projects.

Centralized & Expanded Services

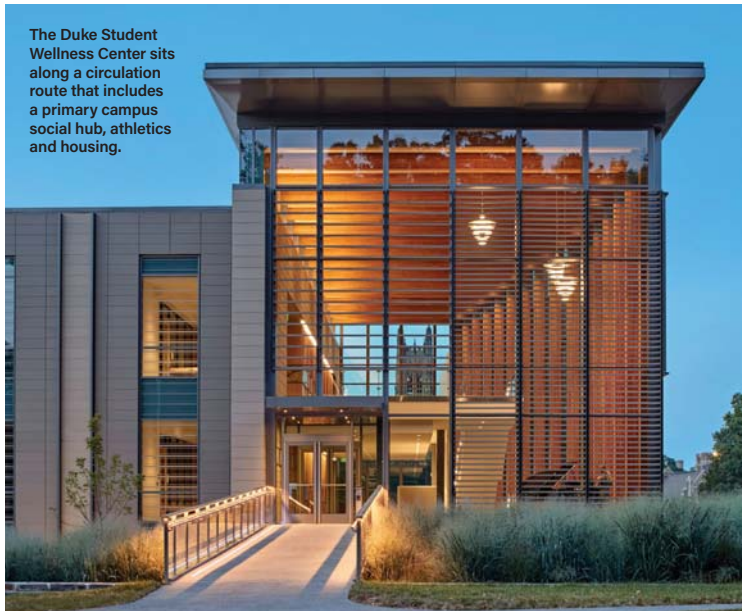
The U.S. Department of Health and Human Services defines mental health as encompassing “emotional, psychological, and social well-being.” This combination of characteristics can be seen in the designs of new student wellness centers, which are reframing student health services by placing medical, psychological and related services in a single building. The move to consolidation is a first step in destigmatizing care and welcoming students into new mental health practices.

By its nature, consolidation of functions in one building creates a level of ambiguity that removes the focus on the specific reason a person is visiting a facility. In its previous location, Duke University’s student counseling services had been in a building near the campus’s historic chapel. This prominent location and the single function of the counseling facility made it obvious that students going there were seeking care.

Now, students entering the Duke Student Wellness Center, which opened in 2017, might be coming in for a variety of reasons: an annual physical, meeting friends in one of the building’s social spaces, sitting down to play the grand piano in the lower-level lobby, joining a group activity like a yoga class, or finding a spot with a beautiful view on the upper level, where Counseling and Psychological Services (CAPS) is situated beyond a lobby of pod-like and flexible furnishings.

The University of Virginia’s new Student Health & Wellness Center also has brought departments together into a single building. With multifaceted building programs, students may have a number of reasons for visiting a building, and the stigma of seeking any one service, including counseling, is diminished.

The Duke Student Wellness Center sits along a circulation route that includes a primary campus social hub, athletics and housing.



All images courtesy of Duda | Paine



The University of Virginia’s Student Health & Wellness Center joins a mixed-use campus master plan designed to draw the campus population to the building’s programs and services.

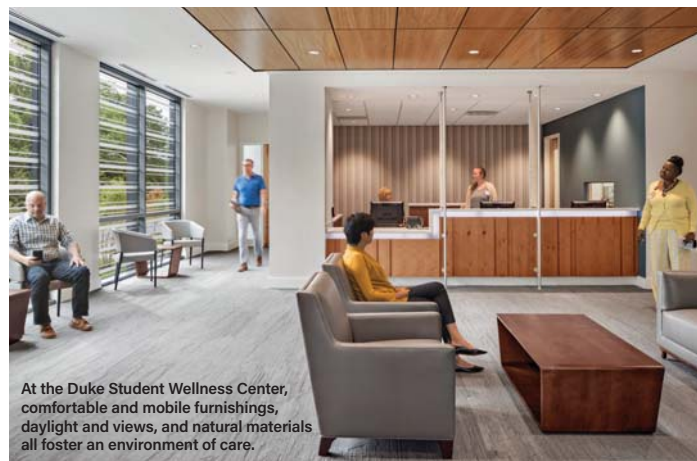


The open transparency of the ground-level lobby at the University of Virginia's center provides a passageway through all interior levels and invites students in.

