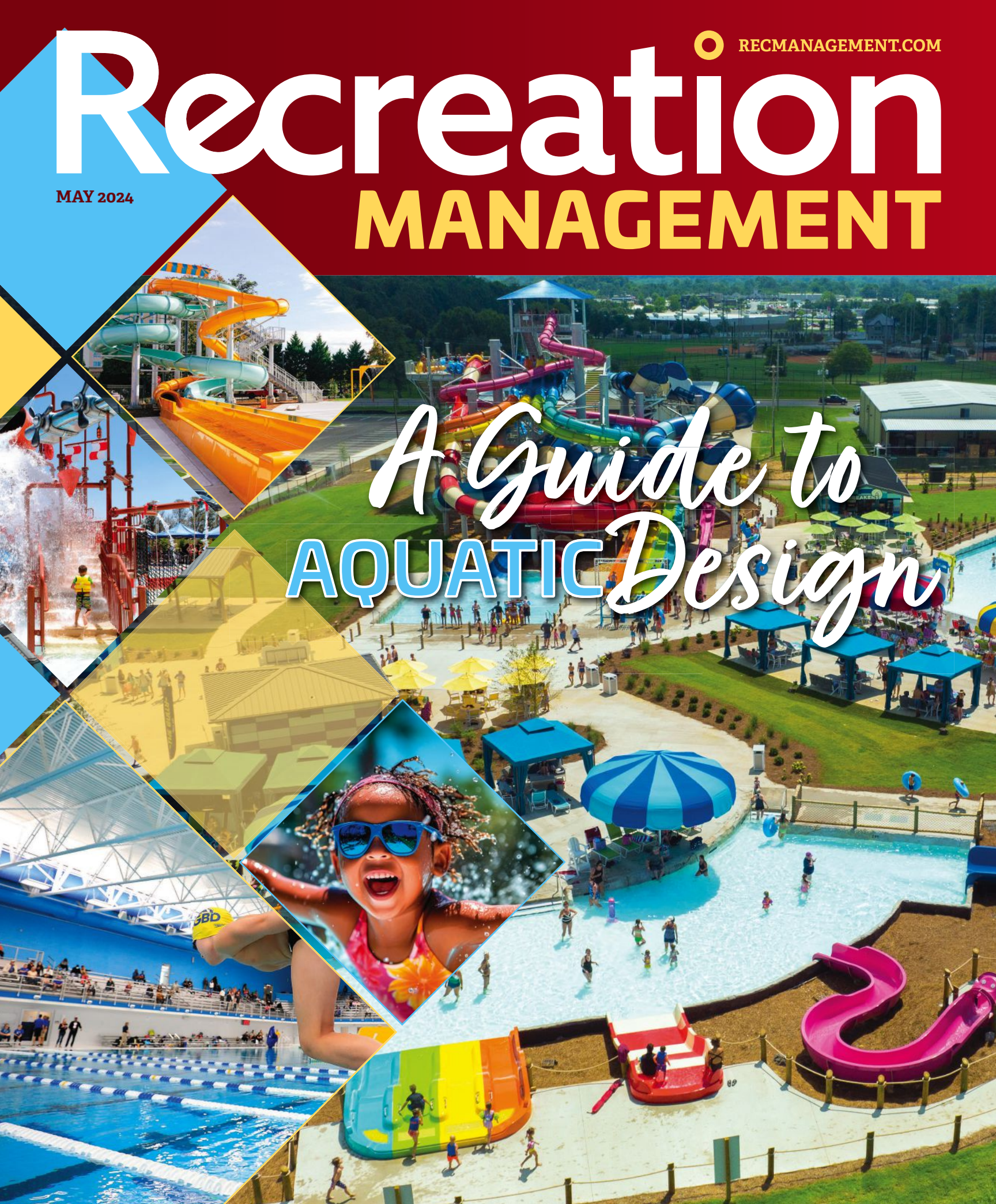


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# A Diversity of Aquatic Offerings



**EMILY TIPPING**  
*Editorial Director*  
 emily@recmanagement.com

**F**rom community aquatic centers to natatoriums and beyond, aquatic facilities are increasingly being planned to meet a wide variety of community wants and needs. Natatoriums with party rooms alongside designated locker spaces for competition. Aquatic parks with lazy rivers doubling as an exercise venue for early-morning water walkers. Facilities with myriad recreational and fitness offerings, in addition to the sport of swimming, and the basics of water safety.

Creating innovative facilities that can pivot to meet all these needs is the job of your design team. We talked with aquatic design and renovation professionals across the country to gather their latest insights, ideas and suggestions to help as you turn your aquatic dreams to solid plans.

