

2021 Fall

Inside:

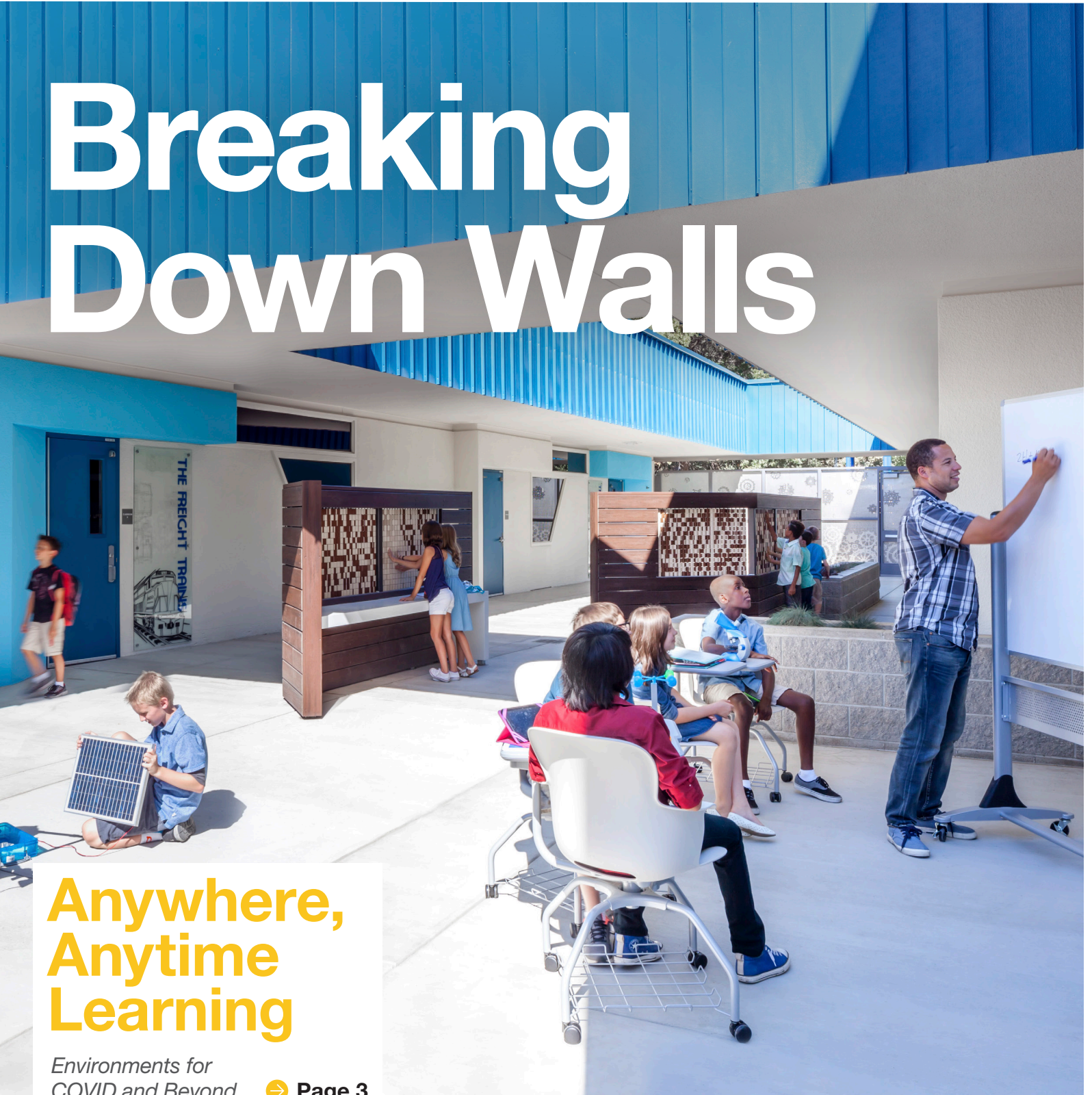
- 6 | CTE Classrooms for the Next Generation
- 10 | Managing Cost Escalation and Inflation

12 | Stronger Together: HMC Acquires Rainforth Grau Architects

school**news**

HMC Architects

# Breaking Down Walls



**Anywhere,  
Anytime  
Learning**

Environments for  
COVID and Beyond ➔ Page 3

# Design for good.

Founded with the purpose of anticipating community needs, HMC aims to create designs that have a positive impact now, and into the future. We focus primarily on opportunities to have the most direct contribution to communities—through healthcare, education, and civic spaces.

