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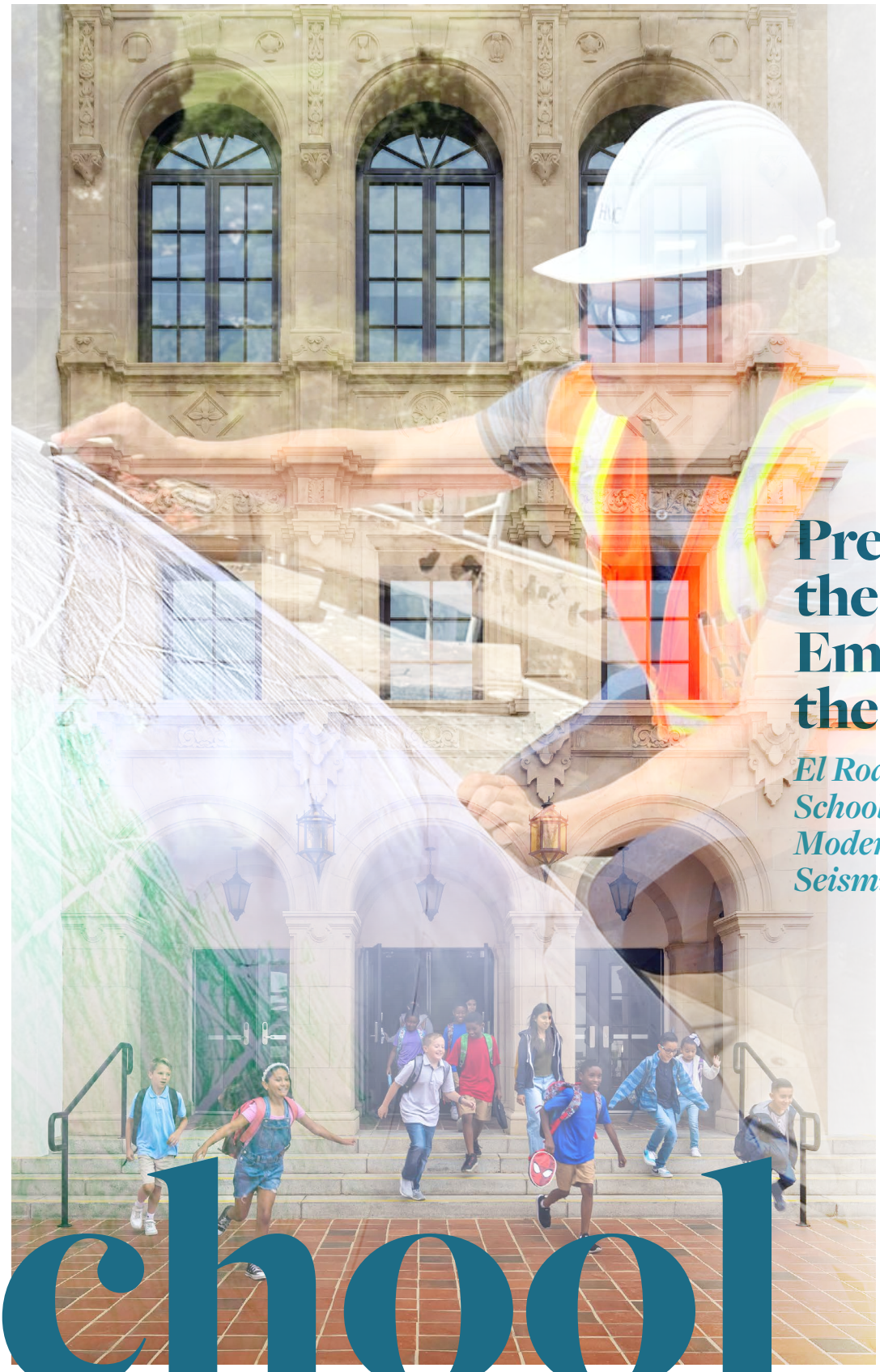

Preserving the Past, Embracing the Future

El Rodeo Elementary School's Historic Modernization and Seismic Retrofit

school news.

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HMC Architects DESIGN FOR GOOD

Preserving the Past, Embracing the Future.

El Rodeo Elementary School's Historic Modernization and Seismic Retrofit

PHOTO BY ALEX NYE

By Israel Peña

*As a Senior Project Manager, **Israel** has over twenty years of experience delivering complex K-12 modernization and new construction projects. He enjoys the challenges of renovating existing buildings, often on occupied campuses, and bringing new life to aging and neglected campuses.*

El Rodeo School is a testament to the delicate balance between heritage and progress. Established in the heart of Beverly Hills, California, in 1927, this facility has undergone a meticulous transformation, embracing modernity while honoring its storied past. The historic modernization and seismic retrofit project sought to preserve the school's Spanish Renaissance Revival facades and iconic dome, ensuring that every detail, from intricate ceiling designs to ornate molding, remained untouched by time. El Rodeo reopened its doors in August, symbolizing a return to education within its hallowed halls and a celebration of a community's commitment to safeguarding its cultural legacy while paving the way for future generations.

As the senior project manager for the school's modernization and seismic retrofit, I've led a transformation that carefully preserves its historic integrity while modernizing its facilities to meet current safety and educational standards. This project, funded by Measure BH, with an initial budget of $153 million, involved seismic retrofitting and modernization of the five buildings comprising the 118,000 SF

PHOTO: *At ACCS, Inc. a steel fabricator in Beaumont, CA, where we updated and confirmed the curvature geometry of the tower dome prior to delivery to the campus.*

PHOTO BY ACCS, INC.