Easing Access

Making access to these facilities easy is another critical strategy for reducing anxiety for students seeking care. Placing mental health service facilities where campus activities converge makes easy access a part of every student's daily routine. Virginia's Student Health & Wellness Center is part of a mixed-use campus master plan designed to draw in the entire campus population and open the building's diverse programs and services to a larger population. The development has shared public spaces, outdoor plazas, and green spaces in a planned neighborhood.

The Duke Student Wellness Center sits along a circulation route that includes a primary campus social hub, athletics, and housing. At the North Carolina School of Science and Math—Morganton (NCSSM), a new Health & Wellness Center merges fitness, physical health, and mental wellness in a building that sits along the campus's "main street" that connects academics, residential, and athletics. Multiple entries mean a building has no "back door," and students can take different routes to get to their destination. At Duke and NCSSM, the building can be entered on the upper and lower levels.



At the Duke Student Wellness Center, comfortable and mobile furnishings, daylight and views, and natural materials all foster an environment of care.

Lobbies are the next point of access. Transparent facades enable students to see into lobby lounges and observe the various activities occurring within the building. Comfortable furnishings add to the sense of invitation to a place where students can connect and socialize with peers. The intent is to bring together students who have similar interests and establish an environment for peer-to-peer interaction.

Beyond the lobby, multipurpose rooms, quiet meeting spots, meditation gardens, living rooms, and other adaptable spaces support diverse functions. At the Duke



Multipurpose spaces, quiet meeting areas, meditation gardens, living rooms, and other adaptable spaces at the Duke Student Wellness Center support diverse functions.

Student Wellness Center, the creation of flexible spaces has led to unanticipated student-led programs such as guided meditation, tea tastings, card games, meditative art, knitting groups, drum circles, painting nights, mindfulness sessions, and workshops in dance, cardio, hypnosis art and music.

At Virginia, beyond the building's lounges, a teaching kitchen is open after hours, giving the building another appealing function. It also has flexible, shared public spaces that students use for reasons besides mental and physical health. An art gallery hosts a revolving series of student-focused installations, often displaying art created by students dealing with mental health issues; the displays help other students to recognize they are not alone. The Student Disability Access Center, designed for those with disabilities ranging from

physical to learning, is off the ground floor main lobby. The space's prominent and accessible location reverses related stigma for students needing assistance.

By providing for flexibility, designers create spaces that can change and grow naturally. Multipurpose spaces, conferencing rooms in different sizes with different levels of visibility, and quiet spots that are tucked away enable students to shape the experiences they need.

Comfort and Care

Wayfinding within these facilities balances clear circulation with a desire for ambiguity. Signage graphics can eliminate the need for what could be an uncomfortable face-to-face encounter at a reception desk. At the University of Virginia, wayfinding graphics use color, fonts,

Multipurpose spaces, quiet spots and various sized meeting rooms enable users to shape the experiences they need at the Duke Student Wellness Center.



and imagery. Multiple routes to the same destination support ambiguity and can be achieved with different stair options, elevators, and entrances. At Duke Student Wellness, screening elements, such as a translucent wall that runs adjacent to the open staircase through all levels, support wayfinding and layer in a sense of refuge.

Numerous architectural and design features aid in creating spaces that reverse stigma around seeking access to mental health care. Comfortable and mobile furnishings, daylight and views, and natural materials all foster an environment of care. Duke

uses river rock pebbles, stone boulders and glass curtainwall that meets the ground on the garden level to create an indoor-outdoor connection. Virginia employs material continuity to bring the sidewalk's path into and through the building. The inclusion of bluestone or other more landscape-like materials on the interior supports the indoor/outdoor effect.

The top level of Virginia's wellness center offers sweeping views out to campus, a bookshelf, and other thoughtful diversions for students waiting for care. The staff is also attuned to how students may feel when they enter the department. Furniture selected for the waiting area provides many different options, including sitting alone where they cannot be seen by or interact with other students. Reception staff can discreetly monitor waiting students and try to balance the desire for a welcoming environment with safety.