From municipal aquatic centers

adding waterpark-like elements and multipurpose natatoriums to planning renovations that make more variety possible, we've got it covered in these pages. Whether you've got big plans for your aquatic facility, or you're still in the imagine-if stage, we hope you find some helpful direction here.

Cheers,

# Contents

## FEATURES

- 10 CREATING THE 21ST CENTURY OASIS**  
 Aquatic Parks Bring More to the Water
- 20 INDOOR POOLS GO MULTIPURPOSE**  
 Natatorium Design Increasingly Embraces Flexibility
- 30 AQUATIC FACILITY REFRESH**  
 Pool Renovations Breathe New Life Into Aquatics

## DEPARTMENTS

- 6 IN THE NEWS**  
 USA Swimming Awards  
 Learn-to-Swim Grants
- 8 *in*PERSPECTIVE**  
 AOAP / The Seven Cs of  
 Successful Partnerships

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# USA Swimming Awards Grants to Learn-to-Swim Programs in 40 States



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“Swimming has its educational value—mental, moral and physical—in giving you a sense of mastery over an element, and of power of saving life, and in the development of wind and limb.”

—Robert Baden-Powell, first Chief Scout of the worldwide Scout Movement.

The USA Swimming Foundation has awarded \$780,000 in grants to 162 swim lesson providers in 40 states across the U.S. in its initial round of 2024 Learn-to-Swim Grant program

funding. The funds will provide approximately 14,500 individuals in both youth and adult swim lesson programs with the opportunity to learn the lifesaving skill of water safety.

“With the excitement surrounding U.S. Olympic Team Trials – Swimming and the Olympic Games, we anticipate an increased interest in our sport,” said USA Swimming Foundation Executive Director Elaine Calip. “We are thrilled to continue our partnership with lesson providers nationwide to keep kids and adults safe in and around the water.”

Since 2007, The USA Swimming Foundation has awarded grants to help fund youth Learn-to-Swim programs nationwide and recently expanded to include funding for adult learn-to-swim programs, when U.S. Masters Swimming moved its fundraising efforts for adult learn-to-swim programs to the USA Swimming Foundation. More than \$8 million in funding has been provided so far, directly benefiting children and adults who would not otherwise have the opportunity to learn to swim.

Youth Learn-to-Swim grants will be distributed to 124 providers across 40 states. These programs will receive \$650,000 in funding to support youth programs offering free or reduced-cost swim lessons, impacting an estimated 12,000 children. Another \$130,000 in funding will be granted to 37 Adult Learn-to-Swim providers in 24 states, reaching an estimated 2,500 adults with the opportunity to learn how to swim. **RM**



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# The Seven Cs of Successful Partnerships

BY JULIENE HEFTER



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A “partnership,” per the Miriam-Webster dictionary, is “the state of being a partner: a relationship involving close cooperation between parties having specified and joint rights and responsibilities.”

However, partnerships, in my mind, have a much broader and “friendlier” meaning. Being successful in the industry of aquatics and drowning prevention, or in any industry for that matter, takes the mindset of collaborating together with everyone to ensure that we are all meeting the needs of our constituents, communities, members, colleagues, etc. These relationships that we develop assist us all in doing and being better.

Through partnerships and collaborations, we are able to meet the needs of a wide variety of individuals. The first step in successful partnerships and collaborations is to ensure that the group or groups that you are working with have similar goals and objectives.

Through my experience I have developed seven basic requirements for partnerships or collaborations to be successful:

» **Communication:** Communicate



the goals of the partnership to ensure that all groups are on the same page. Open communication during this first step is imperative to the partnership’s success. A large part of this comes down to openness, trust and honesty in what meets the needs of everyone’s groups or organizations. Frequent discussions and updates throughout the partnership are imperative to its success. Communicating at regular intervals ensures that any adjustments may be made at any time if they are needed.

» **Collaboration/Combination:** When developing a collaboration, a discussion must take place about the best way to intertwine the organi-



zations or offerings. Partnerships are external collaborations when two or more organizations work together toward a common goal. Through these collaborations, we are able to work together to generate lots of new and exciting ideas that will assist with getting the work done.

» **Consideration:** Make sure to take into consideration the needs of all the groups involved. Their needs might be a bit different than yours, and you will want to make sure that you are open to a discussion that their needs might be a bit different than yours.

» **Compromise:** This is probably one of the most important aspects of any and all partnerships. When multiple groups are working together it is important to discuss all aspects of the project, event, etc. You want to make sure that all groups are open to making concessions to make sure that the outcomes meet most of



everyone's needs.

» **Commitment:** In the end it all comes down to a commitment to each other in order to ensure that the relationship is a positive one that benefits both or all groups. Commitment and collaborations will lead to potential improvements in regard to the outcome of the event. The discussion of common goals and outcomes at the start will make sure that the commitment is there to succeed.