El Rodeo campus. This highly complex project was divided into seven phases: selective demolition, asbestos abatement, erosion control, heating and air conditioning work, historical cast stone and exterior ornamental tile restoration, and theater restoration. In addition to preserving the historic elements, we restored the 673-seat auditorium to replicate the original ceiling, provided new seating, and incorporated modern audio-visual systems. Additional upgrades included fire alarm and fire protection systems, new HVAC systems, electrical upgrades, new pathways and paving, shade structures, and landscaping.

HMC's approach to these projects set us apart, especially when navigating the complexities of funding and timelines during the COVID-19 pandemic. The projects were funded under a strict

deadline, with preliminary sketches from another architect serving as the foundation for the grant. We had just 12 months to secure DSA-approved plans, all while ensuring the designs stayed within the district's budget. Our ability to quickly adapt, refine, and deliver on this challenging framework made the difference. Still, it wouldn't have been possible without the incredible teamwork and collaboration between our dedicated team and our clients, whose trust and partnership were essential to the project's success.

CHARACTER-DEFINING FEATURES AND HISTORICAL ELEMENTS

Preserving El Rodeo's historical elements was a critical aspect of the project. The school's character-defining features needed careful preservation during the seismic retrofit. Maintaining these historical aspects was complex. Because of this building's historic significance, this structural seismic retrofit heavily impacted significant character-defining features, which needed to be removed entirely and replicated. One of the primary challenges was replicating historical elements to make the building look untouched. The team prioritized preserving key aspects, such as the intricate details in the ceiling, trim molding, and decorative panels. These features were crucial to maintaining the building's character and were important to the community.

Preserving the 1934 Hugo Ballin mural outside the auditorium was crucial, given its historical significance to the school. The mural is a treasured piece of FDR's New Deal, a lasting testament to the investments made through the Works Progress Administration. Originally initiated by Ballin under the New Deal's Public Works of Art Project, the mural was left unfinished when the project was terminated. It wasn't until 1934 that it was completed, thanks to the efforts of artists Robert Woolsey, Charles Jorgenson, and Don Smith.

As El Rodeo's Principal Sarah Kaber eloquently expressed during the ribbon-cutting ceremony, this mural is far more than mere decoration. It stands as a tribute to the nation's resilience and spirit during a transformative period in history. It is a powerful reminder that we are connected to a legacy of perseverance, innovation, and community. As students walk these halls, they learn about the past and shape the future, poised to contribute to the next chapter of American history.

BALANCING NEXT-GEN LEARNING WITH HISTORICAL PRESERVATION

Balancing historical restoration with the need for modern facilities presented unique challenges. During restoration, the team had to address the complexities of the auditorium and the tower dome. Ensuring the restored theater retained its original 1927 appearance while incorporating modern audio-visual systems and new seating required extensive planning. The modernization project also faced unforeseen conditions during the restoration process, which demanded innovative solutions to maintain historical integrity alongside modern functionality.

"Balancing historical restoration with the need for modern facilities presented unique challenges."

A plan was developed where the core and shell of the buildings, the circulation areas, and critical spaces like the auditorium would be preserved, restored, or replicated to match the original design. Teaching spaces, on the other hand, would be equipped with the latest technology and designed to align with next-gen learning modes. This approach allows educators to tailor the learning process to each student's needs, providing classroom flexibility with adaptable furniture systems and advanced technology. Our interior designers spent nearly two years collaborating with an educational committee to assess every teaching space, ensuring flexibility and support for communication and collaboration skills. The new school now includes collaboration spaces, including a maker space, media center, and science lab, alongside a traditional library.

"When I speak to anyone about this project, it ignites my passion for what we do. It reminds me why many of us went into this profession. It has been a long, challenging, and complex road that sometimes felt never-ending. Thankfully, it is complete and a project for our team, our firm, and the district to be incredibly proud of!"

AN ENVIRONMENTALLY SUSTAINABLE MODERNIZATION

Sustainability was a crucial focus in the modernization of El Rodeo. The idea of reusing the existing facility and not tearing it down significantly contributed to the project's sustainability goals. A complete upgrade to the mechanical systems will improve energy efficiency and filtration. There is new high-efficiency LED lighting throughout the campus. Using insulated glazing and replicated historic windows also provided environmental benefits, enhancing energy efficiency while maintaining the building's historic character. Modern plumbing fixtures will significantly reduce potable water use on campus, aligning with the project's sustainability objectives. These efforts ensured that sustainable practices were incorporated without compromising the building's heritage.

IMPACT ON THE COMMUNITY AND FUTURE GENERATIONS

The modernization of El Rodeo is more than just a construction project; it is a testament to the community's dedication to preserving its cultural heritage while providing a modern learning environment. Design strategies were implemented to advocate for the community, students, and staff. "My job in the next few years is to preserve some of that history and teach it to our students so that for the next 100 years, they'll have that same connection," said Principal Sarah Kaber. The restored school is expected to have a long-term positive impact on students and the community, serving as a model for future school renovations.

As architects, we advocate for the communities we serve, and at El Rodeo, I found myself advocating for the building itself.

This project was the most challenging I have ever worked on, taking over eight years to break ground. Witnessing the evolution from an idea to a physical form now inhabited by its rightful users is both mind-blowing and emotional

CELEBRATING AND LOOKING AHEAD TO THE FUTURE

After closing in 2019 for these extensive renovations, the school reopens this August, marking a significant milestone as El Rodeo transitions from a K-8 to a TK-5 elementary school. The grand opening and ribbon-cutting ceremony on August 11 celebrated the school's reopening and its new role as the educational home for students and teachers from Hawthorne Elementary, which will close at the end of the school year.