Gardens and spill-out spaces create destinations that blur the line between students seeking care and those simply enjoying a well-designed setting. A living room with comfortable furnishings is hospitable for all students. Gender-neutral restrooms—a relatively new program element—are standard at Virginia, appearing on three of four levels.

These are just a few examples of how architects can shape environments to eliminate stigma and neutralize awkward situations for students while opening opportunities for them to seek care when faced with today's escalating levels of emotional and mental stress. ■

Multipurpose spaces, quiet spots and various sized meeting rooms enable users to shape the experiences they need at the Duke Student Wellness Center.



Scott Baltimore, AIA, is an Associate at Duda|Paine Architects. He was instrumental in designing the Duke Student Wellness Center, the University of Virginia's Student Health & Wellness Center, and the Emory Student Center.

Brendan Beachler, AIA, is an Associate Principal at Duda|Paine Architects. His experience in student-centered facilities includes the Discovery Center at The Bullis School and the Quiet Room at the Duke University Cancer Center.

DON'T FORGET THE ROOF

By Mike Kennedy

Because of Covid-19, most of the focus on school facility cleaning and maintenance in the last two years has been directed to building interiors, where the dangerous virus could spread and threaten the health of students and staff.

But the attention and resources devoted to improving the conditions inside school facilities does not mean that schools and universities can ignore building exteriors. Keeping roofs well-maintained and free from damage is critical to providing safe and healthful learning spaces. A leaking roof in a school can not only cause physical damage to the structure, but also create conditions for mold growth, which can lead to poor indoor air quality and health problems for students and staff.

A basic step in making sure school roofs are free from leaks and other damage is to conduct regular inspections. Roofing experts recommend that schools should inspect their roofs twice a year—once in the fall and once in the spring.

Upgrades needed

The Government Accounting Office (GAO) issued a report in June 2020 that identified numerous deficiencies in the infrastructure of the nation's public schools. After conducting surveys of school districts and site visits, the GAO estimated that in 27.7% of the nation's public school districts, at least half of the schools needed roofing updated or replaced.

“Based on our school district survey, we estimate that...about 28,000 schools need to update or replace roofing,” the GAO stated.

Lack of funding to address all of a school system's facility shortcomings has been a constant challenge for administrators, and they often must resort to deferring maintenance on roofs to devote resources to more urgent infrastructure problems.

“Of the 55 schools we visited, 18 had problems with their roofing, according to district and school officials,” the GAO said. “Roofing problems ranged from small leaks to larger issues requiring a costly replacement. For example, officials in a Rhode Island district said that replacing the roofing at one school would likely cost about \$3 million. These officials said [that] because the district did not have the funds to replace it, they instead planned to spend \$20,000 on temporary fixes, with the hope that these fixes would last until funding was available for a full replacement.”

Schools should conduct semiannual inspections of their roofs to detect problems before they cause serious damage.

Photo 43446296 © Baloncici | Dreamstime.com



GREEN ON TOP

As schools and universities have become more committed to environmental sustainability, many institutions have installed green roofs atop some of their buildings.

Covering the surface of a roof with plants and vegetation results in environmental and educational benefits for students and staff.

The New York City Education Department's Guide to Green Roofs details some of the benefits.

- **Stormwater management:** Rainwater that is absorbed and held by a green roof's planting substrate (soil or other planting medium) will typically not enter the city's sewer system at all. It will irrigate the plants, and will evaporate into the atmosphere, providing a cooling effect. When there is more rain than can be held by the green roof, the roof's existing drainage system conveys this excess to the sewer system.

- **Roof life extension:** Roofing material exposed to the heat and ultraviolet rays of the sun is under constant thermal stress, and will, over time, deteriorate, crack and leak. A green roof includes a layer of soil, which protects the roofing membrane from the direct effects of the sun and lessens the temperature fluctuations between day and night. A green roof system tends to extend the useful life of the roofing membrane.