» **Completion:** Successful completion of an event involving a partnership or collaboration is the perfect time to congratulate yourselves on a job well done. Take a moment to rest and relax, and then, get back to planning for the future.

» **Critique:** If this collaboration is for an actual event, ensure that you discuss the overall aspects of the partnership and adjust as needed. Although success can and does get judged by the feedback from your attendees and governing bodies, it is also judged by meeting clear goals and objectives. After an event it is imperative to discuss with your partners exactly what went well, what could be improved and changes that you might both like to see take place. This part of a partnership or collaboration will be what makes it a continued success.

Make sure that all partnerships create a win-win proposition for all of those involved. Whether they are

large groups or small, they are all important to the overall process.

I want to give a huge shout out to Adam Katchmarchi, executive director of the National Drowning Prevention Alliance (NDPA). The collaboration between AOAP and NDPA has been a huge success, and we look forward to growing our drowning prevention education and training with you. **RM**

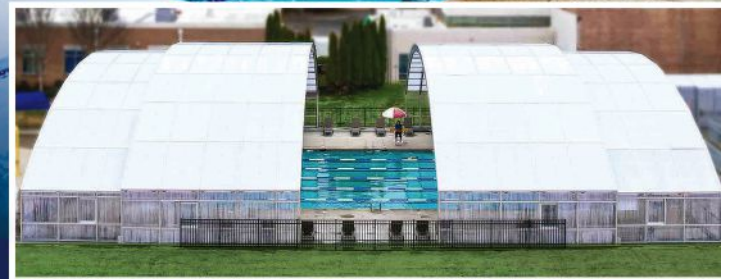
#### ABOUT THE AUTHOR

*Juliene Hefter is executive director and CEO of the Association of Aquatic Professionals. AOAP is a cutting-edge nonprofit with a mission to foster networking, education, advocacy and development opportunities for professionals across all areas of aquatics.*



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# CREATING the 21st Century Oasis

AQUATIC PARKS BRING  
MORE TO THE WATER

BY DAVE RAMONT

**M**any community swimming pools of old are continuing their evolution into aquatic parks, incorporating a range of pool types and amenities including lazy rivers, adventure and skill-based attractions, climbing walls and ninja courses, expanded splash play with interactive features and an assortment of waterslides. And pools used for traditional lap swimming and competition are also incorporated into designs, as are enhanced support spaces, all aimed at attracting a wide range of ages and demographics.

“In recent years, many owners have been saying goodbye to



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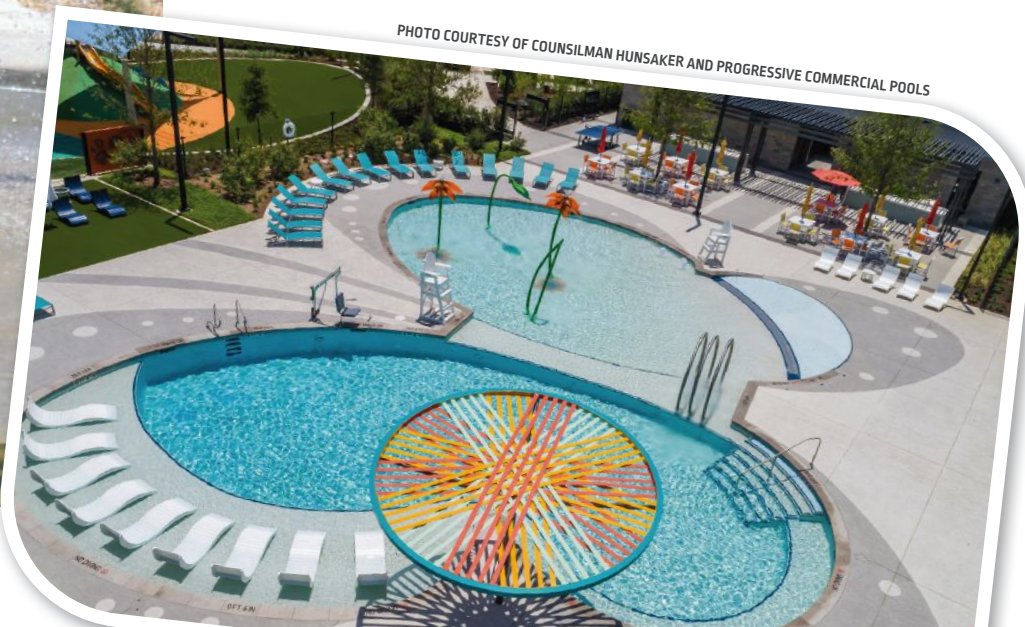


PHOTO COURTESY OF COUNSILMAN HUNSAKER AND PROGRESSIVE COMMERCIAL POOLS

traditional pools and saying hello to pools that honor every type of lifestyle,” said Jen Gerber, vice president of strategic partnerships and operations for Water Technology Inc. “To achieve this, aquatic centers are being designed with multi-programmable water that provides flexible multi-use spaces for people of all ages and abilities.”