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The HMC Designing Futures Foundation has invested more than a million dollars in the communities HMC Architects serves to advance architecture/design, expand access to college and STEM education, promote environmental sustainability, and provide disaster relief. The foundation partners with local schools and nonprofit organizations to design a better future for generations to come.

Learn more at [hmcarchitects.com](http://hmcarchitects.com)



# Breaking Down Walls: Outdoor Learning Environments For COVID and Beyond

**By: Virginia E. Marquardt, AIA, LEED AP, NCARB**  
Associate Principal | Principal in Charge  
HMC Architects

**Jema Estrella**  
Director of Facilities and Construction  
Los Angeles County Office of Education



When we take lessons beyond the four walls of the classroom, we teach our children that learning can happen anywhere and anytime, promoting lifelong curiosity. It's that curiosity that we want to restore, as subjects like science and art either stopped or became limited for students through distance learning. Eighty-eight percent of teachers said that kids were learning less science during the pandemic,<sup>1</sup> and pre-COVID, elementary teachers in California, on average, spent less than 60 minutes per week teaching science.<sup>2</sup> From conversations with students, they want to be and learn outside.

When students are outside, they become first-hand witnesses to natural processes. This direct observation is the first step in becoming a natural scientist.

## Why Outdoor Learning?

According to Dr. Debra Duardo, M.S.W., Ed.D., Los Angeles County Superintendent of Schools, far too many young people, particularly those in inner-city and low-income communities, do not have access to outdoor learning environments and green space. This

inequity is one of many long-standing educational injustices that COVID-19 has laid bare. We see a silver lining and the chance to seize this moment to transform our education system with strategies that place priority on meeting the needs of the whole child, both on a short-term and long-term basis.

## Short-Term: Reopening Schools Safely Post-Pandemic

We know students benefit from in-person learning, and safely returning to in-person instruction is critical for all school districts. Outdoor learning is one part of the equation that will allow school districts to reopen their campuses while also fostering physical and mental health, well-being, and academic benefits for student success.

Many school districts continue to partner with each other and with other community entities to learn best practices and to define what their school reopening and in-person instruction will look like for this school year. They are challenged with addressing many issues including the health and safety of students and

staff. Over the last year, many school districts executed school facility repairs and improvements to reduce the risk of virus transmission and exposure to environmental health hazards to support student health needs and enable them to reopen.

The opportunity to re-interpret the definition and re-imagine the execution of hybrid learning to be indoor and outdoor learning is now. When learning is taken outside, the transmission of COVID is reduced and there is more space to physically distance, allowing students to be in a safer and healthier environment. Moreover, studies have found that when students learn outdoors, they are more engaged, better retain what they learn, experience reduced anxiety, improve their science education, and connect to nature.

## Long-Term: Benefits for Learning<sup>3</sup>

Through the successful use and benefits gained from outdoor learning to safely reopen schools, the hope is for outdoor learning to continue to become a forever standard on every school campus.

Potential benefits for outdoor learning include:

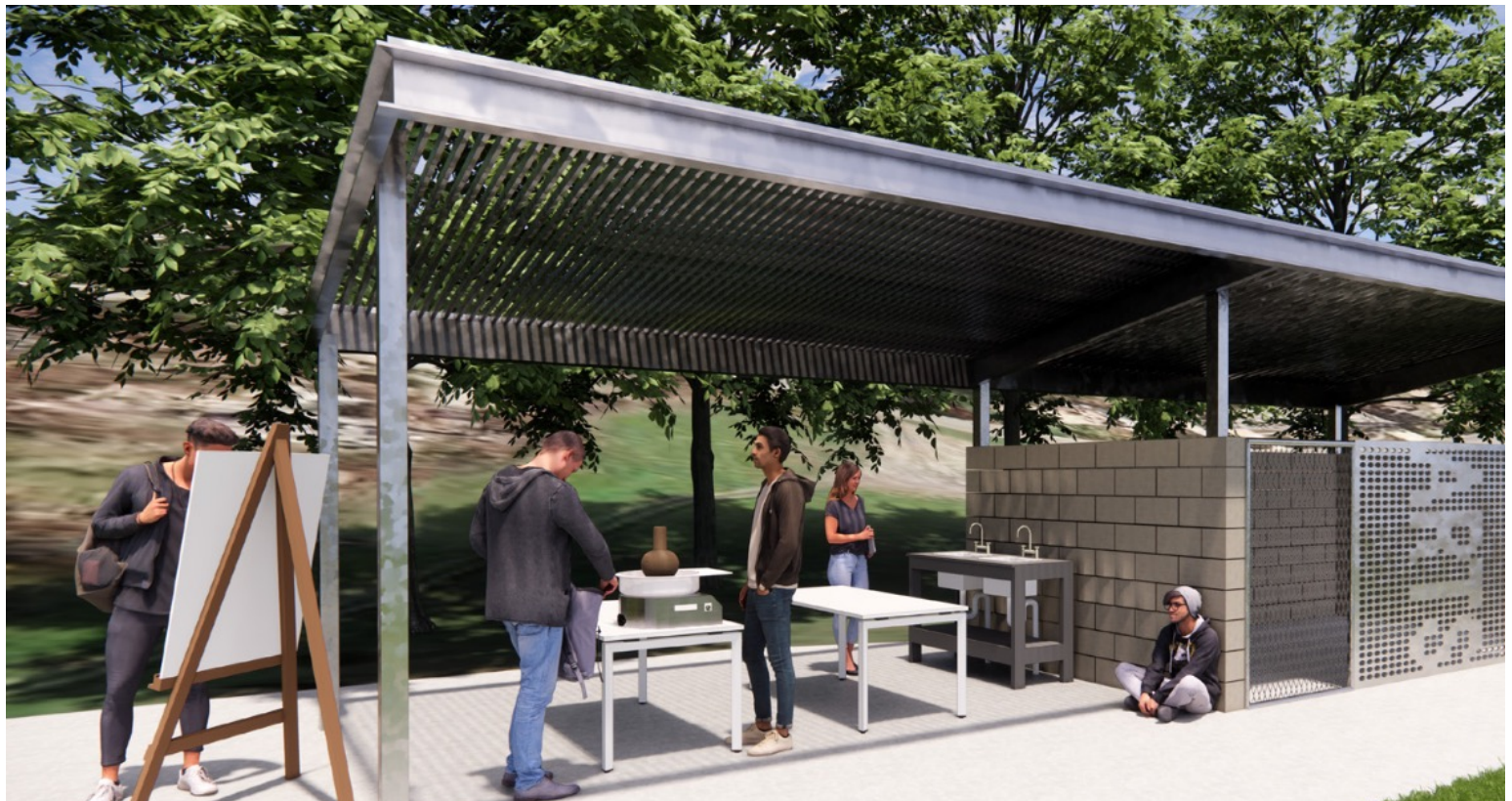
- Higher academic performance and overall school attendance
- Support for the development of creativity, problem-solving, independence, confidence, and more
- Improved student health and reduced stress
- Connectedness to nature—engaging the use of all five senses and inspiring students to become physically active
- Fostering a love and appreciation for students' natural surroundings by promoting environmental awareness and stewardship
- Making it more fun for teachers—helping students explore outdoors can boost teacher enjoyment by building a positive class culture and allowing innovative instructional plans and strategies.
- Providing practical and real-world experiences in problem-solving, thinking skills, and teamwork
- Potentially helping children focus and reduce problem behaviors

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1. WestEd, 2020

2. Dorph, Shields, Tiffany-Morales, Harty, & McCaffrey, 2011

3. 8 Proven Benefits of Outdoor Learning for School Children Case Study, The Stable Company



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### What Do the Design Guidelines Offer?

To help school and facilities professionals create equitable everyday outdoor learning experiences on their campuses, the **Los Angeles County Office of Education (LACOE)** has published **design guidelines** with the support of HMC Architects and engineering and construction experts. These guidelines:

- Provide a framework for planning, designing, and implementing an outdoor learning environment.
- Explain the importance of learning outdoors by promoting improved physical and mental health, well-being, and academic benefits for student success
- Encourage stakeholder engagement with district leadership, administration, teachers, parents, students, maintenance and operations staff, the community, and outdoor education specialists.
- Address challenges and concerns for outdoor learning environments by providing tips to overcome roadblocks, make improvements, and achieve success.
- Help identify your education vision and learning goals for outdoor learning and aligns it with your school district's Local Control and Accountability Plan (LCAP). These goals will become your guiding principles and priorities when designing your outdoor learning environment.
- Help identify potential furniture and equipment components, and the criteria to evaluate them, to develop an agile learning environment that is flexible and adaptable to accommodate a range of instructional strategies.
- Identify potential site considerations for locating your outdoor learning environment, hardscape, and landscaping (plants and trees), water/power/technology infrastructure needs, and construction logistics.
- Identify funding opportunities to

finance the infrastructure and invest in professional development and community-based partnerships needed to develop, design, construct, and implement outdoor learning environments.