- **Reduction of the "heat island effect:"** A vegetative green roof minimizes the trapping and retaining of the sun's heat that is the hallmark of dark-colored impervious roofing material. This "heat island effect" can be reduced by the evaporative cooling that occurs with a green roof. As a result, a green roof reduces the summer cooling load for a building, and the energy cost for operating the cooling equipment. Reduced energy demand results in a decrease in air pollutant and greenhouse gas emissions associated with energy production, thus contributing to improved air quality.

- **Improved air quality:** Air quality is affected by heat waves; as the temperature rises, the pollutants that contribute to ozone depletion are increased because of the increased demand for cooling power. A green roof, due to its natural cooling effect, reduces warming trends and ozone depletion. The net result is improved air quality and better quality of life for all, in particular people who suffer from respiratory diseases.

- **Educational opportunities:** A teacher might bring students to the roof to demonstrate the roof's environmental benefits (evaporative cooling contrasted with the "heat island" of a non-vegetated dark, impervious roof).

The need for additional funding to address roofing deficiencies was answered to some extent in 2021 with the creation of the Elementary and Secondary School Emergency Relief (ESSER) Fund. Congress has allocated billions of dollars to help districts recover from Covid-related setbacks and carry out facility improvements that will prevent or deter the spread of Covid-19 and other diseases in schools.

Inspections

Roof damage that goes undetected or not repaired may lead to serious damage to a school facility. Because most people in a school building are unlikely to have access to the roof or be able to observe conditions on a regular basis, necessary school roof upgrades may take a back seat to facility problems that are too visible to ignore. Roof repairs may slide quietly into the pile of deferred maintenance projects that are the bane of most districts.

That's why experts urge schools to conduct semi-annual roof inspections so that deterioration or damage can be discovered and dealt with before problems seep inside the building and cause major facility problems.

"Generally, roof inspections should be made twice each year, once in the spring and once in the fall," states the Utah Board of Education's School Construction Resource Manual. "Additional roof inspections should be made after major storms, when vandalism relating to the roof is suspected, or after any rooftop equipment service or installation."

- The starting point of a roof inspection should be the interior of the building, the manual says.
- Check interior walls and ceilings for signs of water and staining.

After inspecting the interior, check the exterior walls and overhangs for moisture, cracks, and signs of movement. Then, inspect the roof by checking the following components:

- Cap flashings
- Edge metal
- Base flashings
- Penetrations
- Field membrane
- Other components as required

During inspection, carry out routine maintenance:

- Pick up and properly dispose of debris and organic plant material and repair any damage.
- Clean drains, gutters, down spouts, and scuppers; cut back tree limbs.
- Aggregate surfacing that has been displaced by wind, ice, snow, or water flow should be redistributed by using a push broom. Aggregate protects the roof membrane from ultraviolet degradation and must stay in place.
- Inspect duct work, which often leaks and causes a good roof and flashing assembly to fail.

Schools should take these steps to prolong the service life of roofs.

- Limit and control roof access; walk in areas that will minimize damage to the roof membrane. Use designated roof walkways if they are provided.
- Take immediate action to repair leaks and damage.

The addition of penetrations or equipment to a roof system should only be done in collaboration with a professional roofing consultant and a structural engineer, the manual says. How and where equipment is placed is critical to the roofing system, the structural system, and the state building and fire code. ■

SAY 'YES' FOR STAFF PLANNING CENTERS

By Paul Erickson



A school district is designing a comprehensive high school. The superintendent has inquired about best practices for teacher prep planning space, whether to place it in classrooms or create staff planning centers. This basic question becomes a key “igniter-of-change” to shape new directions

for teacher engagement and student-centered learning – teacher coaching, peer tutoring, teamwork, student movement, project-based work, internet-based research, and student presentations.

The antiquated standard of having a teacher’s prep period in a classroom is not in line with new teaching and learning models. Teacher classroom ownership in secondary schools is outdated; it leads to “silosed” instruction and learning and uses classrooms inefficiently. When planning centers were introduced years ago, teachers pushed back – they were losing their classroom domain. But over time, teachers have seen that planning centers can be a “gain” for their professional growth that directly benefits student learning.

