SPRING/SUMMER 2019

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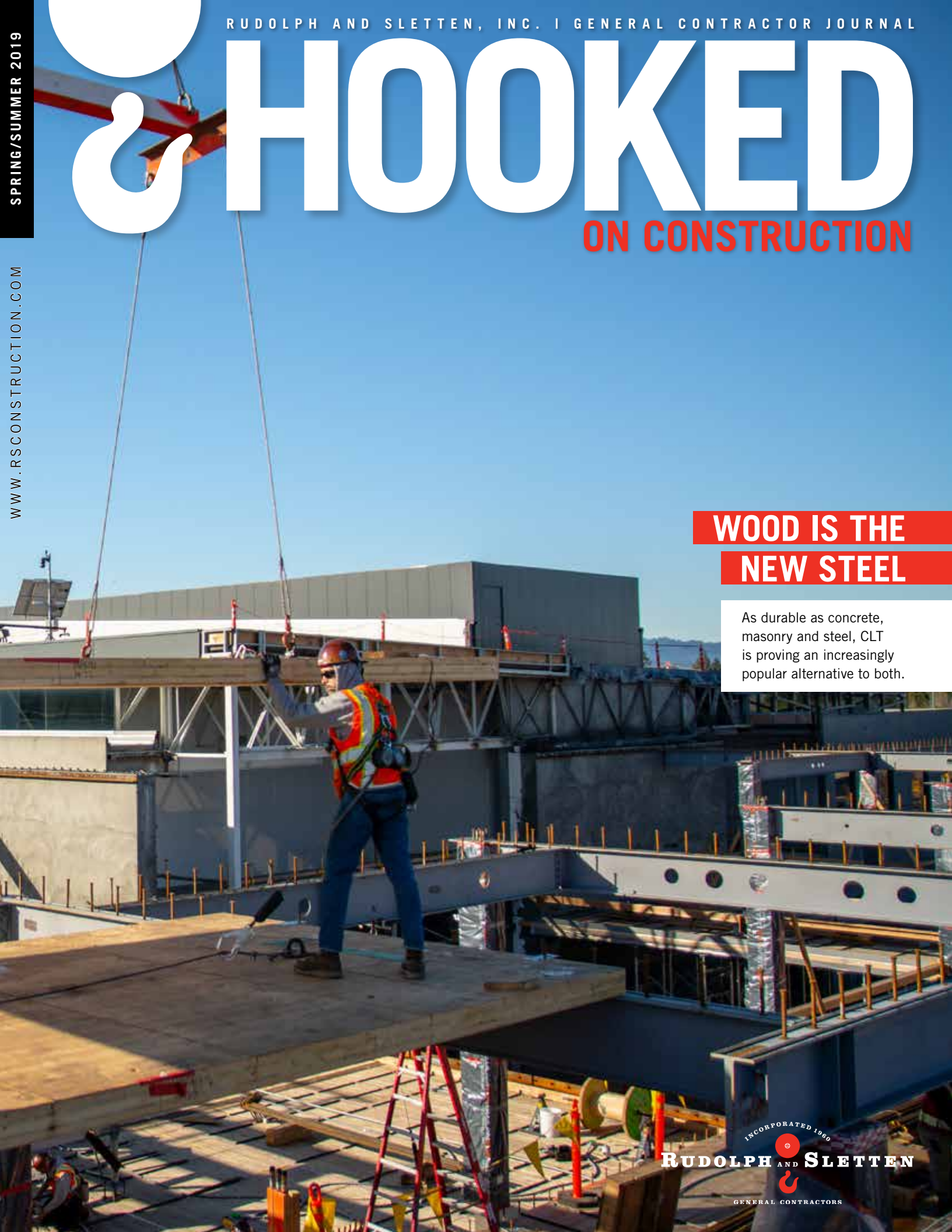
RUDOLPH AND SLETTEN, INC. | GENERAL CONTRACTOR JOURNAL

HOOKED ON CONSTRUCTION

WOOD IS THE NEW STEEL

As durable as concrete, masonry and steel, CLT is proving an increasingly popular alternative to both.



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GENERAL CONTRACTORS

OUR VALUES HAVE GUIDED US FOR OVER FIVE DECADES

It's our people that make us different. Our culture is built upon our core values—safety, integrity, passion for building, service, quality, technology driven and client focus—which have continued to set us apart for over five decades and why so many employees create careers, not just jobs, with us.

Choosing Rudolph and Sletten means more than choosing a company who can get the job done. It means choosing a partner who cares enough to get the job done right.

LET'S BUILD.

RUDOLPH AND SLETTEN

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LOS ANGELES | IRVINE | SAN DIEGO

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40 YEARS OF GIVING

Rudolph and Sletten has proudly supported local organizations for four decades

Rudolph and Sletten employees once again dug deep to give back to their local communities. The 2018 philanthropic donations totaled $34,500, allotting a portion to each of the nominated organizations. Each non-profit was nominated by an employee who personally volunteers their time with the organization.

SAN CARLOS

COMMUNITY EDUCATION PARTNERSHIPS

Nominated by Patrick Lerchi

Community Education Partnerships raises awareness about the experiences of homeless youth and offers them Individualized tutoring and mentoring, school supplies, extracurricular enrichment activities and enrollment assistance.