### Key Takeaways for Success

We have known about the long-term benefits of outdoor learning that lead to students' success and well-being for a long time. However, there are concerns, challenges, and roadblocks that prevent these learning environments from being designed and constructed. Through our conversations with the different stakeholders—district leadership, administration leaders, teachers, parents, students, campus staff, communities, and outdoor education specialists, HMC Architects has gained insight into how to achieve buy-in and successfully use outdoor learning environments.

One of the greatest concerns we heard was from the campus staff and teachers regarding the challenges for

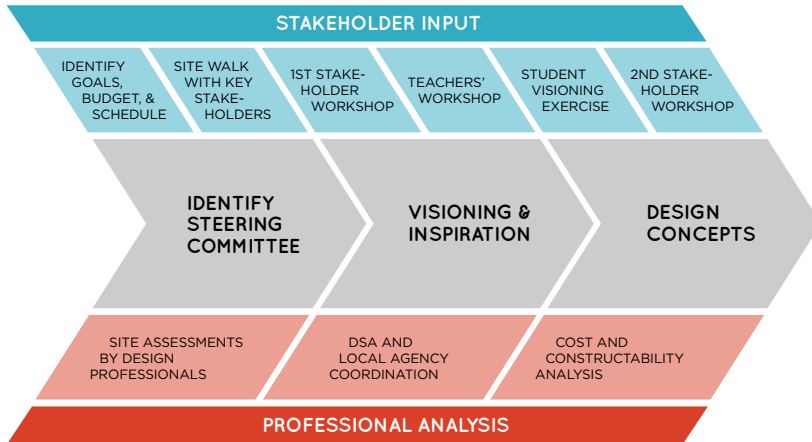
the operation and logistics of setting up cleaning and storage of the outdoor learning furniture, tools, and resources. It is important to gain the support of these stakeholders. We have found it helpful to host a workshop to present the importance and benefits of outdoor learning, how outdoor learning supports your school district's education goals, and best practices. Then listen to their concerns and challenges. Through the design process, your school district and design team can address stakeholder concerns and challenges, as you and your design team develop the strategies to overcome them.

Additional lessons learned for designing, constructing, and implementing a successful outdoor learning environment include:

- Design for both student and teacher comfort. Remember Maslow's Hierarchy before Bloom's Taxonomy. Physical needs must be addressed before learning can occur.

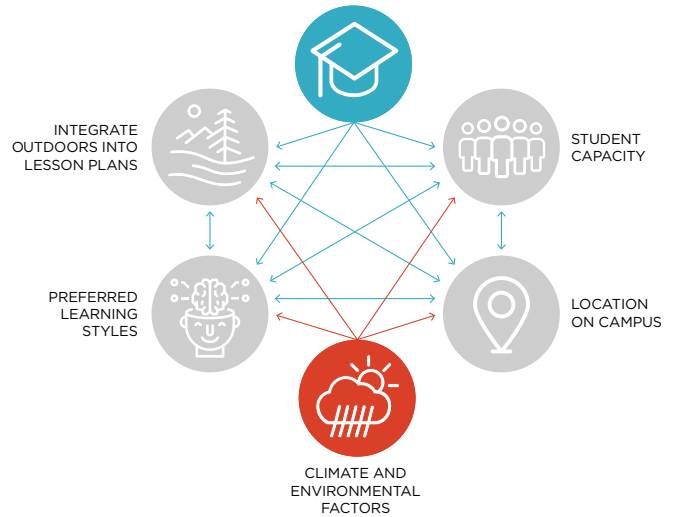
# The Process

## Designing an Outdoor Learning Environment



# Overall Educational Goals

## Develop The Vision and Identify The Needs



- Identify your school district's vision for outdoor learning and its curriculum and instruction.
- Build excitement amongst the stakeholders. Involve both students and the community in designing the space. Consider the design and/or construction of the space as a student or community project.
- Allow students to take ownership of the space.
- Provide professional development seminars to teachers to learn about the importance and benefits of outdoor learning. Then offer outside instructional strategy workshops to develop lesson plans and activities.
- Allow teachers to share their best practices.
- Offer ongoing "commissioning" of the new spaces with both teachers and students. Just as you must commission a building's new systems, you need to offer "commissioning" of the new outdoor learning environments. This helps teachers and students learn how to use these spaces as well as helps ensure the spaces are used successfully.
- Update your school district's LCAP to include outdoor learning vision and goals.
- Identify and secure potential funding sources. The current one-time federal funding can be utilized for the design and construction of the outdoor learning environments, as well as professional development and implementation of programs. Funding can also come from more informal sources such as parent groups.