Classrooms are prime real estate. Many schools try to maximize space usage so classrooms don’t sit empty. Placing a teacher in a classroom for a prep period is an ineffective use of space.

Schools should establish staff planning centers, especially in middle and high schools. They usually are distributed throughout the facility near classrooms, with eight to 15 teachers sharing a center. Planning centers facilitate teacher collaboration and are incubators for integrating knowledge across multiple subject areas.

Certain subjects may be a better fit for planning centers. For science, art, music, industrial tech, and world language subjects, teacher prep space is usually in a lab/studio or in an adjacent prep area for quick access to special equipment. Ancillary “hoteling” stations for these subject areas can be included in general planning centers for opportunities to engage with other teachers in interdisciplinary lesson planning.

Planning centers are typically situated near a teacher’s “home base” classroom and are connected to a flexible team learning area. This design concept is frequently termed “house,” “pod,”

or “learning cluster.” Planning centers typically include teacher workstations with network access, a collaboration table with six to eight chairs, a kitchenette, an informal area for research, and storage space.

The concept of planning centers connects students with teachers in formal and informal settings, strengthening student-centered learning objectives.

Once a school decides to have planning centers, the first thought may be to organize them as a department of teachers per subject area. But a better way is to make them interdisciplinary to emphasize engagement among subject areas.

A planning center brings teachers together in a collaborative setting, freeing them from prep-time isolation in the classroom.

Bringing teachers together strengthens subject integration, reinforcing real-life problem-solving activities that intertwine language arts, math, history, social studies, and reading. By distributing science labs, art studios, and industrial tech labs into “learning clusters,” integration of all subjects occurs.

Placing teacher prep periods in planning centers provides strategic advantages for

teacher-to-teacher, teacher-to-student, and student-to-student engagement. In addition, with this approach, classroom utilization increases. For example, schools can be scheduled at higher utilization efficiency (e.g., 5.5 of 6 periods/day instead of 5 of 6). Even with square footage added for planning centers, having fewer classrooms reduces building square footage, construction cost, and recurring operating expenditures.

When students observe successful teacher collaboration in staff planning centers, they also are empowered to become engaged in their own collaborative settings, learning how to research, create, collaborate, and problem-solve with their student peers. ■

Paul W. Erickson, AIA/NCARB/REFP, executive officer & partner, is past president of ATSR Planners/Architects/Engineers (www.atsr.com), a firm specializing in school planning and design. He has 40+ years of experience in school planning, design, and construction, and can be reached at perickson@atsr.com.



Image courtesy of Getty Images



The Association of Business Information & Media Companies

REPRINTS

Contact reprints@endeavorb2b.com to purchase custom reprints or e-prints of articles appearing in this publication.

ARCHIVES & MICROFORM

This magazine is available for research and retrieval of selected archived articles from leading electronic databases and online search services, including Factiva, Lexis-Nexis and Proquest.

PRIVACY POLICY

Your privacy is a priority to us. For a detailed policy statement about privacy and information dissemination practices related to Endeavor Business Media products, please visit our website at endeavorbusinessmedia.com.



Joe Agron

Director of Sales
Buildings & Construction Group
941-200-4778
jagrone@asumag.com

Brian Sack

Account Manager
East & Northeast
732-629-1949
bsack@endeavorb2b.com

Randy Jeter

Account Manager
South & West
512-263-7280
rjeter@endeavorb2b.com

Bill Boyadjis

Account Manager
Midwest
973-829-0648
bboyadjis@endeavorb2b.com

Steve Suarez

Account Manager
816-588-7372
ssuarez@endeavorb2b.com

Pennsylvania university saves over \$200,000 in energy costs



Lehigh University in Bethlehem, Pa., built the five-story STEPS (Science, Technology, Environment and Policy Studies) Building in 2010. The building houses many of the university's chemistry and biology labs. Laboratory buildings typically exhaust and intake substantial amounts of air to maintain safe indoor conditions. As such, the energy consumption for HVAC in labs is relatively high compared with traditional classroom and office buildings.