ARBOL DE VIDA (TREE OF LIFE)

Nominated by Edwin Magana

Arbol de Vida organizes a charity fund that benefits homeless shelters in Alameda County. Each year around Thanksgiving, they raise money and purchase items needed by shelters and deliver directly to the shelters.

ROSEVILLE

NORTH VALLEY COMMUNITY FOUNDATION

Nominated by Chris Corbin

The fund supports the needs of the evacuation centers who opened their doors to support the

people who lost their homes and are fleeing the Camp Fire. These centers are very often not prepared to handle the massive influx of people but do it anyway. The immediate funding priorities are to make sure the center has whatever they need to continue providing vital services. These needs include portable toilets, portable showers, blankets, energy and water costs, and countless other needs.

ABOUT THE LEO JANSING FUND

Our philanthropy fund is named in memory of a great man who served as our Vice President and Chief Estimator for many years, and was a valued Rudolph and Sletten employee for over 17 years. Today, our employees' holiday season donations—along with Rudolph and Sletten's matching contribution—enables the Leo Jansing Fund to support one or more community non-profit organizations in each of our regional offices.

IRVINE

WISEPLACE (WOMEN, INSPIRED, SUPPORTED, EMPOWERED)

Nominated by Matthew Chadwick

WISEPlace transforms the lives of women by helping them move from homelessness and hopelessness to self-reliance. Case managers provide personalized counseling to help each woman overcome issues that led to unemployment and homelessness. During its history, WISEPlace has transformed the lives of more than 7,500 women.

ONE MEAL

Nominated by Jonathan Broomfield

The OneMeal mission is to meet the needs of starving children by empowering people to serve. Our mobile food-packing program engages groups to work together in a meaningful hands-on, team-building experience.The OneMeal program has provided much needed nourishing food to children in 18 different countries, including the U.S. and developing countries across the globe.

SAN DIEGO

SPECIAL OLYMPICS

Nominated by Andy Rogers

The mission of Special Olympics is to provide year-round sports training and athletic competition in a variety of Olympic-type sports for children and adults with intellectual disabilities. This gives them continuing opportunities to develop physical fitness, demonstrate courage, experience joy and participate in a sharing of gifts, skills and friendship with their families, other Special Olympics athletes and the community.

AMERICAN HEART ASSOCIATION

HARD HATS WITH HEART

At Rudolph and Sletten, we strive to be a pacesetter not only in the buildings we create, but also in our approach to employee health.

We are proud to support the Hard Hats with Heart initiative, which benefits the American Heart Association's (AHA) Greater Bay Area Division. A successful networking and fundraising event was held April 11th, where we helped raise over $65,000 in one night.

The startling numbers around the construction industry's elevated risks for heart disease and stroke made supporting this initiative an easy choice. Today, 1 in 4 U.S. construction workers have diagnosed hypertension and 1 in 25, heart disease. That's over 200,000 workers living with heart disease.

Our sponsorship of the campaign, which began last summer, is helping raise funds to enable the American Heart Association to continue their work of ground breaking research, developing guidelines to improve patient care, and help educate our communities on how to lower their risk factors for heart disease and stroke. In total, **R&S has helped raise over $1 million for the AHA as this years presenting sponsor**.

The Hard Hats with Heart charity event is centered around people involved in the built environment raising awareness for the American Heart Association. R&S was the presenting sponsor, which included the creation of our new Eat for Your Heart campaign focusing on changing our work environment as it relates to food and nutrition. Will continue to serve on the Executive Leadership Team for the Hard Hats with Heart initiative as we continue our support of this life changing organization.

BREAKING GROUND

SOUTHWESTERN COLLEGE

PERFORMING ARTS AND CULTURAL CENTER

Southwestern College recently began construction on the new Performing Arts and Cultural Center that will serve as the gateway to the South Bay community college campus. This new addition to the college is funded by Proposition Z, the $400 million general obligation bond passed by San Diego voters in November 2016 with record approval.

The PACC is a multi-purpose, educational complex that will house community and public events, gatherings for cultural celebrations, as well as school activities. The 48,000sf facility will contain classrooms designed for dance instruction, lecture halls, theater lab classrooms, stage prop and stage construction spaces, and two theaters for events and performances—one 540-seat theater, and a smaller scale 151-seat black box theater.

"The arts are not just about drawing, acting, dancing, or playing an instrument, they are a critical component for brain development and giving students access and ease into learning. The arts transform students into scholar, leaders, and college graduates," said Governing Board President Griselda Delgado. Access to arts increases college graduation rates for low income students by 50 percent, Delgado said.

The project is scheduled for completion Summer 2020 and is targeted to achieve LEED Silver certification.

The new Performing Arts and Cultural Center (PACC), designed by Tucker Sadler Architects, is the second project constructed by Rudolph and Sletten on the Southwestern College campus. The recently completed Math, Science and Engineering Building is featured on page 21 of this issue.

BREAKING GROUND

CAL STATE EAST BAY

NEW CORE BUILDING

The library has long been considered the heart or core of a university campus. By transforming Cal State East Bay's library to meet the needs of its students and faculty, the new CORE building—designed by Carrier Johnson + Culture—will become the center of academic achievement, collaboration and innovation. The campus, staff, architect and Rudolph and Sletten celebrated the construction groundbreaking on Monday April 22nd.