According to Justin Caron, principal and CEO at Aquatic Design Group, municipalities of all sizes are exploring creative avenues to generate additional revenues at their facilities. “Adding waterpark-type attractions to an aquatic center not only helps offset operating costs but can act as a signature element or ‘billboard’; you can see the slide or attraction from the road, which will draw in new guests.”

To draw visitors from other communities, it’s essential to provide fresh, new, multigenerational amenities, according to Frank Parisi, COO and managing principal with Williams Architects. This might include balancing “something a little more calm and relaxing” with attractions like speed slides, racing slides, wave runners, climbing walls and obstacle courses, “allowing for interaction between generations. The challenge is dedicating water to a particular amenity. The opportunity in the design is to maximize the flexibility of that water, not only from an entertainment perspective but also incorporating health and wellness, such as resistive walking in current channels or lazy rivers.”

Sophia Young, communications manager for Waters Edge Aquatic Design, agreed that facilities often strive to be unique, potentially attracting out-of-town visitors. “To do that, communities build a pool as a regional attraction and destination spot. Trends we see when trying to design a unique facility are the variations in the slides, lazy rivers, zero-depth entries and kids’ spaces. It’s common for newer pools to possess these, however the size and thrill of each can vary greatly, often dictated by budget.”

Another determining factor is “resource requirements,” according to Lauren Ozburn, who’s involved with project management and operations at Waters Edge. “It’s important to consider permitting and code requirements in your area, as the various jurisdictions will have guidance on what types of amenities are permitted.”

“Zero-depth entry, waterslides and lazy rivers are almost synonymous with today’s aquatic centers,” Gerber added, “though they aren’t necessarily new trends. These tried-and-true amenities work for a reason; people want to be entertained. Commercial waterparks are a big influence in the municipal family aquatic center. FAC’s are making rides more exciting to keep up with users’ entertainment needs. We are starting to see adventure amenities like wave pools, surf pools, launching slides and stand-up slides, inflatable water play, adventure courses, climbing walls, etc., in municipal environments. Balancing innovation and budget/schedule should be a top priority for the aquatic design firm.”

Skill-based attractions continue to be popular with all ages, and families will sometimes choose their vacation destinations based on aquatic park attractions available, according to David Keim, director, public market business development at Aquatic Development Group. “Skill-based attractions promote repeat visitation as guests work to improve their skills,” he added.