The STEPS building was designed to achieve LEED Gold certification and originally was outfitted with energy recovery wheels. The wheels did not perform as expected and not long after commissioning

stopped spinning. At that point, the energy wheels no longer recovered energy and were an obstacle to airflow. More energy was required for the blowers to be able to supply the required amount of airflow.

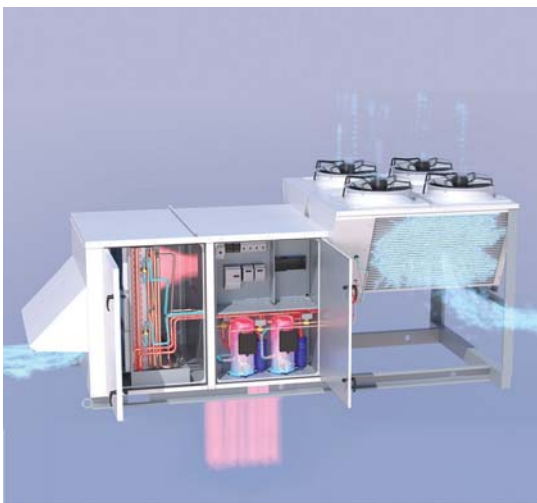
The building's maintenance and energy-efficiency staff at the university were looking for an alternative to the energy recovery wheel

that could be retrofitted into the air handlers with minimal changes. It was determined that Advanced Cooling Technology's Pump-Assisted Air-to-Air Heat Pipe Heat Exchanger (AAHX) technology would:

- meet the university's energy-recovery needs.
- provide a system payback of two years.
- prevent cross-air contamination with 100% of the outside air, even with the system having been installed prior to the Covid-19 pandemic.

Lehigh University has access to energy for both cooling and heating at about \$.02/kWh. This is significantly lower than the typical energy costs of \$.05 to \$.10/kWh.

www.1-act.com/hvac/pump-assisted-split-loop-energy-recovery-heat-exchanger



Extending the life of HVAC equipment

FrostShield from Addison is a revolutionary new mechanical and unit control technology that not only extends the operating range of air-source heat pumps, but also removes the need for the unit to enter defrost mode during heating operation. This feature extends the life of HVAC equipment, has the potential to save a tremendous amount of electrical energy, and improves occupant comfort.

frostshieldhp.com



The Intersection of Strength and Style

Designed to secure high-traffic spaces where aesthetics are important, the NEW CLX3300 Series ANSI/BHMA Grade 1 cylindrical lock is manufactured of the highest-quality materials to provide durability, strength, and reliability.

www.corbinrusswin.com/en/product-information/cylindrical-locks/clx3300-series

Fill Up, Cool Down, & Get Going with H2O-To-Go!

Help students hydrate the safe way with Murdock's H2O-To-Go® bottle fillers. Our touch-free bottle filler is made with easy-to-clean stainless steel and an antimicrobial backsplash to cut down on germs and provide a safer, more hygienic environment.

www.murdockmfg.com/water-bottle-filling-station



Cleaner Air for Students & Faculty

Breathe easier knowing that acoustic ceiling solutions contribute to indoor air quality. 24/7 Defend™ products control noise and help contain and clean the air. Explore products that will reassure students and staff 24 hours a day, 7 days a week.

www.healthyspaces.com/indoor-air-quality-in-schools.html

A roof that remembers. Now that's smart!

Roofs have finally caught up with technology. Well, at least Siplast has with embedded RoofTag RFID chips that, with a quick scan, allow you to access product data and job information. For keeping track of roofs, Siplast is the smart choice.

<http://www.siplast.com>



HANDLING TRASH BAGS WITH EASE

T-BAG
Handling Trash Bags with Ease

Best trash bag dispenser on the market!

www.tbagcompany.com
(469) 877-9616
info@tbgcompany.com

DUAL PURPOSE X TWO

Bradley's new combined faucet and Halo eyewash works together with the new duo Navigator™ Thermostatic Mixing Valve to deliver tempered water in an emergency.
Emergency safety solutions brought to life.