**Want to know more?**

Watch a presentation by:

**Jema Estrella, LACOE**

Director of Facilities and Construction

**Shaun Hawke, LACOE Project Director,**

Outdoor & Marine Science Field Study

**Virginia Marquardt, HMC Architects**

Principal

**Jonathan Richert, HMC Architects**

Project Designer

[Link | EdMarket](#)

**Members watch free!**



“Outdoor learning has been proven to offer students a range of benefits, from enhancing engagement to reducing stress and promoting physical and psychological well-being. When we take lessons outside our classroom walls, we teach our children that learning can happen anywhere and anytime, promoting lifelong curiosity.”

**Dr. Debra Duardo,**  
Los Angeles County  
Superintendent of Schools

# CTE Classrooms for the Next Generation

Q&A with  
Donna Woods

**By: Steve Wilkerson, AIA**  
Principal in Charge  
HMC Architects

**Donna Woods**  
Instructor, CTE Cyber Academic Pathway and CyberPatriot Teams Advisor/Coach  
Canyon Springs High School, Moreno Valley USD



**Steve:** *Hi Donna. Thanks for taking the time to share your experience and knowledge of bringing a next generation Career Technical Education (CTE) project to fruition, the kind of efforts and team it takes, and in such an interesting and challenging environment as Cyber Security. We've had the opportunity to work on an exciting project together at Canyon Springs High School, the Cyber Innovation Center, with a talented group of people including Samer Alzubaidi, Director of Facilities at Moreno Valley USD (MVUSD) and Tamara Kerr, Principal at Canyon Springs High School.*

**Q1: Can you give our readers some background on your experiences leading up to the decision to pursue the design and construction of the Cyber Innovation Center (CIC) as a CTE project at Canyon Springs High School?**

**Donna:** *Our students and our school community were the foundational reasons for the vision of a Cyber Innovation Center (CIC). We started our Cyber/STEM program as an after school CyberPatriot Club in 2015, which, due to the students' incredible engagement, rapidly evolved into a fully-fledged UC A-G approved state curriculum consisting of four courses in our CTE Cyber Academic Pathway. The initial concept and vision came from our principal, Tamara Kerr.*

**Q2: How did the MVUSD identify Cyber Security as a CTE program and pathway?**

**Donna:** *The pathway was a collaborative vision of administrative leadership at Riverside County Office of Education CTE (RCOE), MVUSD CTE Administration, and Canyon Springs High School Administration. National, statewide, and regional labor market data showed an increased demand for Information and Communications Technology (ICT)/STEM Careers with high-yield growth over the next 20 years. After extensive research, RCOE requested that I write the first course, with input from academic and industry partners. We were elated to receive statewide UC A-G approval with our first submission.*

**Q3: How did you identify partners?**

**Donna:** *During the curriculum research and writing phases, regional ICT/Cybersecurity leaders in academia and industry were sought to provide input and review, to ensure both academic and industry standards were met and exceeded. CSU San Bernardino, Cal Poly Pomona, Moreno Valley College, ConvergeOne, Cisco, and, of course, our MVUSD IT Director and RCOE IT Department Leads, each provided vital content to our curriculum and have continued to serve as invaluable partners.*

**Q4: What does a CTE Cyber Security Academic Pathway entail?**

*Continued next page*

Moreno Valley USD's new Cyber Information Center offers career technical training to students and serves as a professional development center to the region.





“Find a group of people who challenge and inspire you, spend a lot of time with them, and it will change your life.”  
 – Amy Poehler

eSports Lab, Moreno Valley USD

→ Continued from Page 6

**Donna:** California CTE programs must meet the CTE Model for Curriculum Standards and Career Readiness. ICT Industry Standards and high-level academic standards in STEM education, including mathematics, technical writing, reading, communications, and the attainment of national recognized industry certifications are all required. The Perkins 11 Elements of a High-Quality CTE must be continually maintained, and instructors must have a minimum of five years industry experience, industry certifications, academic degrees, and teaching credentials.

**Q5: How many students are currently coming through the Cyber program annually? And how many are you projecting once the CTE CIC is up and running?**

**Donna:** Although 2020 was a challenging year nationwide, it was a year of vision and growth for our pathway. Due to our attainment of four Strong Workforce Programs Grants, we expanded our pathway to two high schools and six middle schools throughout MVUSD. Our enrollment for the 2021-22 school year is 301 (high school) and 179 (middle school), with a 20 percent projected increase, each year, for the first five years of the CTE CIC.