Keim said the surfing or boogie boarding attractions are



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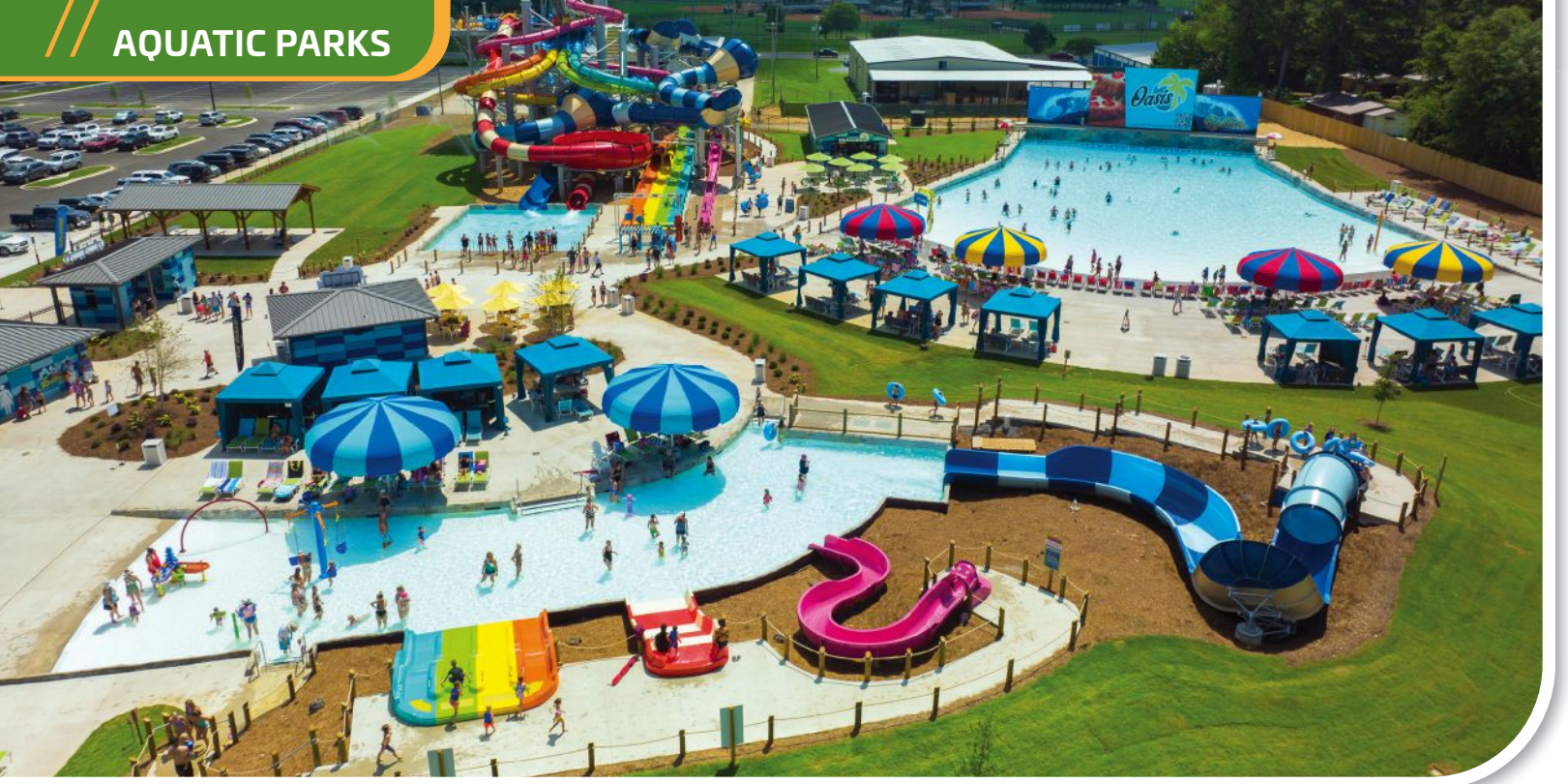


PHOTO COURTESY OF AQUATIC DEVELOPMENT GROUP

among the most popular skill-based amenities, including sheet wave surf attractions and deep-water stationary waves offering a true surfing experience. “Additionally, aquatic challenge courses (ninja-style and inflatable) are becoming quite popular, and climbing walls are available

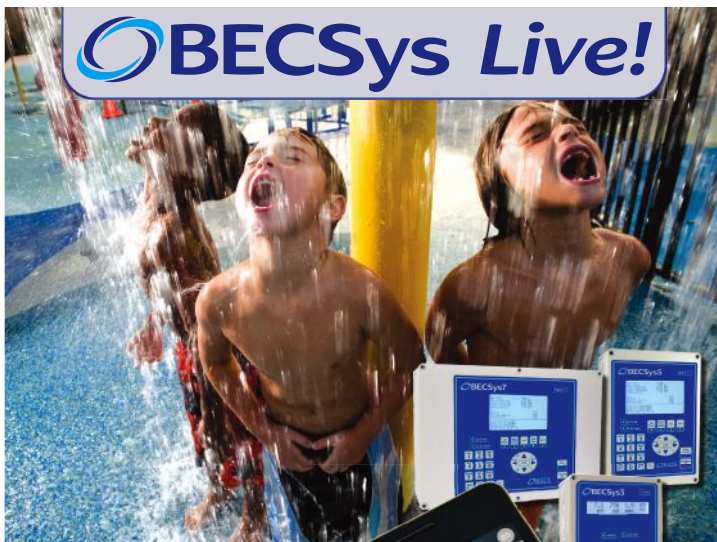
at more facilities. Of course, the tried-and-true features, such as a crossing activity, and even water basketball and volleyball, appeal to park guests.”

“Skill-based, extreme and adventure attractions are a primary factor in a facility being able to expand their geographic influence as a regional attraction and compete with other industry providers,” said Darren Bevard, principal at Counsilman-Hunsaker, which offers design, planning and operations services to the aquatics industry. He added that these types of attractions can also help attract the teen and pre-teen demographic. “We often analyze this through feasibility analysis in the planning phase of a development project. Investment in these types of features will typically have a significant impact on operational pro forma.”

To achieve the goal of being truly unique, Young said “We even see communities with multiple pools trying to make each pool distinguishingly different. To achieve this, a different purpose and theming of each facility gets considered. One pool might be more competitive swimming focused, while another might be designed for young families. Sometimes it’s a hybrid of both.”