Purposefully located in the center of campus CORE and the Hub for Entrepreneurship and Innovation will provide students with the technology, tools and access to faculty and professional expertise they need to excel in today's rapidly changing job market.

The center blends the offerings of a traditional library with real-world incubator-type environments, student services and assistance, group project spaces, and presentations and research offerings. Facilities will include printing and scanning machines, modeling and prototyping technology, milling equipment for creating custom circuit boards, and craft precision parts and tools, as well as librarian-taught digital literacy classes. The facility will also serve as a home away from home for students. With a large commuter population, many students spend most of their time in the library

The design replaces large static areas devoted to books and siloed services with architectural flexibility, enabling spaces to be repurposed according to changing needs. The building will feature three times as many rooms dedicated to student use as the current library has, moving only the most popular and most current books into the new facility. The rest of the library content will remain in their current location.

Cal State East Bay's commitment to sustainability is evident in the new CORE building. It is designed to achieve LEED Gold certification and Zero Energy Ready.

NEXT-LEVE
HOSPITAL

EL

AMID EARTHQUAKE THREATS, EMERGENCY HELICOPTERS AND RISING PATIENT EXPECTATIONS, FREMONT'S WASHINGTON HOSPITAL EXPANDS TO SERVE A GROWING POPULATION.

Already the second busiest emergency room in Alameda County, Washington Hospital has its sights on an even brighter future. Serving an area of more than 320,000 residents from its location in downtown Fremont, a Bay Area city that has seen its population steadily increasing, the hospital's success benefits far more than just itself.

The Morris Hyman Critical Care Pavilion, completed in June 2018, gives those residents access to a new emergency room four times as large as the existing one and critical and intensive care units that have doubled in size. It also makes the hospital eligible for trauma center designation, potentially increasing the funding the hospital gets and the number of patients it sees. The new 224,000-square-foot pavilion includes three stories of acute care facilities, 48 ICU beds and 68 surgery beds.

But building that expansion required overcoming some tricky challenges—including an active earthquake fault and a busy hospital that couldn't just press pause during construction. After some innovative solutions from Rudolph and Sletten and its partners, southern Alameda County residents now have the next-level hospital they need and deserve.

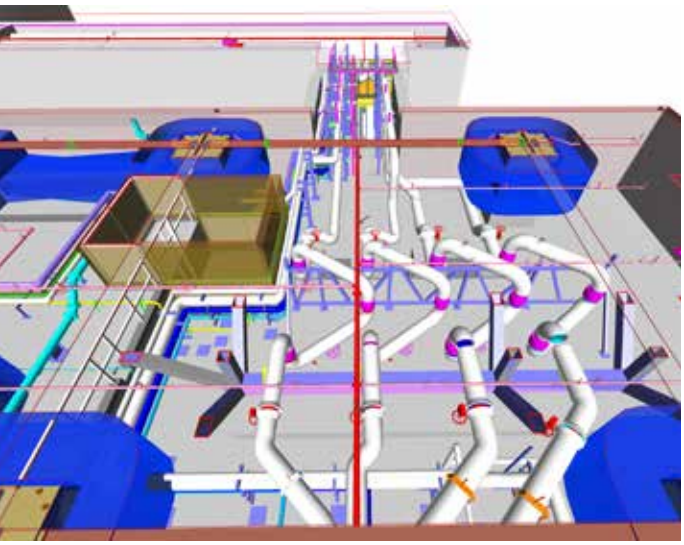
△ Located within 1,000 yards of an active fault line, the new hospital's foundations include base isolators with viscous dampers, making it one of the only hospitals in California incorporating this system. The isolators are designed to allow three feet of movement in any horizontal direction, and one foot of movement vertically.

READY FOR EXTREME EMERGENCIES

Within 1,000 yards of the hospital lies the Hayward Fault, which scientists say could experience its next major quake at any time. When—not if—that happens, Washington Hospital will likely have a major role to play in the safety and recovery of some of the millions of people living near the fault.

So still being operational once the shaking stops is critical. To try to ensure that, Rudolph and Sletten leaned on its experience and incorporated a system it had used for other projects in seismically active areas. In the foundation of the new hospital building, base isolators with viscous dampers—essentially a system of bearings, pistons and hydraulics—will absorb the shaking of an earthquake and float the building above the seismic waves.

But building such a system wasn't easy. It meant creating intricate computer models of the system, then building mock-ups in the parking lot. It also meant finding a way to keep utility connections connected during an earthquake despite the movement of the ground and building. Using virtual design tools, the team planned the extra clearance and flexibility that the utility connections would need, and based on their experience from other jobs allotted extra time to plan for those considerations.



△ Using VDC—a technique traditionally employed on stationery buildings—the team coordinated clearances around all basement utility connections. When the ground moves, the utility connections have flexible connections to allow for this movement.

Just installing those connections was a challenge in the foundation's tight, four-foot-high access space. But the team's research turned up a low-profile, low-voltage LED that could light the space without the hazards of stringing traditional bulbs through the space. Now, the Washington Hospital base-isolated foundation allows the pavilion to move three feet horizontally in any direction and one foot vertically, hopefully keeping the critical facility open and active when the big one hits.