The excitement for the new school year is palpable, with a focus on educational excellence and a deep appreciation for the school's historical significance. The most rewarding aspect of working on this project was creating a learning environment that honors the past while looking toward the future. The hope is that this project will serve as a model for future school renovations, demonstrating how historic preservation can be successfully integrated with modern educational needs.

PHOTO BY ALEX NYE

Robots, Livestock, and Electric Vehicles!

Three CTE Facilities in Davis Upgraded for the Diverse Careers of Today and Tomorrow

By Michael Rath

*As a Principal Architect with over 30 years of Pre K-12 school design and master planning experience, **Mike** has led the architectural delivery of many large high school, middle school, and elementary school projects, including oversight of design, budget, schedule, district standards, and overall project quality. Mike has proven adept at understanding the educational needs of school district clients. He applies his career-long passion for educational design to build flexible, durable, sustainable educational environments that support teaching, learning, and student success.*

Citrus Circuits is the name of the robotics club here at Davis Senior High School (DSHS), just west of Sacramento in California's Central Valley. This group of 120 students enjoys strong community and school support and has won many regional robotics competitions. They regularly compete against teams from around California and as far away as Shanghai, Taipei, and Hawaii. Club members turned out enthusiastically last year in their black logo shirts for the dedication of their new home on campus, a 7,800 SF building designed by HMC Architects.

The building serves engineering and robotics students, one of 15 CTE Pathways at DSHS. It features a manufacturing shop with big CNC machines for automated manufacturing. A large vaulted main robotics lab space is the hub of the program and serves as a practice space for robotics competitions, which have become very popular in recent years. These events feature all the excitement in athletics, with spectators and teams competing against each other to complete tasks or specific maneuvers in autonomous and remote-controlled modes. Referees score these matches in real-time, and there are trophies to be won.

The building is a simple modernist design with a gracefully slanted roof—we referenced design elements from the All Student Center building and other existing design elements on campus. There were unique programmatic requirements. Some of the machines needed water and lots of power, dust collection systems, ventilation, wireless communication, and low-voltage power. The oversized garage doors accommodate the equipment and materials necessary for student projects, including plywood, large metal sheets, and tubes. We also included space for the program to grow in future years. The CTE staff worked extensively with counterparts at UC Davis in the machines' planning, technical design, and specification.

This beautiful facility is all the sweeter, given that the club was initially started as an informal afterschool club in a shipping container where they'd run extension cords across the parking lot to power the equipment. The program has moved through various temporary facilities over the past twenty years. Steve Harvey, a math teacher at Da Vinci Charter Academy in Davis, was the driving force behind the formation of Citrus Circuits. The building is named after him.

IN THE FARMING HEARTLAND, A PROGRAM ALIGNED WITH THE AG ECONOMY

Across campus and seemingly worlds away from robotics are the Agriculture and Animal Science CTE facilities, a cluster of buildings that includes a barn, classroom, greenhouse, poultry house, and show ring. The upgrades there included a lot of small things that added up to a wholly revamped facility: new lab tables in the classrooms, more welding stations, a new slab in the barn for better cleaning and drainage, a cooling system necessary for pigs, chickens, turkeys, goats,

PHOTO BY DAVID FENNEMA

PHOTO: *A Citrus Circuits club member working on details of a robotic assembly.*

and sheep, a covered area for cleaning the animals, and an area of planter boxes. This was where we stretched and got a lot out of our budget.

Agriculture goes to the core of the economy and ethos of Davis, a college town in the middle of the Central Valley farming heartland. Around 92 percent of Yolo County is designated for agriculture and open space preservation, making agriculture the critical industry in the area. Agricultural technology and plant and seed bio-engineering advances drive the local economy and workforce needs. Agriculture enhancements and biotech development are key focus areas for growth in the region. With this DSHS modernization, the Agriculture and Natural Sciences pathways will reach more than 576 students.

The DSHS Ag pathway will ultimately help serve local workforce needs and prepare students for high-demand, well-paying careers as agronomists, viticulturists, plant breeders, geneticists, greenhouse managers/technicians, lab technicians, vet techs, Ag engineers, welders, machinists, technicians, and more. Their motto, "Plant it, grow it, raise it, and service it, all right here in Yolo County," speaks to the local focus.

The DSHS Ag pathways are associated with the Future Farmers of America (FFA), a national organization founded in 1928 to promote agriculture education. It has nearly one million members in all 50 states. At the ribbon cutting, it was cool to see all the students in their FFA jackets, some of whom proudly held chickens.

NOT YOUR GRANDFATHER'S AUTO SHOP—PREPARING FOR THE EV FUTURE

A nondescript building featuring three automotive bays is not far from the animal corrals. This is the home of the transportation CTE pathway, where upgrades included the addition of a service bay, an exterior canopy, enhancements for pneumatic tools, car lifts, air and power, technology additions, and new restrooms.

This modest-looking structure is not your grandfather's auto shop. Inside, students learn how to repair and assemble EVs: battery, motor, steering, suspension, and all internal systems. They use Switch Cars, which look like large go-carts, to practice honing these skills—skills that will be in great demand given the emerging EV

"I didn't expect to like it that much, but the second I got here, it was like, this is fun. I want to keep going, and this was mainly the class I looked forward to the rest of the day. I learned about something in a male-dominant field and enjoyed myself."

