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Hello Readers,

I want to take this opportunity to thank all the sponsors, exhibitors, and attendees who made the 2019 World of Modular Conference a tremendous success. The show attracted over 1,000 participants from more than 20 countries, making it the largest crowd ever for a modular construction event.

As the new president for 2019, I am looking forward to continuing our relationships with ICC, AGC, and other construction organizations while working with code officials, architects, and developers to help make modular construction more mainstream.

The latest issue of the Modular Advantage features many of the winning projects from our Awards of Distinction contest as well as industry news on the latest developments impacting modular construction. As always, if you have any questions, concerns, or ideas, please reach out to the MBI staff to share.

Thank you for your continued support of our industry trade association.

Sincerely,

Roland Brown

Ramtech Building Systems
MBI Board Chair
Thank you to our 2019 MBI Corporate Sponsors

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World of Modular 2019 Conference a Record-Setting Success

The Modular Building Institute’s 2019 World of Modular attracted a record crowd of over 1,000 attendees from more than 20 countries. The event featured more than 30 breakout sessions focused on a range of topics such as manufacturing efficiencies, engineering and design of modular buildings, legal, insurance and regulatory issues, case studies, and business development topics.

In addition to the breakout sessions, three-time Super Bowl Champion and leadership expert Darren Woodson and Economist Anirban Basu gave keynote speeches. MBI recognized Bostjan Jevsek, CEO of IteraSpace, and Paul Bonaccorsi, Managing and Operations Director of Intelligent Offsite, as Volunteers of the Year for co-chairing and spearheading the formation of MBI’s European Council.

Chris Peterson, President of Satellite Shelters, Inc., was awarded the Outstanding Achievement Award which recognizes an individual’s commitment to MBI and the commercial modular building industry. MBI also inducted Gerry Holthaus, Chairman of the Board of WillScot, into the Hall of Fame for his 25 years of service to the industry.

The Awards of Distinction contest
highlighted 125 modular projects with winning entries from the U.S., Canada, Argentina, Chile, Poland, Burkina Faso (West Africa), South Africa, South Korea, and Australia. NRB, Inc.’s Adi Development - Valera Sales Center won Judge’s Choice, Greatest Renovation, and Best of Show for Green Buildings. Horizon North took home the honors for Best of Show in the Relocatable Buildings category while a healthcare project by Axis Construction and NRB, Inc won Best of Show in the permanent construction category.

Plans are already underway for next year’s World of Modular Conference to be held at the Rosen Shingle Creek Golf Resort in Orlando, Florida from March 9 - 12, 2020.
THERE IS SIMPLY NO GREATER TO REACH KEY PARTNERS IN THE OFFSITE CONSTRUCTION INDUSTRY!

The Offsite Construction Expo offers a focused presentation of the abilities of offsite construction across all markets.

It features exhibits from offsite construction contractors, traditional contractors that have integrated offsite methods, offsite factories, transportation companies, architects, engineers, BIM suppliers, materials suppliers, and consultants of all types of offsite construction processes.
New design and construction approaches are changing modular construction’s previously bad reputation for limiting architect’s design creativity. When done thoughtfully—through early collaboration with fabricators—architects can create unique designs that address a range of client needs with modular construction.

From quality and safety to schedule efficiency and sustainability, modular building has a lot to offer owners and project teams. Learn more about the variety of benefits of modular construction with the new AIA Modular and Off-Site Construction Guide.

The Modular and Off-Site Construction Guide serves as a primer on the modular approach for architects. It includes value and opportunities of modular design, pitfalls designers should be wary of, and case studies that exemplify successes and obstacles.

The document was a collaboration between AIA and the National Institute of Building Sciences Offsite Construction Council, currently chaired by MBI Executive Director Tom Hardiman.

The resource is available to download at www.aia.org.
International Code Council to work with Industry on development of new ANSI Standards

As an ANSI accredited standard developing organization, the International Code Council (ICC) is partnering with the Modular Building Institute (MBI) in the development of two new comprehensive standards.