INNOVATING WITHOUT IMPEDING

Adjacent to the bustle of the construction project, the bustle of a busy hospital continued uninterrupted. Everything from traffic to noise to smell to deliveries had to be kept from impacting the life-saving work going on next door.

The solution to that was planning and proactive coordination. The contact numbers of the foremen in charge were provided to hospital staff—eliminating middlemen and allowing for immediate work shutdowns if necessary. Weekly work plans were shared to detail any work that might affect hospital operations. And extra precaution—flagmen, barriers, signs, direct communication—made sure emergency vehicles and patients had clear, quick access to the hospital.

This was especially important for helicopters. When the steel structure of the new building was going up, a giant crane loomed 40 yards from the helipad. Poor communication had the potential to result in a disastrous collision. So more than 200 construction site personnel were trained on a protocol to ensure access around the crane for the helicopter. As part of that, they were told to imagine a loved one was in that helicopter and needed to get to the hospital. This training was put to use almost every other week, when the foreman would get a call from a helicopter five minutes before landing.

◁ △

The new CCU/ICU has two large waiting areas for families, as well as several secluded alcoves and conference rooms, all with Wi-Fi access. Building features also include multiple terraces and open-air courtyards, providing natural light for patients and staff. The project is targeting LEED Silver for Healthcare certification.

LEADING EDGE OF PATIENT-FOCUSED CARE

Just as expectations around seismic safety technology have evolved, so have expectations about the patient experience. Today's hospitals need to be not just safe and effective but comfortable, calming spaces that are focused on the needs of the patient and their families—not just the bottom line.

The initial idea for the expansion was conceived more than a decade ago, so to make sure Washington Hospital stayed on the leading edge of patient-focused care, new electronic, sustainability and comfort updates were needed.

Today, the pavilion includes more rooms set up for in-room procedures, more rooms that have floor-to-ceiling windows to let in natural light, and more rooms that are single-occupancy for patient privacy and comfort.

Elsewhere, large waiting areas ensure families can spread out in comfort, and alcoves and conference rooms offer them privacy. Terraces, open-air courtyards and the ability to wheel beds to outdoor areas all help the space feel more comforting and calming than yesterday's drab, intimidating hospital.

Wi-Fi is available throughout, of course, and wireless communications systems and access to electronic medical records help today's technologies serve patient health. To meet sustainability standards, building materials with limited emissions of volatile compounds were chosen, the stormwater system was designed to keep contaminants from entering local waterways, and energy- and water-efficient lightning and fixtures were used.

continued ▶

KEEPING EVERYONE TOGETHER

To bring all this together in a busy, urban hospital takes constant communication. Over the course of the several years a project like this takes to come together and be constructed, relationships had to be built and trust formed.

This was accomplished with regular, informal conversations and the occasional more formal meeting. That avoided many of the misunderstandings that come from a poorly worded email or text.

> "The project was a success because we all were in direct communication," said Will Bartley, Senior Project Manager for Rudolph and Sletten. "We decided early on that we were going to talk instead of using email, and we were going to do it no matter what."

That communication often started with conversations over coffee at 6 a.m. between the project directors and managers. And it included weekly meetings with the hospital to review progress and trends.

It continued online as well. Getting everyone on the same network servers so they could access the same versions of record and documents was key to avoiding redundant work. And replacing laptops and desktop computers with Microsoft Surface hybrid tablets meant superintendents could get out of the office and keep those lines of communication open. All these efforts helped keep everyone on the same page.

"Whether it was my concern, the owner's concern or the inspector's concern," Bartley said, "we didn't cast blame, but instead discussed any potential issues daily and addressed them as a team before they had an impact on the project." ■

2019 CMAA Project of the Year Award, Northern California Chapter

2019 CMAA Project Achievement Award for new buildings greater than $100 million, Northern California Chapter

△

The new facility incorporates the latest trends in healthcare design and features more single-occupancy rooms ensuring greater privacy for patients, more space for family members, and enable doctors to perform more procedures in rooms.

PROJECT UPDATE

UNIVERSITY OF CALIFORNIA, LOS ANGELES

FRANZ HALL SEISMIC RETROFIT

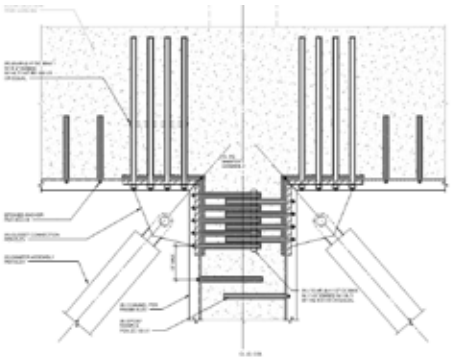
The Franz Hall Tower Seismic Retrofit project will provide seismic corrections and program improvements for the 123,700sf building, which currently has a Level V seismic performance rating posing a significant risk to faculty, students and staff in the event of an earthquake.

Seismic upgrades are being completed on floors 1 through 6 with complete renovation occurring on floors 1 through 8. The seismic upgrade includes Fiber Reinforced Polymer (FRP) wrap for beam and column strengthening, addition of viscous dampers tied into the existing structure, and concrete strengthening. Upon completion of the work, the seismic rating will be upgraded to Level III.