**Q6: What are students saying about the program? Teachers, parents, community?**

**Donna:** Each year our instructors are humbled and grateful for the feedback from students, alumni, and their families. They continually share that the CTE Cyber Academic Pathway has changed the trajectory of their lives—for the better. Students receive educational and career opportunities,

previously unattainable, and our community is continually grateful for the volunteer service hours our students and program provide in teaching both small business and community members good cyber hygiene and cyber safety.

**Q7: In your opinion, what components make up best practices for a CTE cyber classroom for the next generation and how did that translate into the CTE CIC project at Canyon Springs High School?**

**Donna:** Strong, collaborative community, academic, and industry partnerships are the pillars to any successful CTE program. When students are provided an opportunity to actively interact, engage, network, and serve as volunteers, interns, and apprentices with each partner their self-efficacy increases. They see

the value of invested relationships and grow both academically and professionally. They also understand the value of giving back, which is the entire premise of our CTE CIC project. Engage, teach, train, equip, and serve one another and our community.

**Q8: There are many interesting elements to the CTE Cyber Innovation Center at Canyon Springs High School. Can you tell us about the project and what your objectives and goals are?**

**Donna:** The complexity of expertise and investment, from both internal and external organizations, into the CTE CIC is simply astounding. We are elated and in awe of those who have taken a vested interest in bringing the vision of the CTE CIC into fruition. Over the past two years the project has evolved into a center that will be the first of its kind in the nation. Although



our foundational premise is to serve as a CTE educational pathway, our objectives also include the expansion of our summer cyber camps, Girl Scouts camps, small business employee training, veterans career development and industry certification, eSports and Cyber competitions, and serving as a professional development center for MVUSD and Riverside County.

**Q9: What challenges and opportunities do you face when remodeling an existing facility to accommodate a CTE classroom for the next generation?**

**Donna:** Numerous! Without question it takes fortitude, patience, and pliability. However, obstacles always present a window for opportunity. The visionary team invested in this project has overcome hurdles with incredible tenacity—and have proven that collaborative, out-of-the box thinking produces great outcomes. Challenges or project delays served as a blessing in disguise as they provided opportunities—dynamic in motion—to reassess, discover better solutions, and develop a sharper, state-of-the-art end-product.

**Q10: I've noticed that many of your Cyber students also participate in the eSports Lab. Is there a correlation in the interest or relationship between the programs?**

**Donna:** Definitely. In fact, the skills attained in Cyber and eSports are highly desirable in corporations. Both require critical thinking, team dynamics, extensive interpersonal communication skills, adaptability in unknown situations, problem-solving, troubleshooting, identifying patterns and predicting outcomes, and a plethora of other learned and/or acquired soft skills. Both are intensified by the need to secure networks and outcomes, and both require specialists

in given areas, while requiring all individuals to have a wide scope of abilities to step up when needed.

**Q11: Your Cyber program was recognized by the US Department of Defense; can you tell us about that?**

The honor from the US Department of Defense and the US Department of Education is both humbling and gratifying. As educators, we are challenged and inspired by our students each day. They make us better, and frankly teaching cybersecurity is a task we do as co-collaborators with our students and partners because it is constantly in flux and evolving. It is because of our students, their families, the visionary leadership of RCOE and MVUSD, and our incredible team of instructors that garnered the attention from Washington, DC and this award.

**Q12: As we wrap up this article, are there any final thoughts you would like to share?**

**Donna:** Gratitude. No, extensive gratitude to every individual who not only believed in our program and the work that we are doing, but invested their efforts, knowledge, and expertise to bring the CTE Cyber Innovation Center to fruition. It's truly a remarkable and exciting adventure!

**Steve:** Donna it's been wonderful chatting with you, and I appreciate you taking the time to give our readers and colleagues insight into your thriving Cyber Innovation Center Program at Canyon Springs High School. I also want to thank Samer Alzubaidi, Director of Facilities Moreno Valley USD and Tamara Kerr, Principal at Canyon Springs High School for providing their invaluable partnership in the intricacies and development of the CTE Cyber Innovation Center for their next generation of students.