– Charm Blackwell, Student

PHOTO: *Hands-on training in animal care is a big part of the Ag CTE program.*

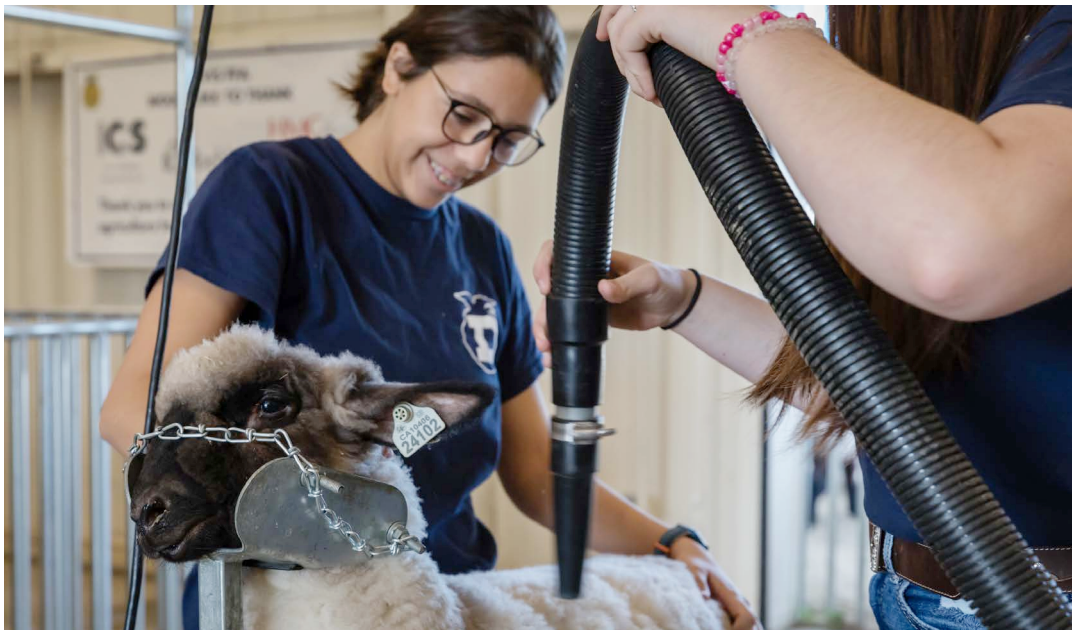


PHOTO BY DAVID FENNEMA

PHOTO: *Students learning about the equipment used to repair electric vehicles in one of the automotive bays.*

PHOTO BY DAVID FENNEMA

"I think these three projects struck a nice balance of being able to support growth and innovation for long-standing successful CTE programs."

– Tyler Millsap, Administrative Lead for CTE at DJUSD

market in the US. By 2030, electric vehicle sales are projected to reach 40 percent of new car sales and 50 percent by 2035 (Goldman Sachs Research).

Rapid advances in automotive technology are creating a new car culture in California that is tuned to the environmental impacts of vehicle emissions and focused on more sustainable ways to fuel mobility. DSHS's aging transportation facilities date back to the 1970s, when students learned about gas-guzzler cars with internal combustion engines.

Revamped facilities have nearly doubled the amount of workbays available to students, provided safe and accessible workspaces, and, importantly, will ensure students have access to the technology needed to gain industry-recognized credentials to begin careers with the many Davis-area Transportation industry partners at the forefront of greener modes of mobility. Davis is at the center of international efforts to research and build more sustainable plug-in vehicles, with UC Davis's Plug-in Hybrid & Electric Vehicle Research Center and its Hyundai Center of Excellence in Vehicle Dynamic Systems leading the way.

"Veterinary and animal sciences, like all of our other pathways, provides real world experience for our students , so this is an opportunity for them to work with industry professionals and animals on-site."

– Kathryn Myler,
Vice President of Davis Future Farmers of America

MADE POSSIBLE BY KEY STATE CTE GRANTS

The CTE upgrades at DSHS were made possible by funds from local Measure M and State of California CTE grants totaling $6.2 million. Tyler Millsap is the administrative lead for the CTE programs at Davis Joint Unified School District. He has been with the district as a teacher and in various roles for 18 years.

He explains the investment in these facilities: "I think these three projects struck a nice balance of supporting growth and innovation for long-standing successful CTE programs. The robotics got a bigger piece than the others with the new building. But you have to understand that the program has a strong following and a track record of great success. So I think the budget we had to work with came out to a nice balance of benefiting as many programs as it could."

From the feedback we are receiving, these three projects at DSHS drive engagement and enthusiasm and provide students with excellent opportunities for specialized, hands-on learning in career fields directly relevant to the Ag and high-tech economy in Davis.

Davis Joint USD Secured Over $6 Million in CTE Facility Grants

September 2020 CTEFP Grant Funding Breakdown:

- Agriculture Modernization: $1.5 million
- Architecture and Engineering New Construction: $3 million
- Transportation Modernization: $1.6 million

Davis Joint Unified School District (USD) received more than $6 million from the Career Technical Education Facility Grant Funding (CTEFG) provided by the Office of Public School Construction (OPSC). These funds have enabled significant facility improvements at Davis Senior High.

Proposition 2 – 2024 Statewide School Facilities Bond:

- Includes $600 million for CTE Facility Grant Funding

The Career Technical Education Facilities Program (CTEFP) is a competitive grant program that requires districts to submit applications to the California Department of Education (CDE). CTE projects are reviewed and funded in rounds through the OPSC.

Eligibility and Funding:

- The CTEFP is a 50-50 matching program, requiring districts to match state funding.
- The OPSC offers up to $3 million for new construction and up to $1.5 million for modernization/retrofit projects.
- Grants can also be used to purchase equipment and furniture.