ICC 1200-202X addresses all facets of the off-site construction process including: planning; designing; fabricating; transporting; and assembling commercial and residential building elements.

ICC 1205 – 202X addresses the inspection, approval and regulatory compliance of off-site residential and commercial construction components and their assembly and completion at the final building site. This includes: permitting; in-plant and on-site final inspections; third-party inspections; the role of Industrialized Building Departments, state modular programs, and the Authority Having Jurisdiction.

These standards include componentized, panelized, and modularized elements but will not apply to HUD Manufactured Housing or “tiny homes.”
MBI and the International Code Council Collaborate to Publish Guideline for the Safe Use of ISO Intermodal Shipping Containers Repurposed as Buildings and Building Components.

More than 30 million ISO intermodal shipping containers are in use around the world today. These containers were built to ISO standards and maintained to standards defined by the International Maritime Organization’s (IMO) “Convention for Safe Containers.”

New or used, containers are now repurposed at a pace that makes their reuse a multi-billion-dollar global industry. Containers are regularly repurposed and converted into International Residential Code and International Building Code occupancy uses. As a building material, the applications are widely diverse as is the extent to which the container is used as a structural building element.

Local jurisdictions and state administrative programs are reacting to the growing trend of shipping container repurposing but can be behind in terms of regulations and compliance. This ICC Guideline is intended to help state and local jurisdictions as well as owners, architects, builders and engineers in their assessment as to how to design, review and approve shipping containers as a building element.

The Guideline can be purchased in the ICC’s bookstore at www.iccsafe.org
Member News
ENGIE North America Inc. today announced it has acquired Systecon LLC, a leading complex modular solution provider for customers in a broad range of industries for mission-critical data center, commercial, industrial, hospital, government, education, and hospitality industry projects. Headquartered in West Chester, Ohio, the company was founded in 1949 and has more than 85 employees.

Following three other recent acquisitions of prominent mechanical and electrical service providers in the U.S. – a portfolio of six mechanical service companies from the Talen Energy Group in addition to the Unity International Group and Donnelly Mechanical – the Systecon acquisition continues to strengthen ENGIE’s capacity to deliver best-in-class mechanical service, maintenance, construction, commissioning, and energy solutions in North America.

ENGIE, the number one provider of energy services in the world, is focused on continued growth across North America, uniting leading-edge mechanical and electrical contracting solutions with its existing portfolio of energy supply, energy optimization, and building modernization offerings to commercial, industrial, and public-sector customers.

“ENGIE North America has taken a strategic approach to integrating outstanding mechanical and electrical companies into our comprehensive energy service model. Systecon built a solid reputation across the United States, having worked on more than 5,000 projects combining a unique custom, modular design plus factory-assembly approach that accelerates construction schedules, is less expensive, and can be safer than solutions constructed on-site for customers,” said John Mahoney, President and CEO of ENGIE’s Services businesses in North America. “We’re excited to welcome Systecon and its employees into the ENGIE North America family of companies to continue to strengthen our range of services for customers across the U.S. and Canada.”

Systecon CEO and President Marty Tierney shared excitement over the opportunity to build on Systecon’s legacy of achievement as a new part of ENGIE: “Systecon is ready for the next chapter of our company’s success story. By leveraging the interconnected network of other successful ENGIE teams, we can expand on our unique approach to delivering modular HVAC and mechanical contracting solutions – creating a seamless, sustainable energy services model for our valued customers,” said Tierney.

“The resources that ENGIE can provide as we continue to grow together make this transition a very exciting, positive opportunity for Systecon.”
The Department of Housing Preservation and Development (HPD) has announced plans to build a 167-unit modular housing block in East New York, Brooklyn. From Think! Architecture and Design, the building includes a mix of studios, one-, two-, three-, and four-bedroom units. In addition to a large community area, there will also be a new medical clinic and supportive services for homeless New Yorkers.

The development team also includes Thorobird Companies and Bangladeshi American Community Development and Youth Services, a non-profit organization that focuses on improving the lives of immigrants, women, and low-income residents primarily of Bangladeshi descent. FullStack Modular, a Brooklyn-based company, will oversee fabrication of the modular units for 581 Grant Avenue.