The full renovation to floors 1 through 8 includes reconfiguration of walls to improve space utilization and functionality; modifications to building systems including fire/life safety upgrades; replacement of ceilings, lighting and finishes; and construction of accessible restrooms and accessibility upgrades. These spaces will house dry research laboratories, faculty and staff offices, graduate student offices, classrooms, meeting rooms and scholarly activity space. MEP upgrades to support the program improvements will occur on the three below-grade levels of the eight-story building.

The construction work is being sequenced in two phases to allow ranges of floors to be occupied during construction. Impacted occupants are being temporarily relocated by the University and updates on construction activities are being communicated to occupants throughout each phase of the project. The basement levels of the tower and the other buildings in the complex shall remain fully operational during construction.

To accommodate vibration and noise sensitive work areas, Rudolph and Sletten has performed testing of all equipment anticipated to be used at different locations throughout the project. An example of an accommodation is the use of a quiet core drill in lieu of roto hammer drill down to 1/4". Some disruptive work is being performed off-hours to minimize impacts to occupants remaining in the building during construction.



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The seismic upgrade includes Fiber Reinforced Polymer (FRP) wrap for beam and column strengthening, addition of viscous dampers tied into the existing structure, and concrete strengthening.

SPECIAL PROJECTS GROUP

BUILDING TO MEET YOUR NEEDS

Rudolph and Sletten's Special Projects Group is designed to serve the needs of smaller projects. The division handles projects such as interior improvements and renovations with the nimbleness of a specialty contractor backed by the extensive resources of our entire company. From the simple hanging of a door to the buildout of a new office, our Special Projects Group is designed to meet your needs and exceed your expectations.

GRAND OPENING

UNIVERSITY OF SAN DIEGO

SERRA HALL RENOVATION

The University of San Diego's campus was named the most beautiful in the country last year. But it needed to find a way to grow and offer more advanced facilities while still maintaining the old-style beauty of its campus.

One of the old buildings in the center of that award-winning campus is Serra Hall, built, like most of the rest of campus, in a Spanish Renaissance style. The building was constructed in 1956 and houses space for advanced mathematics, biology labs and the anthropology department. But it needed renovation work to be able to keep up with the needs of today's science, technology, engineering and math (STEM) programs.

That's where Rudolph and Sletten came in. With previous expertise working on the campus, R&S was contracted to undertake a complicated and speedy renovation of Serra Hall. As far as construction projects go, this one was relatively small, but was as or more complex than many larger projects.

Over the course of the few months of summer break, the project completed structural improvements covering about 10,000sf, including replacing windows and wooden doors, building new high-tech facilities and replacing parts of a wall that turned out to be deteriorated.

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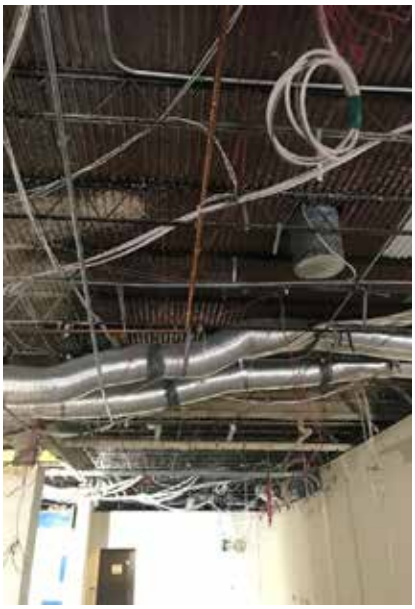


PRESERVING A SENSE OF HISTORY

USD's Catholic founders believed it was important to study in beautiful surroundings. So the campus they created pays tribute to 16th-century Spanish Renaissance architecture and Spain's University of Alcalá de Henares. Serra Hall is one of seven buildings at the heart of this carefully planned campus. So any renovation work had to be sure to not take away from this aesthetic, even while bringing the facilities into the 21st century.

All construction materials visible from the outside have to be in the Spanish Renaissance style. That meant, for example, wooden doors and special windows and roofing elements. To meet these challenges, R&S relied on its relationships with specialized local craftsmen and its extensive knowledge and experience on the USD campus.

MODERN ON THE INSIDE

Despite their old-style look, these exteriors needed to be able to house state-of-the-art facilities. Interiors had to be modern and fresh, creating inspiring new spaces for the students and offering all the modern technology today's students expect.

The centerpiece of these updated facilities is a new Math Studio. Expected to be an incubator of innovative mathematics research, its glass walls and open spaces borrow ideas from manufacturing, art studios and design thinking to encourage fresh pedagogical approaches. The studio creates a space for advanced, 21st-century mathematics within a 16th-century-style building.

"Our goal with the re-design is to use space effectively and allow the beauty of mathematics to shine through unhindered," said Satyan Devadoss, PhD, the USD Fletcher Jones Endowed Chair in Applied Mathematics. "Through the glass walls of the math studio, students will see some seriously cool, playful investigations and constructed models, illustrating what mathematics looks like when it's embodied beyond a textbook or chalkboard."

SCHEDULE AVOIDS HITTING A WALL

USD had pre-ordered the new replacement windows when deteriorating exterior walls were discovered. A new wall would be needed, but the windows weren't designed to be installed as part of new wall construction, mainly because they wouldn't necessarily be watertight.