As community pools feature bigger attractions and added activities, many still maintain traditional recreation and competition pools, offering lap lanes, swim instruction and exercise programs. “If you look closely at some pool designs with lap lanes, you’ll begin to recognize the action packed into the one space,” said Young. For example, a lap lane might transition into a deep diving well, or the area might have a climbing wall or basketball hoop, or serve as a plunge area for some slides. “From an operations standpoint, it takes planning to coordinate when lap lanes are open and when other features are available, but utilizing the lap lane area for other features allows for a flexible design.”

And what about the good old lazy river; are these still



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PHOTO COURTESY OF BARTLETT PARK DISTRICT

popular amenities as communities expand their parks? "Market research identifies outdoor, recreation-only program offerings as the highest cost-recovery model for an aquatic facility," said Caron, who added that these attractions can help differentiate facilities from other competing facilities in the region. "Additionally, river channels and vortexes are being included in at least a third of new projects with multipurpose or recreation pools as they serve as a fun attraction for all ages but can also be integrated into therapy and fitness classes."

"Lazy rivers continue to be a popular choice, but these aren't the plain vanilla rivers of old," said Keim. "Wider and shallower rivers offer increased capacity, while theming makes them special. In addition to lazy rivers, fast rivers, wave rivers and action rivers continue to gain traction."

Added Parisi, "Incorporating interactive features along the way such as deck sprays, bubblers and waterfalls will enhance the experience."

Many of these aquatic parks are also offering enhanced locker rooms and social spaces, expanded food and beverage options and upgraded materials and finish selections, which Bevard said is the case in both the

public and private sectors. "There's been a growing trend to cater to the hospitality-type experience through provision of enhancements that make the facility more comfortable, inviting, enjoyable, unique and/or trendy, and increase the patron length of stay."

Cabanas and bars can be significant revenue generators, according to Keim. "A cabana provides guests with their own semi-private oasis inside the park. Convenient cabana service provides additional revenue opportunities. Creative and slightly upscale food and beverage offerings are always appreciated. Lockers continue to become easier to access while adding to the revenue stream. Time and time again, guest surveys include clean restrooms and changing areas at the top of the list. Park layouts that incorporate uncrowded, convenient features, facilities, lockers, etc., add to guest enjoyment."

Parisi explained that in public surveys, shade is a highly-requested amenity at aquatic facilities, which can be provided both in and out of the water. "Additionally, nature-based areas like family lawns with shade, slightly removed from pool amenities, and concentration of concrete decks are also sought after."

As facilities add on various water

and non-water features, space utilization becomes even more critical. “Programming and designing a modern aquatic facility isn’t the same as it was just a few years ago,” said Caron. “More and more programs are being offered at these facilities, which requires an understanding of what works best and where it should be placed.” He said that pedestrian circulation, ease of use and amenity locations are all important considerations. “Creating flexible spaces that can serve multiple purposes is a key to any modern aquatic or recreation center.”

“Location and spatial adjacency of features, zoning of the facility with respect to age groups/user groups, events, traffic patterns and capacity analysis are all critical design considerations,” said Bevard. And Parisi pointed out that due to the recent operational demands on lifeguards since COVID, planning facilities to maintain operational efficiency has become a priority. “Creative planning to allow compartmentalizing bodies of water may reduce the operational impact from a life safety perspective.”

“The design of a facility is influenced by many factors; restroom accommodations, traffic flow or where and how chemicals and supplies are delivered are considered to optimize functionality,” said Young, who explained that day-to-day operations and guest experience are critical considerations when planning a facility. “That begins early in the process, and is considered as soon as they enter the parking lot all the way through the facility.”

In Sioux Center, Iowa, the city decided to expand its existing indoor and outdoor aquatic facilities into a larger aquatic park to serve a more diverse user base. To offer a place for young people to gather, they created the Teen Corner, placed next to age-appropriate features. “The Teen Corner is a fully-shaded circular space on the pool deck with various seating, speakers, outlets for charging devices and Wi-Fi,” said Young. “Multiple spaces in Sioux Center were created to appeal to different age demographics.”

“Creating different pockets or pods for guests to sit or hang out is a way

to satisfy the needs and comfortability of each demographic,” said Ozburn. “Programming the spaces to meet the various needs of the user groups is a key way a facility can serve and appeal to the full spectrum of age groups. This may mean offering a variety of programs at different times throughout the day or on staggering days.”

In Bartlett, Ill., a community survey found that residents strongly support-

ed the idea of improving their aging aquatic facility. And now the significantly expanded Bartlett Aquatic Center (BAC) features an eight-lane lap pool with zero-depth entry, lazy river, plunge pool with drop slide, aquatic zip line attraction, tube and body slides, spray playground, sand-play area, children’s waterslide and concessions area.