“FullStack Modular is honored to be chosen by the City of New York to help prove the efficiency and cost predictability that modular housing can bring,” said FullStack Modular founder and CEO Roger Krulak.

“We are also proud to be part of an all-star NYC-based development team with deep roots in Brooklyn, and are excited to have a factory humming with good-paying jobs for New Yorkers.”

Construction is expected to start in 2021 and end in mid-2022.
CHEHALIS, WASH. — Pacific Mobile Structures, known for leasing and selling exceptional mobile office space and building innovative modular structures throughout the Pacific Northwest, California, and Texas, today announces the completion of its acquisition of Riverside County-based organization Golden Office Trailers.

Located 70 miles north of San Diego, Golden Office Trailers focuses heavily on the customer experience, serving a variety of segments including commercial construction, government, education, agricultural, and industrial markets with temporary and permanent office space.

“The acquisition of Golden Office Trailers provides Pacific Mobile with the opportunity to further serve customers in expanding markets,” said Garth Haakenson, CEO, and president, Pacific Mobile Structures. “The acquisition aligns with our strategy of providing high-quality mobile office and storage products that are delivered quickly and easily, resulting in superior customer experiences. We are very excited about adding another location in Southern California that is geographically complementary to Pacific Mobile’s service areas.”

Pacific Mobile’s Sean Butler, chief operating officer, added: “Over the next six months, Pacific Mobile will integrate Golden into its operations. With most of the Golden units currently out on lease, Pacific Mobile is committed to ensuring a seamless transition for all customers involved as we significantly increase our rental fleet while also adding several industry veterans to the team. We respect the proud traditions of Golden Office Trailers, which is known for its expertise in relocatable office space solutions and making customer service its top priority.”

Golden Office Trailers President, Hal Woods saw an opportunity 45-years ago to build a business that would serve the needs of the commercial modular construction industry. Woods commented, “The time has come for me to retire and I am excited for the incredible adventures ahead. It has been an honor to work with so many great people, and I am confident that with the acquisition, our customers, vendors, and employees will receive the same great commitment to service excellence that they have grown accustomed to.”

With the addition of Golden Office Trailers’ headquarters in Lake Elsinore, Calif., Pacific Mobile Structures now has nine branch locations in addition to its corporate headquarters in Chehalis, Wash., and two workforce housing facilities in Texas.
Horizon North Logistics Inc. Announces Completion of Strategic Acquisition of NRB Inc.

CALGARY, APRIL 1, 2019

PRNewswire/ - Horizon North Logistics Inc. ("Horizon North" or the "Corporation") (TSX: HNL. TO) announced today that the Corporation has completed its previously announced acquisition (the "Acquisition") of NRB Inc. ("NRB"). Acquisition of NRB, a full-service modular construction provider based in Grimsby, Ontario, has been completed.

"The integration of these two companies leverages the stability of our balance sheet to immediately provide Horizon North with manufacturing capacity in Southern Ontario, a significant next step in our pan-Canadian growth strategy," says Rod Graham, President and Chief Executive Officer of Horizon North. "Like our locations in Kamloops, Aldergrove and Calgary, the NRB facility is strategically located near major transportation routes and a diverse labour pool. That location, coupled with an
expanded product portfolio and the unified expertise of our two teams, should have us well-situated to provide industry-leading, turn-key modular solutions across the country."

“The expansion of our product portfolio is a key aspect to this integration and Horizon North believes it is well-positioned to capture multiple end markets in modular construction,” says Joseph Kiss, President of Horizon North’s Modular Solutions business. “Horizon North’s expertise in wood-frame modular structures will expand east, providing solutions for affordable social, student, senior and First Nations housing, in addition to hotels, commercial space and single and multi-family homes. At the same time, NRB’s expertise in steel-frame, non-combustible modular structures will expand west, including facilities for health care, recreation, and education purposes, as well as retail, hospitality and utilities structures.”