# READ MORE FROM DONNA'S COLLEAGUES:



**Samer Alzubaidi, Director of Facilities,  
Moreno Valley USD:**

"A successful project starts with a vision and a dream, and the architect translates it into reality. The aesthetic and functionality of the spaces are the architect's responsibility; however, there is much more to it. Sometimes, you feel the building has more than aesthetics and functionality. It is an uplifting spirit, and you can sense it whenever you enter the building. A structure like that will ultimately culminate in excellent teamwork and collaboration with the architect and the end-users. Looking back at our teamwork and what we accomplished, I am confident that it would not have been easy to visualize spaces without HMC Architects' virtual reality tools to help us navigate our future improvements. Our Facilities Department spearheaded design meetings with the architect, the school administrative staff, custodians, librarian, and teachers. They shared their wishes with the architect, and those wishes were turned into action plans and specifications. We greatly appreciate our relationship with HMC Architects and look forward to the continued opportunity to turn our district's visions into our students' dreams."

**Tamara Kerr, Principal, Canyon Springs High School,  
Moreno Valley USD:**

"Our Cyber Innovation Center represents a major step forward for our students. As we prepare them for the workforce of tomorrow, this center provides state-of-the-art facilities and instruction. The new facility is designed with flexibility in mind—with the ability to change and update as we keep up with the latest technology. Collaborating with our district, industry leaders, architects, and others has enabled us to create a space that is future-ready and prepares students for immediate employment or college."

**By: Brandon Gullotti, AIA, NCARB**  
Senior Project Manager  
HMC Architects

**Marcene Taylor, CPE, LEED BD+C**  
Design Principal  
HMC Architects

# Managing Cost Escalation and Inflation

# IT IS MORE IMPORTANT THAN EVER TO EMPLOY STRONG **COST CONTROL MEASURES** TO ENSURE YOU CAN BE AS PROACTIVE AS POSSIBLE.



Current construction **costs are becoming increasingly unpredictable**; the only certainty is costs are increasing rapidly and sporadically and are unrelated to the usual factors. Design and cost estimation in this market is like hitting a moving target while blindfolded. However, understanding the **causes** and adhering to solid **fundamentals** will help keep your projects **on-budget**.

There are two categories of construction cost increases: cost escalation and inflation.

- **Cost escalation deals with normal**, expected increases and is accounted for in design and cost estimation by applying a standard percentage to the mid-point of anticipated construction.
- **Inflation deals with abnormal**, unexpected increases and is not typically included in design and cost estimation.

Inflation has been low, near zero, for the last decade – however, this has changed abruptly. The current cost

increases in the construction industry are due to inflation and stem from various factors.

Material shortages, supply and demand, and labor shortages have all played a significant role. The global supply chain has been chaotic, with **massive interruptions** occurring throughout all commodities. These are unpredictable and happen overnight. This has created a huge **imbalance of supply and demand**, causing dramatic cost increases. For example, lumber doubled over a five-week period between March and May 2021. Additionally, most materials and products are manufactured offshore, which creates greater competition for the US construction industry. Demand saw a short decrease during the pandemic lockdown in 2020 but quickly rebounded and has been steadily increasing while manufacturing has been decreasing due to **difficulties in staffing**. We are also seeing a long-term trend of decreasing skilled labor in the workforce. This began decades ago when education shifted

focus from trade schools to colleges. Our youth have steadily turned away from the construction industry creating a **shortage of skilled labor** and increasing the cost of construction.

Fortunately, over time, these issues will find a balance and cost increases will be more predictable. But in the meantime, it is more important than ever to **employ strong cost control measures** to ensure you can **be as proactive as possible**. Below are some of the cost management strategies used at HMC.

- Create a **goals checklist** that captures all the big project goals to guide key project decisions.
- Create a project **cost plan** at the start of your project using your project goals and vision.
- Create a project **cost model** at the start of your project to visualize how the project budget is allocated.
- **Compare** the cost model with the cost plan and **identify any gaps** in the budget.
- Work together to **develop creative solutions to reconcile** the cost model, cost plan, and budget.
- Hold collaborative meetings with the estimator during the schematic design phase to understand the cost impact of all major systems.
- Thoroughly review milestone documents with the estimator to ensure the design intent is clear, and any gaps at the earlier stages of design are accounted for in the estimate.
- Review and cross-check draft estimates with design documents.
- Complete multiple markups and revisions to the draft estimate before the final draft is completed.
- Keep a list of lower priority goals that can bid as an alternate or completed in a future phase; update the list throughout the project.
- Update standard specifications to include more “or equal” options to bidders; if a certain manufacturer is experiencing a significant shortage during bidding, prices may increase dramatically.