Utilizing IPD on this complex project helped harness the different specialties of key project stakeholders enabling the team to quickly come together to find a solution. The team developed a way to waterproof the new wall system that could get the replacement windows to fit and avoid the

delay of having to reorder new windows — while complying with the 16th-century style. To enable this, R&S created a temporary wall to support existing structures while the deteriorated wall was retrofitted.

Ultimately, because of this planning and coordination, this potentially serious problem was kept from delaying the project's tight deadline.

EXPERIENCE PAYS OFF IN SUMMER SPRINT

That deadline was Aug. 24 — just 65 workdays after work could begin, on May 30. So the team had just the summer break to get all the renovation done before students and faculty would move back into Serra Hall for fall classes.

To streamline construction, R&S scheduled construction of the four project elements simultaneously: the new math facilities; a teaching laboratory for biology; anthropology facilities, including an exhibit space on Native American culture; and the ceiling, roof and window work. The team also knew of the risk of hazardous materials before work was done, and had lead and asbestos removed proactively before further work began, saving time and money later on.

Being able to run all these projects at the same time required the type of expertise and knowledge of the construction environment that only experience can provide. Luckily, R&S has worked with USD on campus projects for 18 years. The Serra Hall project is proof that taking the time over the years to build that relationship and gain that client-specific knowledge pays off. ■

STRUCTURAL MATERIALS

CROSS-LAMINATED TIMBER

Cross-laminated timber (CLT) is a large-scale, prefabricated, solid engineered-wood panel, and is a highly advantageous alternative to conventional materials like concrete, masonry or steel. As durable as concrete and requiring significantly less energy to produce a comparably strong steel beam, CLT is proving an increasingly popular alternative to both.

Lightweight yet very strong, with superior acoustic, fire, seismic and thermal performance, CLT performs better against fire and earthquakes than conventional structural materials. CLT is also fast and easy to install, generating almost no waste on site. Wood is also the only primary structural material that grows naturally and is renewable. Carbon storage is an important component of building with CLT. A healthy tree in a forest will release oxygen and store carbon dioxide (CO2). Using mass timber as a building product reduces the carbon footprint by also storing carbon dioxide (CO2) in the same way a healthy tree would.

CLT is also beautiful, creating ceilings and columns which don't need drywall thus reducing material usage while bringing the warmth of natural wood indoors. CLT is a great structural alternative, offering design flexibility and low environmental impacts, however, exceptional care and thorough process is required for properly installing CLT.

Through our experience building CLT projects in California, including the largest CLT building in the United States (as of June 2019), we've honed our processes and techniques to exceed owner and designer expectations:

- Scheduling of material deliveries and sequencing installation.
- Proper storage of panels and columns on-site.
- Preparation of panels and columns for installation.
- Adherence to tight building tolerances.
- Post-installation material protection.
- Final finish work.

This CLT is from Canada where they are able to regrow a tree every 23 minutes.

Sourced from deadwood, specifically blue beetle killed timber deemed unusable by conventional lumber suppliers due to unique blue streaks.