“2019 marks our fortieth year in business and we look forward to the next chapter of NRB’s journey with Horizon North,” say Bob and Craig McNeil of NRB.

“This integration will expand our capabilities introduce the brand to customers across Canada, meaning continued employment for those who are part of our NRB family. For the past 40 years, we have been guided by values of teamwork, professionalism, innovation and integrity, and those commitments to customers will not change.”
Governor Abbot Reappoints Ramtech’s Roland Brown to the Texas Industrialized Building Code Council

The office of Texas Governor Greg Abbott has announced the reappointment of Roland Brown, Ramtech Building Systems’ Vice President of Design and Development to another term on the Texas Industrialized Building Code Council. Originally appointed by former Governor Rick Perry in October 2010, Mr. Brown currently serves as the Presiding Officer for the 12 member council which serves as an advisory board for the Texas Department of Licensing and Regulation on issues related to the regulation of the industrialized housing and commercial building industries.

Mr. Brown of Midlothian, Texas is the vice president of Design and Development for Mansfield Texas-based Ramtech, an industry leader in the manufacture, installation, and site development for relocatable buildings and permanent modular construction. He also serves as the government affairs chairman and vice president-elect for the Modular Building Institute, an international nonprofit trade association serving the commercial modular construction industry. Mr. Brown began his career in the commercial modular industry in 1981 and is a member of the International Code Council where has contributed as an advocate to addressing code and compliance issues for the modular industry.
Cubix Park North in Seattle, WA from Jackson|Main Architecture, Guerdon Modular Buildings, DCI Engineers, and owner-developer NexGen Housing Partners.
Case Studies
NYC Health Care Facility Opens Nine Months Ahead of Site-Built Schedule

At MBI’s recent World of Modular Conference, more than 125 building projects were entered in the Awards of Distinction Contest. Participants at the event selected the Gotham Health, Vanderbilt Family Health Clinic as the “Best of Show” for all permanent construction projects. With Axis Construction serving as the general contractor and NRB, Inc as the modular fabricator, the nearly 20,000 sq. ft. facility was open in just 322 days – not an easy feat for a project in New York City. The owner estimated that using modular construction saved nine months on the overall schedule.

The Vanderbilt Family Health Center is the first new healthcare facility constructed on Staten Island in over 10 years and is strategically located in a neighborhood that has the greatest and most convenient access to mass transit for patients and staff. The building
incorporates Clinical Programs including Pediatrics, Women’s Health, Ophthalmology, Podiatry, Radiology, Diabetes Care as well as Behavioral Health, all meeting the stringent NYC building codes and Department of Health regulations.

The building blended the right mix of architectural, structural, mechanical/electrical features while maintaining strict adherence to budget requirements, critical to the success of the project, as it was funded by New York City. The building features a two-story curtain wall entry system allowing natural light to fill the entryway, factory applied thin-brick exterior with full parapet, ceramic tiled toilet rooms and clean, smooth interior finishes of the offices and clinic spaces for ease of maintenance.

The non-combustible design is a structural steel post and beam assembly with light-gauge infill and pre-poured concrete floors in a composite steel deck to help achieve sound deadening and fire ratings. The customized facility was built completely together at the plant as a two-story structure to ensure precision fit and finish of all features and systems, resulting in a shorter site installation time and reduced on-site activity and disruption to the community.

Once completed, the building was deconstructed and loaded to transporters. This process allowed the building to arrive with all the exterior brick installed as well as
a high level of completion on the interior, reducing site completion time significantly. The building was designed with minimal interior columns to allow for maximum flexibility in use. Each module was designed with engineered lifting lugs for fast and simple offloading on to the foundations and a more efficient stacking process meeting exacting tolerances.

NYC Health & Hospitals wanted to minimize disruption to the local residents as the site chosen was in a residential neighborhood. By utilizing “off-site” construction not only were they able to open the facility, treat patients and generate revenue more than nine months ahead of a conventional construction schedule, but also significantly reduced neighborhood disruption. Building this facility in a controlled environment and away from the site helped reduce time and costs in project management and general conditions, allowing NYC Health & Hospitals to meet the budget set for this capital project.