# Stronger Together: HMC Architects Acquires Rainforth Grau Architects

**By: Bruce Boul**  
Communications Director  
HMC Architects

Combining experience, resources, and infrastructure to create one of the largest PreK-12 practices in Northern California



In a “stronger together” strategy that will elevate service, design, and positive impact to clients and communities throughout California, HMC Architects is pleased to announce it has acquired Sacramento-based architecture firm Rainforth Grau Architects (RGA). An architecture firm with a 37-year history of educational design leadership in Northern California, RGA brings a seasoned team of experienced architects and designers to HMC.

Both HMC and RGA’s strong ties in the region have been forged over many decades. The acquisition of RGA will bring expanded expertise in the PreK-12 market and add additional institutional knowledge of the Sacramento community to the critical planning and entitlement phases of HMC’s design process. Together the firm’s expanded capabilities will

strengthen relationships within the local and regional community and provide greater depth and breadth of services. Having RGA join the HMC family will give us more opportunities to fulfill our mission to serve our communities and create designs that have a positive impact,” said HMC President and CEO Brian Staton. “This union provides greater resources and expertise to broaden our services to our existing clients and expand our abilities to service new clients.”

HMC and RGA have long-held prominent positions as industry leaders in the education market, especially in California. While operating and competing in the Sacramento area market, a healthy respect and professional friendship developed between the two firms. They recently collaborated to create a COVID-19

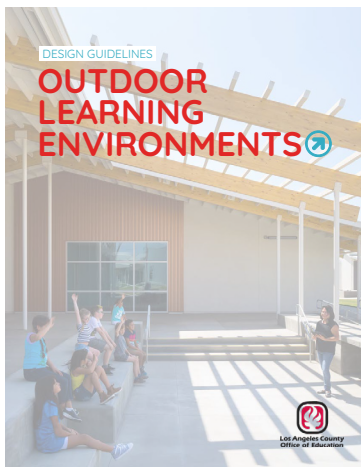
response for one of the largest school districts in the Northern California region. “I have known Jeff and his team for many years, and we have developed a mutual respect for the work we do, and why we do it,” said Brian Meyers, PreK-12 practice leader at HMC. “Our combined effort to support Sacramento City USD in their COVID response strengthened our partnership, paving the way for a successful merging of two cultures.” The combined talent and education portfolio of the two firms represents a highly synergetic mentality that will create new and exciting opportunities for employees and the combined expertise and experience will be of tangible benefit to clients.

“We know that continuous improvement and expansion of our capabilities is critical to long-term success and to

delivering our mission; to create a positive impact for our clients and their communities through our design,” said RGA Principal Jeffrey Grau. “We have a shared set of values that drive our work, which allows us to make a greater impact in the Sacramento region and beyond.”

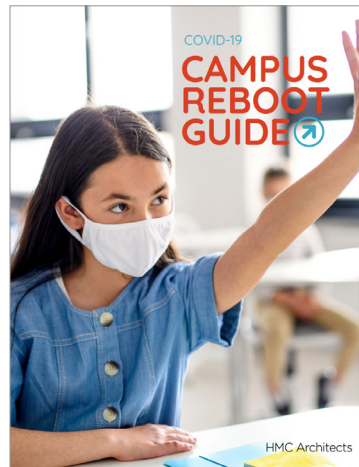
For HMC clients, the move indicates considerable support towards the firm’s PreK-12 practice by combining a group of people who share a deep passion for education and continuing to provide solutions for school districts that have experienced unprecedented challenges in the last year due to the pandemic.

“We are excited and optimistic about the difference we can make together to reinforce our momentum towards safe, resilient learning environments that enhance student success, wellness, and community,” said Staton.



Download *Design Guidelines for Outdoor Learning Environments* [Here](#)

The COVID-19 pandemic has challenged educators to re-imagine and be creative with outdoor space as a way to support the safe return to in-person instruction given the lower risk of virus transmission. To help schools and facilities professionals create equitable everyday outdoor learning experiences on their campuses, the Los Angeles County Office of Education has published design guidelines with the support of HMC Architects and engineering and construction experts.



Download HMC’s *Campus Reboot Guide* [Here](#)

In addition to the Campus Reboot Guide, HMC is committed to sharing all of its research findings with the industry in a series of white papers that focus on five main areas of Technology, Adaptability and Flexibility, Regulatory/Budgetary/Institutional Impacts, Space Needs/Reduction and Restructuring, and Impact to Wellness/Mental Health as they relate to the PreK-12 and higher education markets.