CONCRETE 5X

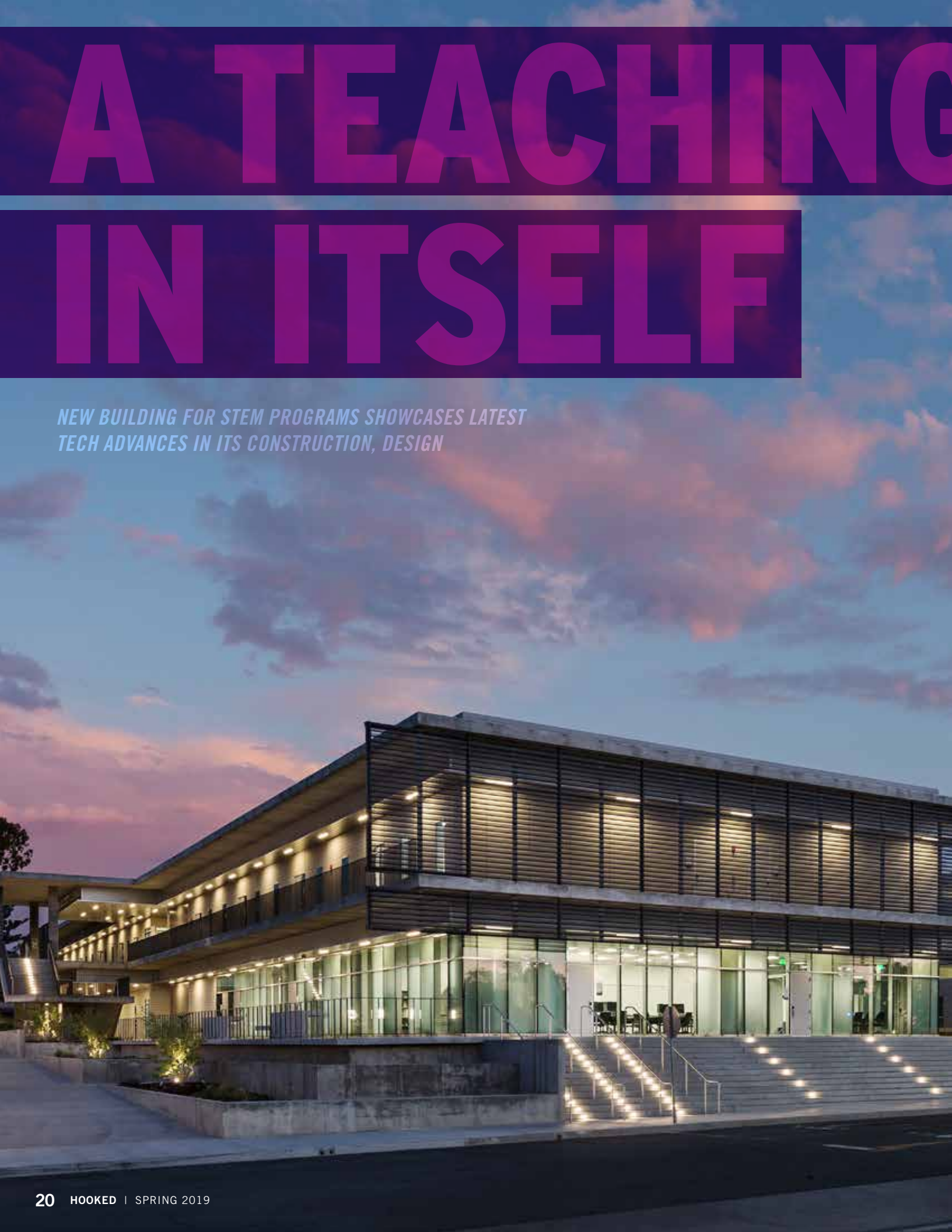
STEEL 24X

ALUMINUM 126X

Wood for Good, a campaign by the timber industry to promote the material, claims that a ton of bricks requires four times the amount of energy to produce as a ton of sawn softwood (wood used for CLT); concrete requires five times, steel 24 times, and aluminum 126 times.

A TEACHING IN ITSELF

NEW BUILDING FOR STEM PROGRAMS SHOWCASES LATEST TECH ADVANCES IN ITS CONSTRUCTION, DESIGN



G TOOL

A 50-year-old facility can have a hard time keeping up with the needs of today's STEM students. When it's the only facility serving a region's science, technology, engineering and math students, the strain can be even greater.

As the only institution of higher education in southern San Diego County, Southwestern Community College was in desperate need of an upgrade. Replacing its outdated STEM facilities would mean students could better compete for jobs in today's high-tech economy or for transfer spots at leading four-year colleges.

The upgrade was funded by a voter-approved bond measure that included funds for improved STEM facilities. The result was the new Math, Science and Engineering Building—which includes 15 laboratory classrooms, 19 standard classrooms and three large lecture halls, as well as study rooms, computer labs, office suites, a greenhouse for biology programs, and a rooftop telescope platform for astronomy programs.

Designed by Marlene Imirzian & Associates Architects and built by Rudolph and Sletten, the new facility allows the community college to offer more STEM courses and programs — and gives the community access to the state-of-the-art facility it needs and deserves.

△ Work began on a portion of the structure adjacent to the existing gym.

▽ Completed structure after complete demolition of gym.

ON DEADLINE, DESPITE DELAYED DEMOLITION

Before those resources could be made available to the community, the old facilities needed to be torn down. That was more complicated than it sounds.

To make way for the future, a complex of half-century-old buildings, including a gym, needed to be torn down. The gym was too close to portions of the new building for construction to take place until it could be demolished. Utilities also needed to be run under the footprint of the old gym. But the gym couldn't be demolished until a separate project to build a new Wellness & Aquatics Complex was completed. That meant work on the new STEM building could only go so far.

Hazardous materials like asbestos also were discovered and needed to be removed.

So while the gym awaited demolition, work began on only a portion of the new building's concrete structure. To overcome the scheduling challenges, a complex phasing of construction was developed and an accelerated building schedule was drawn up to meet the January 2019 move-in date, in time for the spring semester. Asbestos and other issues were taken care of simultaneous with the demolition process.

In the end, despite the delays from the original schedule due to the late demolition of the gym, the project was completed on schedule, meeting the January back-to-school date.

PUTTING TECH TO WORK

Building such a complex, state-of-the-art facility required using some of the same STEM-related advances the college's students are now studying there. Part of the issue was making sure the project owner and team remained informed of how the project was progressing. It also included ensuring the safety of people on campus wasn't compromised and that campus life wasn't disrupted much.

To gather and report all this information, R&S used various sophisticated technologies—mobile devices, aerial sensory technologies, software logs, webcams, drones, RFID readers, 3D modeling, tablets, construction management software and wireless

continued ▶

sensor networks. Cameras with video of the progress and live web-cam footage was also used to demonstrate progress online in real time and maintain transparency.

But old-fashioned techniques were also important. Speeds bumps were installed to slow traffic where needed to ensure campus safety, and weekly meetings were held to review upcoming work. This hybrid of new tech and the time-tested effectiveness of face-to-face communication was key to meeting the accelerated schedule necessitated by the delayed demolition.

SUSTAINABILITY BY EXAMPLE

The new building doesn't just provide a place for learning—it's a living example of many of the advances STEM fields have made over the decades since the previous facility was constructed.

To help showcase these advances to both students and the surrounding community, the building was envisioned as an example of innovation and sustainability. Designed to achieve LEED Silver certification, the entire site was developed with sustainable materials. Waste diversion projects helped keep more than 75 percent of construction waste out of landfills through reuse, salvaging, and recycling. A large below-ground cistern collects roof runoff and rainwater for use in irrigation. And a landscape featuring drought-tolerant native plants means low water use for irrigation anyway, key in drought-prone San Diego County.