Logistically the project site presented numerous challenges during the delivery and installation phase of the project. Cooperation and careful planning between all stakeholders, as well as the use of a 600-ton hydraulic crane, allowed the building to be installed in just six days with minimal impact to the community.

MBI and Clemson University introduce a NEW book for modular building professionals:

**Introduction to Commercial Modular Construction**

The Modular Building Institute (MBI) along with Clemson University developed Introduction to Commercial Modular Construction over two years with the goal of introducing the reader to an innovative and exciting construction method. This book discusses the modular building process compared to traditional site-built construction and is designed to help the reader understand terminology and concepts of modular building including client needs, design, fabrication, transportation, and installation.

ORDER YOUR COPY THROUGH MODULAR.ORG TODAY!
Early Check in with Modular Hotels

It's common knowledge that modular construction can result in a shorter overall construction schedule. But as more and more modular hotels come on line, the cash flow generated from that earlier occupancy is fueling tremendous interest from the hospitality sector.

This year, MBI had to create a new category in its Awards of Distinction contest just to accommodate all the modular hotel projects submitted. The big winner in this new category was Stephen B. Jacobs Group, an architect firm based in New York City for their citizenM New York Bowery Hotel.

Fabricated by Polcom Modular, this 20-story, 100,000 sq. ft. hotel is the tallest modular hotel in the world. Located in New York’s Lower East Side, the hotel was originally designed as a conventional poured-in-place concrete building. But the client, citizenM, decided to have the firm redesign the hotel using modular construction.

The hotel consists of 300 guestrooms comprised of 210 modules, a majority being doubles (guestroom-corridor-guestroom). The closed and controlled environment of a factory allowed for an efficient build and a higher quality of finish in the construction of the hotel guestrooms. The guestrooms were completed within four months in the factory. Each guestroom was completely fitted out with plumbing fixtures, lighting, furniture, and finishes before delivery to the site. The only interior items of the guestrooms that needed to be installed on-site were the mattresses and television.

The ability to construct 15 floors of guestroom modules in a factory simultaneously as the base building site work was being done led to a shortened construction schedule;
therefore, cost savings. In addition, the hotel was designed with only two guestroom types: a typical room and an accessible room as required. A typical guestroom is only eight feet wide by 20 feet long. The efficient layout of compact repetitive modules maximizes the number of guestrooms the site can provide and so, a higher profitability for the hotel.

While citizenM may be the tallest modular hotel, it’s the Marriott Corporation who have fueled this growth. In 2017, Marriott announced that it was expanding its modular construction initiative with a goal of 40% of future hotels built in this manner.

One such recently completed project was the Marriott AC Nulu in Louisville, Kentucky. Manufactured by Champion Commercial Structures, this 67,000 square foot hotel was completed in only 259 days! This project was built as a hybrid with both modular and conventional construction. The site built first-floor allowed the taller ceilings for the back of house and reception spaces, while still allowing the project to be built with a traditional slab on grade approach.

Time was the deciding factor for the developer and city of Louisville in choosing modular construction for this hotel. The hotel was able to open in the Spring of 2018, just in time for the Kentucky Derby.

“There’s a movement not just in the hotel industry but across other disciplines that we’re starting to see a trend ... you can build your projects faster, produce higher-quality rooms and lower cost in a factory-style development,” Marriott International Chief Development Officer Eric Jacobs told Bisnow at the Americas Lodging Investment Summit at the JW Marriott in downtown Los Angeles.

without greater adoption of industrialized processes such as modular construction.
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Harrison Street Oasis, located in Oakland CA, aimed to provide a home for two emerging and local retail brands, Equator Coffee - a premium coffee retailer - and Urban Remedy - a boutique health food and beverage store - within a rapidly transforming downtown urban location.

The project developer saw an opportunity to transform a tiny back yard space of a remodeled building into a raised courtyard flanked by two custom commercial modular units fabricated from repurposed shipping containers. The retail units focus their energy into the public courtyard creating an intimate gathering space with tables, chairs and shade structures to provides a welcome oasis for customers and residents alike.