Inclusion & Belonging at LAUSD

A School District Perspective

By Julia Eiko Hawkinson
FAIA, ALEP, LEED AP
BD+C, O+M, WELL AP

Senior Facilities Development Manager, Los Angeles Unified School District

***Julia** has been working for school districts for over 20 years to positively impact the learning experiences of the students she serves. She manages the planning of major projects transforming existing school sites and leads the effort to develop, update, and align LAUSD's design standards and educational specifications with its instructional vision. In her professional and personal efforts, Julia advocates for inspiring learning environments that allow all children to learn, grow, and dream.*

The Los Angeles USD is a longstanding HMC client and partner. This article is a follow-up to a 2023 article about inclusive design during a comprehensive modernization of the district's John F. Kennedy High School.

PHOTO BY LOS ANGELES USD

WHO ARE WE, AND WHERE ARE WE COMING FROM?

The Los Angeles Unified School District has over 400,000 students in more than 1,000 schools across 710 square miles. The district's Division of Special Education serves over 63,000 students with disabilities with a vision to "intentionally design and deliver inclusive environments for students at every opportunity."

Several layers of regulatory framework govern special education for our students. A guiding concept that applies to special education is the Least Restrictive Environment (LRE), an important part of the Individuals with Disabilities Education Act (IDEA), the U.S. law ensuring students with disabilities are provided with an education designed for their individual needs:

"...to the maximum extent appropriate, children with disabilities, including children in public or private institutions or other care facilities, are educated with children who are not disabled, and special classes, separate schooling or other removal of children with disabilities from the regular educational environment occurs only when the nature or severity

"Feedback received from the school sites validates research findings showing that students with disabilities who spend 80 percent or more of their time in a general education inclusive classroom have significantly better outcomes than students who are in separate special education classrooms."

of the disability of a child is such that education in regular classes with the use of supplementary aids and services cannot be achieved satisfactorily."

California Code of Regulations, Title 5 relates to school facilities construction and has a requirement that special education classrooms are distributed and integrated into campuses. The Americans with Disabilities Act (ADA) also pertains to special education, as it may require improvements to make schools more accessible for our students with mobility challenges. It is important to understand that even with ramps and elevators, a campus may meet the compliance requirements of the ADA, but it is still not easy to navigate for a student who uses a wheelchair or other form of mobility device. It is necessary to ensure students with disabilities have convenient and equitable access to campus life.

IDEA and Title 5 reinforce what is known from research findings - that special education students have better outcomes when participating in inclusive settings. Barriers must be eliminated to move towards an inclusive world where all can belong. The district's Division of Special Education's goals are aligned with these regulatory requirements in providing student support in the Least Restrictive Environment nearest to a student's school of residence, with support in general education as the first consideration and in other settings only if support cannot be provided in the general education setting.

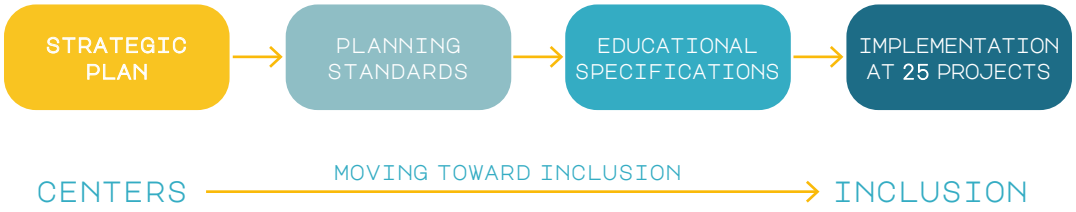
WHAT DOES IT MEAN TO DELIVER INCLUSIVE ENVIRONMENTS?

Working together, the division and district facilities planners have been exploring and implementing strategies that address what it means to create inclusive environments for the students of Los Angeles Unified. This focus on inclusivity across such a large district requires learning environments for students who may benefit from additional support in their neighborhoods, closer to home, where they can learn alongside their peers in the same matriculation path from elementary through middle and high school.

WHAT DOES THIS MEAN FOR THE LEARNING ENVIRONMENT?

To meet division goals and improve special education students' learning experiences, planning standards, and educational specifications were developed for school facilities that address the unique needs of students with disabilities and align with the district vision and California regulations and requirements.

The distribution and integration of special education learning environments into the school site is ensured during new project planning and programming phases. Special education learning environments that provide additional support are integrated into the campus from the beginning of the design process, allowing easy access to all the activities a student can access while attending school.



"Special education learning environments that provide additional support are integrated into the campus from the beginning of the design. Students can more easily participate in performances and assemblies, have meals together, play together, and experience outdoor learning, sports, and other programs because of these intentional design choices."

Students can more easily participate in performances and assemblies, have meals together, play together, and experience outdoor learning, sports, and other programs because of these intentional design choices.

In Los Angeles Unified, inclusion means that special education students will spend all or part of their day in general education classes, depending on their individualized needs. Students who require specialized support also benefit from special education learning environments that support their learning journeys.

Classroom size and flexible furniture allow staff to support students and their individualized learning activities. Students with additional hygiene needs have access to restrooms with additional space and facilities for changing and transfer lifts, providing space for important toileting activities in a respectful environment. Storage is provided for additional equipment that supports each student's mobility needs.

ADA goes a long way to making our campuses accessible for all students, but its requirements may not meet the full support that some students require with toileting. For example, an ADA-accessible toilet stall may not be adequate for students who need the additional assistance of an adult or equipment such as a lift. Providing adequate restrooms for students needing additional support toileting can make a huge difference for students and staff that work with them, protecting their dignity and respecting their privacy.

HOW ARE WE DOING?