Inside the building, breezeways, walkways and terraces open it up to the outside, and strategic placement of Solatubes and clerestory windows maximize natural light. Exterior shade screens and a reflective roof surface help regulate the building's temperature naturally.

All these features serve as illustrations for community members and STEM students of the sort of technological and sustainability advances that are possible. Together, they make the building a learning tool in and of itself. ■

"This new building will create tremendous opportunities for the South Bay community", said Robert Deegan, interim superintendent/president. "Guided by the dedicated staff and faculty of the Math, Science and Engineering Department, the students who will walk these halls will create amazing things."

2019 CMAA Project Achievement Award for new buildings greater than $25 million, Southern California Chapter

PROJECTS ON THE HORIZON

RECENTLY AWARDED PROJECTS & RECENTLY STARTED PROJECTS

PHASE 3 REAL ESTATE

GENESIS NORTH TOWER FLOORS TENANT IMPROVEMENTS

SOUTH SAN FRANCISCO, CA

- Interior build-out of several floors of occupied building to include lab and office space.
- Architect: McFarlane Architects, Inc.

SUTTER HEALTH

INPATIENT BED EXPANSION

ROSEVILLE, CA

- Addition of an acute care nursing unit with 30 licensed beds on the second floor of existing campus building.
- Architect: Stantec, Inc.

COUNTY OF ORANGE

ORANGE COUNTY ZOO LARGE MAMMAL EXHIBIT

ORANGE, CA

- Two new exhibit areas with natural features including water elements.
- Architect: Jeff Katz Architecture

UNIVERSITY OF SAN DIEGO

CAMINO FOUNDERS RENOVATION

SAN DIEGO, CA

- Renovation and improvements for Camino Hall, Founders Hall and Sacred Heart Hall.
- Architect: SGPA Architecture and Planning

SAN DIEGO SYMPHONY

BAYSIDE PERFORMANCE PARK

SAN DIEGO, CA

- Redevelopment of Embarcadero Marina Park South.
- Architect: Tucker Sadler

2019 ACHIEVEMENTS

CORPORATE RANKING & COMPANY DISTINCTIONS

SAFETY ACHIEVEMENTS

CEA PRESIDENT'S AWARD FOR SAFETY

Rudolph and Sletten's well established safety program—and culture of safety—has earned an Excellence in Safety Training and Safety Performance award every year since the program's inception in 2003. For the past three years in a row, we have been honored to achieve recognition with a President's Award for Safety. The President's Safety Award recognizes member firms whose safety programs far exceed the industry standard. Successful applications meet four of the five following criteria: A Total Incident Rate that is 50% Below the Industry Average; A Lost Workday Incident Rate that is 50% Below the Industry Average; Experience Modification Rate ≤ 0.70; A Cal/OSHA Recognized California Voluntary Protection Program (Cal/VPP) - Construction Participant; and Demonstration of an Active Training Program.

VPP CAL/OSHA PARTNER PROGRAM

VPP is designed to recognize employers and their employees who have implemented safety and health programs that go beyond minimal Cal/OSHA standards and provide the best feasible protection at the site. Congratulations to the Kaiser Permanente Roseville Riverside-Cirby MOB jobsite for achieving this recognition. Rudolph and Sletten's continued participation—and the participation of our trade partners—is a result of maintaining these same high standards at all of our active jobsites, not just those seeking recognition.

CORPORATE RANKINGS

10 CALIFORNIA GENERAL BUILDING CONTRACTOR
ENR CALIFORNIA

3 R&D FACILITY CONTRACTOR
ENR CALIFORNIA

4 GOVERNMENT BUILDING CONTRACTOR
ENR CALIFORNIA

4 HEALTHCARE CONTRACTOR
ENR CALIFORNIA

4 COMMERCIAL CONTRACTOR
ENR CALIFORNIA

5 INTERIOR/TENANT IMPROVEMENT CONTRACTOR
ENR CALIFORNIA

6 GREEN PROJECTS CONTRACTOR
ENR CALIFORNIA

PROJECT OF THE YEAR
2019 Project Achievement Award - Northern California Chapter
BUILDINGS GREATER THAN $100 MILLION

Washington Hospital's Morris Hyman Critical Care Pavilion

CMAA
2019 Project Achievement Award - San Diego Chapter
BUILDINGS GREATER THAN $25 MILLION

Southwestern College's Math Science & Engineering Building

CMAA
2019 Project Achievement Award - San Diego Chapter
BUILDINGS LESS THAN $25 MILLION

Seaworld San Diego's Electric Eel Roller Coaster

HOOKED
ON CONSTRUCTION

RUDOLPH AND SLETTEN, INC.
2 CIRCLE STAR WAY, 4TH FLOOR
SAN CARLOS, CA 94070

SPRING/SUMMER 2019

INCORPORATED 1960
RUDOLPH AND SLETTEN
GENERAL CONTRACTORS

SAN CARLOS (650) 216-3600
ROSEVILLE (916) 781-8001
LOS ANGELES (213) 430-2330
IRVINE (949) 252-1919
SAN DIEGO (619) 432-0122