The project was embraced by the City of Oakland and its residents, who have embraced ideas like ‘Urban Acupuncture.’ The utilization
of “forgotten corners” in dense urban locations to create intimate human-scale amenities that provide life and security to the streets has become a model for many other projects currently in the works.

The project was built by UrbanBloc, Inc. a northern California based container modification company, with design and engineering performed by R & S Tavares Associates. This 570 sq. ft. project took just over 100 days to complete.

Both units were constructed to become models for future roll-outs. Studies and tests were conducted both digitally and on the factory floor with the clients to define retail environment, workflow efficiency, and optimal customer and staff interactions.

Custom requirements and tolerances for equipment and infrastructure within such a constrained envelope that needed to be integrated within the overall fabrication system and then finished to an extremely high-aesthetic fit and build quality. The units were constructed to be Plug-and-Play site ready, with only foundation and utility connections in the field. All finishes and assemblies were required to withstand the flex of road transportation yet be seamless and tight as required by Environmental Health standards for food use.

Cost Effectiveness

In comparison to brick and mortar build-outs, the clients report a savings of around 50%. This is partially in design/ build costs and partially due to the revenue generation as a result of the extremely quick timeline. Looking at future projects, the savings are expected to be even greater as the prototyping efforts, permitting and production layouts have been already invested in the units and captured by our procedures.

“We see the use of modified shipping containers as building components growing in the near future,” said MBI Executive Director Tom Hardiman.

That is one of the reasons we worked with the International Code Council to develop more resources for developers and code officials interested in this process.”
Modular construction is a process in which building components are constructed at an offsite factory under predictable operating conditions, using the same materials and engineered to the same building codes, delivered and installed in about half the time as conventional construction.

MBI is the international nonprofit trade association serving the commercial modular industry. For over 35 years, MBI has been the trusted source of information on the modular construction industry.

For more information, visit modular.org
Relocatable Transitional Housing Project Wins MBI’s Best of Show for Horizon North Logistics

For VAHA and the Government of British Columbia, modular construction offered a way to quickly increase the supply of affordable housing with no significant impact on cost when compared to site-built construction. The reusable, reconfigurable design and multi-point foundation system allows for the entire building – from ramps to recycling containers and paving stones – to be demobilized and reassembled at another site in the future at a fraction of the time and cost of constructing a new building.

The three-story, 25,139 sq. ft. transitional housing building features 52 single-occupancy suites. Each 320 sq. ft. suite contains a bathroom, kitchenette, and private living space, with six wheelchair accessible units. The building’s interior design features a central
amenity space with a commercial kitchen and common laundry and lounge facilities to encourage resident interaction. A modern, simple exterior design was chosen so that the building could be part of any community when the temporary units are eventually relocated. A flexible module arrangement allows for the addition or removal of units to fit sites of different sizes. The exterior façade emphasizes the building’s modularity with an extruded grid over the joints of the individual modules creating a recessed window wall for each unit. A unique 8,000 sq. ft butterfly roof with extended overhangs gives shape and interest to the roof plane, referencing the building’s urban, low-density location.

Due to its temporary nature, the choice was made to set the building on an innovative, reusable, entirely above grade multi-point foundation system, which will allow the modules to be relocated and reconfigured on different sites in the future. The foundation system also contributes to the building’s smaller construction footprint by requiring less site preparation, minimizing ground disturbance and setting the stage for a quick 45-day building demobilization and reassembly.

The building is designed in accordance with client requirements for meeting the province’s Energy Step Code, achieving specific energy targets set by the City of Vancouver and BC Housing. All suites are designed to be self-contained, including an independent hot water tank and heat recovery ventilator. Efficient lighting, plumbing, and mechanical features were incorporated that exceed typical building code, with consideration for Step Code 3, BC Housing Design Guidelines and City of Vancouver requirements.

Several other energy efficient and environmentally conscious aspects were incorporated into the building’s design to reduce long term environmental impact and day-to-day operating expenses, including LED light fixtures, high-efficiency plumbing fixtures, energy efficient heat recovery ventilators, energy efficient appliances, and abuse resistant drywall.