Natalie Reed, aquatics manager at the Bartlett Park District, shared some visitor favorites: “The tube slide, drop



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slide and zip line are our most popular attractions. Siblings and friends love using one of our double tubes to go down the big blue tube slide together. Everyone wants to try the zip line, both children and adults!”

The lazy river is popular for kids who can swim and adults who want to relax, according to Reed, who said they offer single and double tubes for floating. A lazy river walking class is

offered a couple times a week where participants can follow a lead instructor or walk at their own pace. “A lot of ladies on Tuesday nights will just walk and talk with their friends. The program is very popular with our community.

“The lap and leisure pool is primarily used for recreational purposes, although we do have a lap lane dedicated to adults only,” continued Reed.

“A lot of mothers and their small children love utilizing our zero-depth entrance and the spraying mushroom feature we have in the shallow end.”

A community swim team utilizes the lap pool for practices, and meets are hosted throughout the summer. Bleacher and deck seating is provided for spectators, but many parents like to set up on the grassy hill, which features shade structures.

Special events—including the Turbo Turtle Race fundraiser—are held at BAC, according to Reed. And last summer, Disney characters came to “hang out and take pictures with kids visiting the pool; it was very popular with our younger age groups. We also had yard games, a scavenger hunt and prizes to win.”

Private rentals are available, for either the full facility or just certain sections or attractions, and Reed said the concessions area is a hit. Additionally, there are three mechanical rooms: “one for the lazy river side of the facility, one for the lap pool and white slide and one for the spray playground.”

In fact, splash and spray areas are being added to many aquatic parks, according to Chris Thomas, director of marketing at a San Marcos, Texas-based designer and manufacturer of interactive water features and aquatic play equipment. He said in recent years, his industry has made creating inclusive areas a priority. “Many recreation departments and community centers are looking to create aquatic play spaces that welcome users with a wide range of developmental, cognitive and physical abilities, as well as different age groups, including older generations acting as caregivers.”

Thomas explained that splash play areas are “designed with different zones to attract a wide range of patrons using a variety of water features, water flows, spacing, sizes and colors to make the facility more accessible to users.” He said designers can create a sequence of features, starting with sensory exploration and graduating to features with increased intensity.

Gerber added that as many communities are building larger, regional aquatic facilities, they are also adding independent neighborhood splash



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# CARD AQUATICS & RECREATION CENTER CHICO, CALIF.

**H**heavy community engagement drove the design of the CARD Aquatics & Recreation Center in Chico, Calif. With an estimated completion in 2026, this center is set to revolutionize aquatics and recreation in Chico, according to Jen Gerber, vice president of strategic partnerships and operations for Water Technology Inc.

Constructed on a 10-acre piece of land, the park will embody most of the current trends in municipal family aquatic park design, with a unique blend of competitive and recreational water. In addition to a 50-meter competition pool, the site will include a recreational pool with zero-depth entry, waterslide complex, lazy river, climbing wall and indoor party rooms.

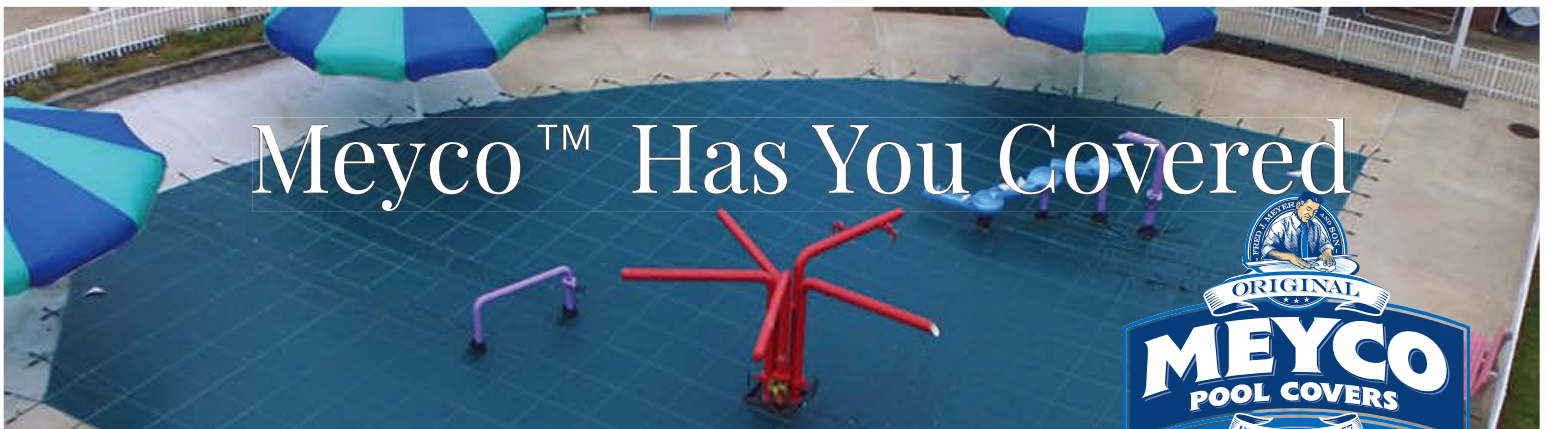
PHOTO COURTESY OF WATER TECHNOLOGY INC.