These planning standards and educational specifications have been implemented at over 20 district sites to provide a plan for integrating students with disabilities into the life and activity of their school and allow more students with disabilities to attend their neighborhood schools. The newly completed classrooms are integrated into the campus, where the students can see and be seen to become equal members of their schools with the support facilities that allow them to be treated with respect and support their educational experience.

Facilities planners continue to work closely with the special education instruction team to assess the new special education facilities and look at potential improvements and updates. The students, teachers, and parents in these programs report that their experience in the new classrooms is improving their lives and learning experiences—including increased independence, more connection to general education students, and increased confidence and pride for the students in the special education programs. They are excited by integrating their learning environments into campus daily life and the opportunities to enrich their learning journeys.

WHAT KIND OF WORLD ARE WE WORKING TOWARD?

Inclusivity matters as we work toward a world where all students feel safe and feel like they belong— a world where stigma and bias are eliminated, and where students are given the opportunity and support to become their ideal selves. To create this world, barriers and stigmas must be replaced with celebrating connections across differences.


“Inclusivity matters as we work toward a world where all students feel safe and feel like they belong—a world where stigma and bias are eliminated, and where students are given the opportunity and support to become their ideal selves.”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Q+A

Meet HMC Architects' Senior Project Manager Jeffrey Chouinard

Jeffrey Chouinard joined HMC Architects in 2019 and leads some of the firm's most significant PreK-12 projects as a senior project manager. Jeffrey is a dedicated project manager passionate about helping districts navigate their most pressing challenges and creating environments where students can thrive.

Q *Describe your educational and professional background and how you got into architecture.*

A I started at a trade school studying AutoCAD and was fortunate enough to have an architect take a chance on me and hire me. That firm designed residential spaces but then moved into hospitality and theme park work. While there, I had the opportunity to work on some exciting theme park environments, including designing a Gotham City Cafe for Spain's Movie World, Disneyland's Sleeping Beauty's Castle, and an Aman boutique resort on the border of Arizona and Utah. While I didn't have a formal, traditional educational background, that experience helped me transition to where I am today.

Once I had children, I saw their schools' impact on them, and I began to think and ask them what they would do differently to give them a better experience. Those conversations fueled my love of the PreK-12 work, and I am passionate about watching how even the most minor design details can impact a child's experience.

Q *Describe your current role at HMC.*

A I've been at HMC for six years as a senior project manager. And while I am focused on managing our projects from start to finish, I'm also very involved in mentoring our younger staff and helping them grow in their careers. It's been very inspiring to me to watch our company and our culture grow into what it is today. It has been fascinating to help drive change within my studio and watch the younger staff learning, driving, and engaging in the company culture we've worked hard to establish.

Q *What are some major projects of which you're most proud and that our clients might want to know about?*

A I am very proud of one of our latest high school projects, Kern High School District's Del Oro High School in Bakersfield, California. I was involved in the project from schematic design through the end of construction and on to project closeout. I learned so much about myself, the industry, and the students that we serve. Although this was a large project, it reminded me that no matter the size of the project, our designs can make a significant impact on students, staff, and the community, which embraces our *Design for Good* ethos here at HMC. From opening its doors to a low-income area of Bakersfield serving underprivileged students to hearing excited district alums wish that they could

"No matter the size of the project, our designs can make a significant impact on students, staff, and the community, which embraces our Design for Good ethos here at HMC."

"When it comes to creating optimal learning environments, the health and safety of students is paramount."

go back to school on that campus, there are so many amazing stories coming out of Del Oro, and I'm so proud to have been a part of helping it come to life.

Q *Tell us about the new Bakersfield City School District New Elementary School. What is your role in the project, and how will this new school impact the district and community?*

A As the senior project manager, I'll manage the new elementary school from start to finish and ensure that our client is well taken care of and that our design helps them achieve their mission and goals. The project is located on a greenfield site that was once planned for a housing development but will now serve about 800 students in the growing East Bakersfield community with a safe, flexible, and collaborative campus.

Q *What are the biggest challenges facing our PreK-12 clients, and how can we help?*

A Declining enrollment and cost escalation are significant issues for districts right now. Once COVID-19 hit, construction costs and procurement times for materials increased, and we haven't seen this ease in the last four years. At HMC, we work with our clients to understand these issues and leverage our cost estimators in our discussions with construction managers and clients to ensure we're meeting the district's needs and schedules. We must support districts in any way we can, whether designing a flexible facility to accommodate fluctuating enrollment, helping to navigate grants, or helping them create innovative, exciting campuses to attract future students.

Q *You're participating in the Coalition for Adequate School Housing's (CASH) School Facilities Leadership Academy (SFLA). What has your experience been like, and how will your participation benefit our PreK-12 clients?*

A Participating in the CASH Leadership Academy has been a great and uplifting experience. I've gotten to meet a great mix of people, including clients and construction managers, while learning about how school district facility departments operate and the issues they are dealing with daily. As managers and designers, we don't always hear about the surrounding issues a district is navigating, like lack of funding sources, going through a bond program adjusting school boundaries, and CEQA (California Environmental Quality Act) exemptions. It's been enlightening and empowering to join those conversations and guide districts in considering specific design implications and impacts where possible. I've also had the chance to connect with mentors in school districts and in the construction industry who've helped me develop personally and professionally. It's a great program that will help make me a better manager and partner to our clients.

Q *What are your passions outside of work?*

A I enjoy spending time with my family. My boys, who are eight and 10, are heavily involved in baseball, and I love managing their teams and sharing that with them. They're so young, and I want to spend as much time with them on the ball field as possible. We also like to take our trailer out, go camping, and enjoy the outdoors. Our favorite spot is in Chula Vista—it is awesome to get away and spend time at the pool or go on bike rides together.