Horizon North delivered this project in 161 days! For this project, the company won the “Best of Show” for relocatable buildings at MBI’s recent World of Modular Conference.
Modular Construction to the Rescue! Oncology Center Opens Sooner, Serves More Patients.
The Inspira Oncology Center in Woodbury Connecticut urgently needed to service cancer patients in the surrounding communities. The decision to develop a new type of facility comprised of modular technologies allowed for a faster construction to more quickly deliver medical treatments to those in need. It was determined early in the design process that the patients and their families’ health and comfort would take precedence. Considering the schedule and the speed at which the center would start providing services, the owners concluded the facility could be designed to reflect a higher level of design and construction quality.

The oncology center was comprised of various spaces common to most medical facilities such as offices, reception area, conference rooms, waiting rooms, exam rooms, lounge and supporting facilities. The center was given an open feeling by using a clerestory and entrance curtain wall to maximize natural lighting. Innovative and attractive facades were implemented around the exterior of the building to advance the buildings aesthetics. Unique art sculptures were commissioned and located around the facility amongst the beautiful landscaping surrounding the center.

Additionally, this center included a CT SIM Room to allow for quicker patient imaging at the center and a LINAC Room to conduct proton therapy where high energy x-rays or electrons are used to combat tumors and destroy cancer cells. Specialized control rooms adjoining the respective therapy spaces were incorporated in the construction.

Sustainable Modular Management Inc., with support from fabricator Southeast Modular Manufacturing, was able to work with Inspira Health Network Group to design, develop, and finally construct a highly technical, sophisticated, innovative and welcoming medical center in less than one year!
On Location with Modular Construction – Film Studio Chooses Modular to Meet Deadline and Budget.
The Hawaii Film Studio is a film studio known for its work on TV shows and movies such as Hawaii Five-0 and Jurassic Park. Initially, the proposed 7,000 sf office project went over budget using conventional construction, leading the Hawaii Film Studio to consider modular construction. Additionally, due to tight time constraints, the general contractor, G70, informed the client that in-factory construction was the only way to meet the project’s compressed timeline. The technical innovation of having the building constructed at the same time as the site was being developed was paramount to saving time and providing the facility before the start of filming the new season of Hawaii Five-0.

After looking into modular, the studio realized that WillScot’s modular solution provided them with the functional facility they needed while leaving enough room in their budget to cover costs for contamination control, construction waste removal, fluid leakage from trucks and equipment rentals. Additionally, choosing modular ensured there would be minimal onsite clean up as most waste materials and hazardous fluids would be handled at the factory some 2,500 miles away at the Blazer Industries facility in Oregon.

The designers worked with the factory to address all of the technical needs of the film studio’s specialized departments, including wardrobe, props, art, production, and graphics. The building was completed at the plant to save time and comply with noise requirements at the site. The building was also designed to allow future expansion, providing the ability to move buildings around and create new configurations as needs changed.

The building is located near the entrance to the historic Diamond Head State Monument. As such, the state required the office to blend with the surrounding landscape. The building was finished with earthy colors that matched the volcanic terrain.

Inside, the facility was customized with PTAC cool/heating systems to maintain humidity control and prevent damage to the film crew’s wardrobe, prop production and storage. It was also outfitted with custom electrical components and lighting to support the film crew’s computer and design needs.

In all, the project was completed in 275 days and in time for filming the new season of Hawaii Five-O!
Making the Grade: Modular Construction Passes the Test!

The education market accounts for 25 to 30% of all revenues generated annually by the modular industry in the United States. But if you are like many people, when you hear the words “modular” and “education” you think of relocatable classrooms – also known as classroom trailers.
While it’s true the modular industry builds, sells, and leases thousands of relocatable classrooms annually, the industry also delivers many modular projects and even entire campuses. Here’s a few projects that may change your perception.