VISIT BRADLEYCORP.COM/INDUSTRIAL

100 YEARS
Bradley

Introducing **CENTURION®**

PVI's Most Powerful Water Heater Yet!

- ◆ **Compact, 2000 MBH water heater**
- Up to 65% less footprint vs. the competition
- ◆ **Advanced Edge® Controller with O₂ Trim technology**
- Self-adjusts and maintains optimal air-fuel ratios for peak efficiency, low emissions and maximum reliability
- ◆ **Durable, corrosion-resistant AquaPLEX® duplex stainless steel**
- Fire tube heat exchanger backed by a 15-year warranty

PVI
A WATTS Brand

(817) 335-9531 | PVI.com

©2022 PVI

KALWALL®
high performance translucent building systems

photo by AJ Brown

translucent daylighting makes light bulbs go off

free daylight modeling services at **KALWALL.COM**



MORE WAYS TO TOUCH LESS

Designer Series Automatic Soap Dispensers deliver touchless function in five beautiful finishes with matching faucets.



Specify Smarter

Find your finish at
bobrick.com/Designer-Series



mct

Check out our new
MCT Coordinates
collection at:

www.forboflooringNA.com



Forbo

FLOORING SYSTEMS

AD INDEX

ADVERTISER	PAGE	PHONE	WEBSITE
2022 Industry Events Calendar	IFC		www.SchoolDesigns.com
American School & University	23	847-559-7598	www.asumag.com/NewSub
Bobrick	13, 33		www.bobrick.com/SureFlo
Bradley Corporation	17, 32		www.bradleycorp.com
Educational Interiors Showcase 2022	IBC		www.asumag.com
Forbo Flooring	5, 33	800-842-7839	www.forboflooringNA.com
Isimet	21	903-781-6994	www.isimet.com
Kalwall Corporation	19, 32		www.kalwall.com
National Grid, Co.	0a-d		www.ngrid.com/edu
PVI Industries, Inc.	3, 32	800-784-8326	www.pvi.com
Siplast	BC		www.Siplast.com
The T Bag Co.	32	469-877-9616	www.tbagcompany.com

In most cases, advertisements contained in ASU employment section indicate that the companies are equal opportunity employers. The Federal Civil Rights Act of 1964, and other laws, prohibit discrimination in employment based on race, color, religion, national origin, sex, or for any reason other than lack of professional qualification for the position being offered. It should be noted that employment advertisements in ASU are published for the readers convenience and, in no way, to the best of our knowledge, promote unlawful discrimination.

All articles by Mike Kennedy

Superintendent ousted in Colorado

Newly elected board majority in suburban Denver ousts superintendent

A sharply divided Douglas County (Colo.) school board has fired superintendent Corey Wise.

The Denver Post reports that Wise, who took the job in April 2021, was fired without cause in a 4-3 vote during a Friday night meeting. The four board members who voted to oust the superintendent all were elected in November 2021 as part of a conservative slate.

“It’s more about finding someone who better aligns,” said Kaylee Winegar, a member of the board majority. “It’s just what we want with this district is different.”

Voting against Wise’s firing, board member Elizabeth Hanson called the superintendent’s ouster “an attack on public education.”

The district, a suburban area south of Denver, is Colorado’s third-largest district with about 64,000 students.

The removal of Wise has led to angry protests from many district patrons. A change.org petition seeking recall of the board members who voted to fire Wise had collected more than 25,000 signatures.



Corey Wise was ousted as superintendent of the Douglas County School District. Image courtesy of Douglas County School District

The board members who fired Wise expressed concerns about Wise carrying out policies set by the previous school board, such as a now-ended mask mandate.

The board members supporting Wise accused the majority of violating open meeting laws when they were excluded from a session in which the board president and vice president told Wise to resign or he would be fired.

In Wise’s absence, the district’s two deputy superintendents—Andy Abner and Danelle Hiatt—will share the role of acting superintendent, board president Mike Peterson said.