Life Cycle Assessment Now in the California Code

PHOTO BY LAWRENCE ANDERSON

July brought hot temperatures and new beginnings for California's building code. While we may be acclimating to the hot temperatures, it might take time before we wrap our heads around the new Life Cycle Assessment (LCA) (often referred to as embodied carbon) requirements included in the most recent code release. In line with California's tradition of leading the fight against climate change, this is the first time LCA or embodied carbon has been addressed in a code.

The LCA requirement includes DSA projects that are newly constructed, alterations to existing buildings, or additions to existing buildings where the combined square footage is 50,000 or greater. The code allows for three compliance paths:

1. Reuse of existing building: Maintain, at a minimum, 45 percent combined of the existing building's primary structural elements (foundations, columns, beams, walls, floors, and lateral elements) and existing building enclosure. (Code Section 5.105.2, reuse path)

2. Whole building life cycle assessment (WBLCA): Conduct a cradle-to-grave whole-building life cycle assessment, excluding operating energy, and demonstrating a minimum 10 percent reduction in global warming potential (GWP) as compared to a reference baseline building of similar size, function, complexity, type of construction, material specification, and location. (Code Section 5.409.2, performance path)

3. Product GWP Compliance: Select products** that are permanently installed shall have a Type III environmental product declaration (EPD), either product-specific or factory-specific, that adheres to the maximum acceptable GWP value listed.

*(** Selected products include: hot rolled structural steel sections, hollow structural steel sections, steel plates, concrete reinforcing, flat glass, and light and heavy density mineral wool board insulation)*

What is LCA?

Life Cycle Assessment is a comprehensive analysis used to evaluate the environmental impacts of a product, building, or process over its entire life cycle. This includes the extraction of raw materials, the manufacturing process, transportation, usage, and end-of-life disposal or recycling.

By Jennifer Wehling

AIA, LEED AP BD+C, ID+C, WELL AP

Jennifer *has over 20 years of experience focusing on sustainability across a wide range of clients and project types. Her passion for sustainability pushes her to continually research the latest strategies and design methods in green building. Her years of experience as a licensed architect in all phases of design and construction on various project types and sizes give her the day-to-day experience that results in real solutions.*

With Rishabh Singhvi

MSCE, P.E.

Project Manager and Director of Sustainability at Saiful Bouquet Structural Engineers

Key Definitions

LCA:
Life Cycle Assessment (not to be confused with LCCA: Life Cycle Cost Assessment

GWP:
Global warming potential

EPD:
Environmental product declaration

Embodied Carbon:
The greenhouse gas emissions arising from the manufacturing, transportation, installation, maintenance, and disposal of building materials

Operational Carbon:
The greenhouse gas emissions due to building energy consumption

While an LCA analysis focuses on embodied carbon, other environmental factors like water and energy use, waste generation, human health impacts, ecological consequences, and resource use are also evaluated. An LCA should not be confused with an LCCA (Life Cycle Cost Assessment), which looks at the cost of a system or material over the life of a project.

Why is this making its way into the code?

The global warming potential of greenhouse gases, the most abundant of which is carbon, is causing the planet to warm, which has ripple effects on human and environmental health. The building industry is responsible for nearly 40 percent of carbon in the atmosphere; thus, we can effect change. With every code cycle, we have seen incremental changes to reduce operational carbon, and while there is still work to do, we have made good strides in reducing operational carbon. In the recent past, we have also seen a shift to focus on embodied carbon reductions.

While this may feel new, the Life Cycle Assessment component of the code is based on 2017's Buy Clean California Act, which aims to reduce greenhouse gas emissions associated with manufacturing and transporting products used in public infrastructure projects in California. The Act required using EPDs to determine compliance with GWP limits for construction materials used in public works projects. It established maximum GWP limits for the same materials listed in the new code requirement. Over the past seven-plus years, manufacturers of these materials and so many others have been working hard to document the GWP in their products and show reductions.

How will this impact my projects?

Projects seeking permits after July 1, 2024, must meet the new code requirements. If your project has an aggregate of new, added, and altered square feet 50,000 or more, talk with your design team about the impacts. If you are reusing a significant amount of an existing building, this may not impact you. If you need to consider a WBLCA (performance compliance) or Product GWP Compliance (prescriptive compliance), each has pros and cons. While the WBLCA can be time-consuming, it gives you holistic information about the environmental impacts of your projects. The GWP compliance path starts with maximum GWP limits on a relatively small list of materials, and these limits are easily achievable with multiple manufacturers.

In looking at the impact of this new code addition, I talked with Saiful Bouquet's Project Manager and Director of Sustainability, Rishabh Singhvi, MSCE, P.E., to provide additional insight. Saiful Bouquet is a structural engineering partner on many HMC projects. He reminds us that sustainability-focused design doesn't always mean higher costs; the goal is to build efficient buildings that use less materials or reuse/recycle more of the existing systems. He said, "The current prescriptive requirements are quite broad and designed to be lenient, to allow for a broader market to meet the code intent. Mostly, there should be no cost impact for achieving compliance." Integrating LCA into the building code might feel overwhelming, but the code is ultimately a positive step toward sustainability-focused design. Singhvi offers hope by saying, "Over the years, this will help reduce schools' embodied carbon footprint. While additional documentation is required, there is no change in how projects are designed and delivered."