**OLYMPIC COLLEGE SAGE CLASSROOM USES 40% LESS ENERGY**

Olympic College needed additional classroom space to accommodate the district’s increasing enrollment. A Smart Academic Green Environment (SAGE) classroom was built in a controlled factory environment in less than 30 days to meet the district’s needs. The college turned to Pacific Mobile Structures for help.

As a collaboration with Blazer Industries and Portland State University, the SAGE classroom combines the latest thinking in healthy learning environments and is designed with affordability and sustainability in mind. The 42x64 feet classroom building features three main classrooms and a conference room. Each classroom has a set of clerestory windows strategically placed to allow up to 4 times as much natural light. An interior work area was built with ceiling-height windows, to provide continued natural light. The designer’s choice of interior and exterior paint provided a seamless blend with the existing college landscape and structures while being environmentally safer than the average classroom.

The designers incorporated a powerful, yet energy-efficient Energy Recovery Ventilator.
The ventilator system pumps 600 cubic feet per minute of fresh air into each classroom. This provides an oxygen-rich atmosphere designed to promote a better overall learning environment for students.

The system uses mini-splits which are central to the heating and cooling of the building. Paired with fans throughout the building, fresh air is constantly circulating. Walls made of BIOPCM (Phase Change Material), contribute to the classroom’s high energy efficient ratings. The honeycomb membrane of the material stores hot and cool air to release as needed. When the temperature in the building fluctuates the air is released to create the optimal temperature. Air conditioners are among the highest energy users, and the building components all work together to reduce the draw of electricity.

The SAGE classroom uses 40 percent less energy than a standard modular classroom. With high-quality, environmentally safe building materials, the SAGE classroom delivers lower maintenance costs and an increased building life cycle. Having the manufacturing and installation phases of modular construction
occurring almost simultaneously represents efficiency unmatched in any other type of construction.

While Olympic College secured all the necessary construction permits, the manufacturing process began. Blazer Industries assembled all the green building components from walls to windows, while Pacific Mobile Structures completed the installation onsite. In addition, Pacific Mobile Structures ensured all the site work development including pouring the foundation and completing landscaping was done to blend into the forest location. The building was positioned to take advantage of the sun’s movement, saving on electricity costs. The improved HVAC systems provides healthier air. In all, the project was completed in just four months!

MURRAY MIDDLE SCHOOL – MODULAR SAVES THE DAY – AND THE BUDGET!

Originally designed to be a site-built conventional project, Murray Middle School in Ridgecrest California, came in astronomically over budget resulting in a reassessment and redesign. Meehleis Modular stepped forward to undertake this immense challenge and after a short period of time was able to significantly reduce costs and bring the budget back under control. By fabricating large portions of the project in their Lodi facility, the company nearly eliminated material
waste and increased quality control directly resulting in cost savings.

A joint project between Sierra Sands School District, the Department of Defense and the Navy, Murray Middle School is a complete campus that includes standard classrooms as well as science classrooms, a media center, gymnasium, cafeteria plus kitchen, and administration facilities.

Because the site is so close the Naval Weapons Station China Lake, the campus also needed to meet Anti-Terrorism Force Protection (ATFP) standards.

The campus layout was designed with protection in mind the campus layout while doubling as environmental protection. It provides a defensible space and the simple exterior features reduce damage from potential threats. The site was planned to provide protection for students and protection from which the harsh climate Ridgecrest and neighboring Death Valley are known. The horseshoe layout of the campus shields the students from the winds, which can be high during certain parts of the year and ample shade structures were employed to combat the heat which can reach
above 115 degrees Fahrenheit.

A groundbreaking achievement, the campus at Murray Middle pushes what modular construction to the limits. Meehleis Modular partnered with Protective Technologies and EXL Structural Engineers to design a structure that meets Division of State Architects (DSA) requirements and the Department of Defense’s ATFP (UFC 4-010-01) blast requirements. The result is one of the first blast resistant modular campuses in California. Roof overhangs were omitted to reduce blast forces on the buildings and specialty doors and windows were implemented to provide the upmost security.

The 68,000 sq. ft. facility was completed in just 319 days.
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