Wise worked in the district for 26 years; first as a teacher and principal then as interim superintendent for six months before he was selected to take on the job full-time in April. His contract runs until June 30, 2024.

Sandy Hook settlement with gun manufacturer

9 Sandy Hook families will get \$73 million in settlement with gun manufacturer

The families of nine people killed in the 2012 shooting attack at Sandy Hook Elementary School will receive \$73 million in a settlement with gun manufacturer Remington.

CNN reports that Remington, now bankrupt, and its insurers agreed to the payment to settle a lawsuit brought by the families of four adults and five children who were killed in the massacre at the Newtown, Conn., school.



Sandy Hook Elementary School in Newtown, Conn. Image courtesy of Google

Remington made the Bushmaster AR-15-style rifle used in the attack that left 20 children and six adults dead.

In their lawsuit, the families argued that Remington’s marketing strategy for the rifle violated Connecticut laws that prohibit deceptive marketing practices. The company marketed rifles by extolling the militaristic qualities of the rifle and reinforcing the image of a combat weapon.

The U.S. Supreme Court in 2019 declined to hear Remington’s appeal challenging the lawsuit, effectively allowing the case to move forward.

Florida State University building closed because of mold and radon

Florida State shuts down building because of mold and radon

Florida State University has closed the Sandels building on the Tallahassee campus for air testing after a report by faculty members listed “serious health concerns,” including harmful air quality, possible chemical exposure and “extremely high and unsafe” levels of radon and black mold.

The Tallahassee Democrat reports that the faculty members also called attention to five faculty members and three former graduate students who have worked extensively in the building and were diagnosed with cancer in the last decade. Three of them have died.



Sandels Hall at Florida State University has been closed because of the presence of mold and radon. Image courtesy of Florida State University

A preliminary test and a separate evaluation found mold and elevated levels of radon throughout the building.

Classes have been moved for the rest of the 2022 spring semester, and the building will effectively remain closed during continued testing and remediation.

The 129-page report on the Sandels building was created by four professors who compiled emails, maps, photos, public records and testimonies from faculty and families.

It included a myriad of complaints, warnings and efforts from faculty and staff to notify the university of the building’s problems dating back to the early 2000s. ■

32ND ANNUAL



Educational Interiors Showcase



2022 CALL FOR ENTRIES

BE AMONG THE BEST OF THE BEST

- **It's not too late to enter your project.**
- Discounts for multiple projects.
- Twenty-six entry categories for every type of project.
- Open to projects completed since January 1, 2017.
- Free print-ready PDF for multiple entries and multi-page projects.
- Larger circulation, including expanded reach to school boards and industry partners.
- National recognition for you, your project, and the school or university.
- Featured in the August 2022 Educational Interiors Showcase issue, full-screen galleries on SchoolDesigns.com, and our e-newsletter.

ENTER TODAY!

Contact Molly Roudebush at mroudebush@asumag.com or visit [SchoolDesigns.com](https://www.schooldesigns.com) for details.

Presented by

American School & University **SchoolDesigns**TM

Photos (clockwise from left): 1. Mary Lyon Elementary School; IBI Group; Photo: Lara Swimmer Photography 2. NeoCity Academy; Little Diversified Architectural Consulting; Photo: Mark Herboth; 3. Marvin Laser Recital Hall; Architecture for Education; Photo: @RMA Architectural Photography 4. Kean University, Liberty Hall Academic Center; NK Architects; Photo: NK Architects/ Billy Economou 5. University of Texas at Austin, Texas One Stop; McKinney York Architects; Photo: Patrick Wong 6. Friendship Learning Center; Bray Architects; Photo: Bill Fritsch, Harper Fritsch Studios

THERE'S BOOK-SMART. AND THEN THERE'S ROOF-SMART.

When it comes to your institution, Siplast is the smart choice.

Our SBS-modified bitumen roofs and complementary liquid-applied

PMMA systems give you unsurpassed dependability and strength.

So recruit Siplast for your next roof. We're in a class by ourselves.



With you every step of the way

Siplast.com