I am in favor of incremental code changes like this that work to reduce greenhouse gas emissions. While part of me thinks this inaugural requirement for embodied carbon doesn't go far enough, I can also appreciate it as a starting point. This new code language will get people talking, raise awareness, and force manufacturers to be more transparent while encouraging them to reduce product emissions. This starting point is just that, as we have seen through the years with energy use and operational carbon, the requirements will get more stringent with each code cycle as we work to reduce carbon emissions.

Embodied Carbon
The emissions from manufacturing, transportation, and installation of building materials

Operational Carbon
The emissions from a building's energy consumption

PHOTO: *At the SCUSD Floyd Farms project, the increased use of wood allowed the team to minimize the use of steel, lowering the total embodied carbon.*

PHOTO BY CHRIS GRANT

PHOTO BY JUSTIN PANSON

El Monte Union School District Mountain View and Arroyo High Schools' New Stadiums

This summer, El Monte Union School District marked significant milestones. It celebrated the grand opening of two modern athletics stadiums at Arroyo High School and Mountain View High School.

Both stadiums feature a new rubberized track and field, modern bleachers, concession stands, restrooms, upgraded parking facilities, and impressive grand entrances. The stadiums are vibrant hubs for physical fitness, athletic events, health and wellness instruction, student performances, and community gatherings.

Project Milestones

Western Placer Unified School District Breaks Ground on New High School Building

Western Placer Unified School District hosted a groundbreaking ceremony to officially begin construction on a new two-story, 12,755 SF, 12-classroom building in Lincoln, California. The HMC Architects design team, Roebbelen Contracting construction team, District representatives, faculty, and students attended the event to mark the start of the new $13.5 million project.

The building will house two district programs, Phoenix — an alternative education high school— and the ATLAS Learning Academy —an independent study school serving students in grades 6-12. The schools serve 150 non-traditional students, and there is a waitlist for students who want to attend these schools. The new classrooms will expand the school and allow more students in the area to take advantage of the programs. Originally a modular solution, the design team created a site-built option to provide an architectural identity for the campus. The new, permanent solution will replace the current portable classrooms and transform the small campus, giving students a sense of space and school pride. Construction will be completed in August 2025, in time for the 2025-26 school year.

HMC Visits Construction Progress at RJUHSD's New District Office

HMC Architects toured the construction of Roseville Joint Union High School District's new district office in Roseville, California. The district lacks a central hub, and currently, staff are scattered across various sites. The new $21 million, 27,400 SF building will bring upwards of 80 district staff into one central location to more efficiently cater to the needs of their schools, students, and the public.

The design of the building focuses on well-being and sustainability. The building is one of the first in the district to be fully electrified; all the building's systems are electric and, therefore, more sustainable. The first and second-floor workspaces are designed to maximize natural views and daylighting. We offset energy usage with significant glazing elements, window fins to offset heat gain, and extra high-efficiency glass beyond what is usually specified in a typical project. The exterior façade relies on a "double stud" cavity construction to cut back on foam insulations and significantly increase insulating values. The building features a two-story entry lobby, large open floor plan office space on the second level, and several conference rooms with views onto the adjacent Oakmont High School athletic facilities. The new office will open in early 2025.

Folsom Cordova Unified School District Celebrates New Alder Creek Elementary School

Folsom Cordova Unified School District recently celebrated the grand opening of the new Alder Creek Elementary School in Folsom, California. The HMC Architects design team, Roebbelen Contracting, trade partners, district representatives, and faculty attended a special ribbon cutting and tour to celebrate the new school, which was built to support the whole student.

The design of the 9.9-acre, 75,000 SF school follows the HMC-designed district prototype school, Mangini Ranch Elementary School, which opened in August 2021 and incorporates learnings from its construction and occupancy. The two-story school will accommodate 716 TK through fifth-grade students with 28 classrooms—20 conventional, six TK/kindergarten, one special education, and one flex room with a stage and media center.

Classrooms have been designed with flexibility and collaboration in mind; flexible furniture and moveable partitions accommodate many teaching styles, and classrooms are connected to collaboration spaces and break-out rooms to encourage small group instruction and activities. Students can take their learning beyond the classroom with several outdoor learning spaces. The multipurpose room supports various activities, including athletics, performances, and community gatherings. A large entry full of natural textures and colors, environmental graphics celebrating the earth's natural elements, and a centerpiece gathering staircase welcome students, parents, and faculty into an inspiring and creative learning hub.

The new school is a safe and welcoming environment that will nurture and support generations of Folsom students. ●

PHOTO BY JUSTIN PANSON

HMC Architects Wins Bakersfield City School District's New Elementary School Project

HMC Architects was selected to lead the design of Bakersfield City School District's (BCSD) new elementary school in Bakersfield, California. Located on the corner of Paladino Drive and Masterson Street, the new TK-6 elementary school will support the growing East Bakersfield community.

Despite declining enrollment in the district, the East Bakersfield community is expanding with significant developments, and by 2028, the closest elementary school will be sorely impacted. The new school will support the community with a safe space and an innovative design that will support new technologies and a growing population within budget. Design has begun, and the project is scheduled to be complete in 2028. ●

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AWARDS + RANKINGS

CMAA AWARD

PHOTO BY ALEX NYE

El Rodeo Elementary School *Wins:*

CMAA Southern California Project Achievement Award, Education Sector

CMACN/ AIACA AWARD

GOLD NUGGET AWARD

PHOTO BY DAVID FENNEMA

Del Oro High School *Wins:*

2024 CMACN/AIACA Concrete Masonry Design Merit Award for Education Design

2024 Gold Nugget Awards, Best Educational Project (Excludes housing)

HMC Ranks No. 3 on Los Angeles Times B2B Publishing's 2024 Top Architecture Firms list

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