pads to ensure equitable access to aquatics. “Splash pads provide water-based recreational fun while minimizing operational costs as the lifeguard requirement is significantly reduced, often requiring no supervision at all.”

Many communities—and private entities—operate indoor aquatic parks, or a combination of indoor/outdoor, and Keim said this poses a number of unique challenges. “The introduction of pools and water features inside the building envelope raises concerns with building materials

selection, humidity and chloramine control, ventilation, isolation of the natatorium space from the dry portions of the building, separation of air handling systems, etc. Generally these concerns are addressed by a combination



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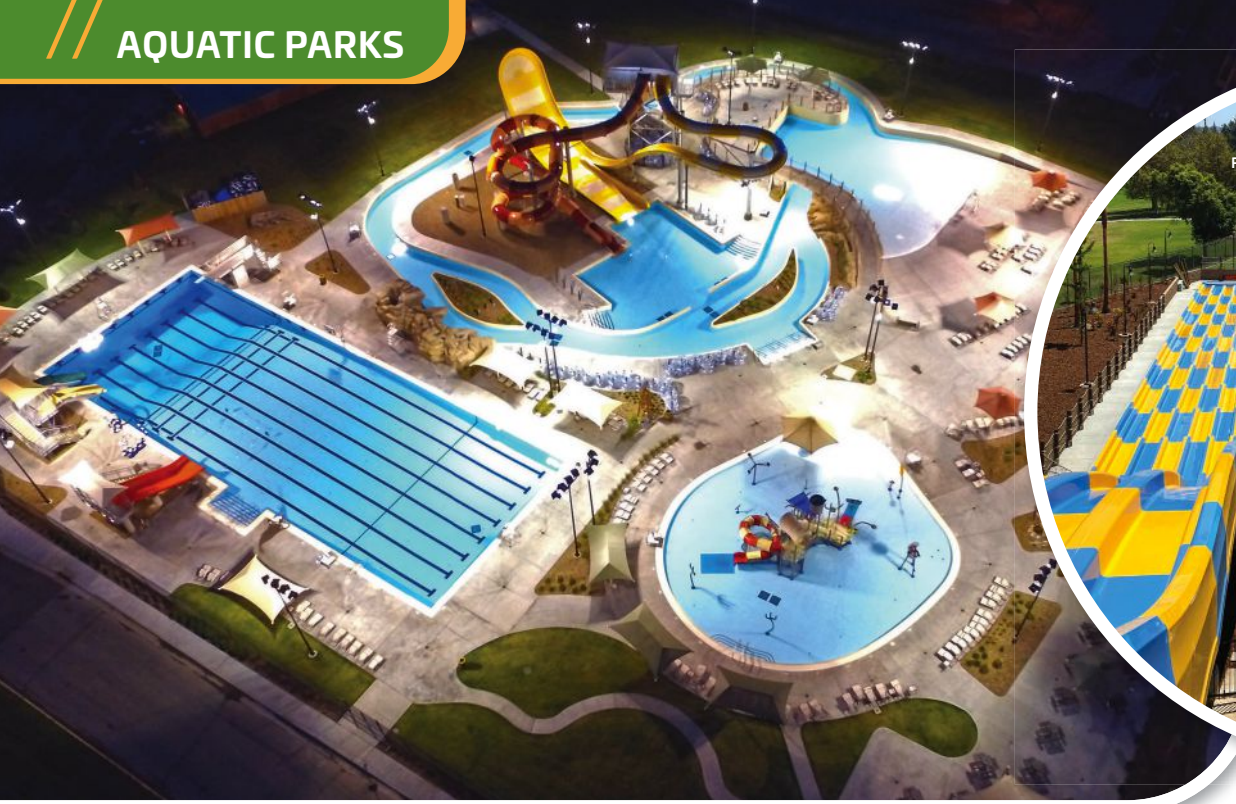


PHOTO COURTESY OF WATER'S EDGE AQUATIC DESIGN



PHOTO COURTESY OF AQUATIC DESIGN GROUP

of the architect, mechanical designer and pool designer.”

It can also be a challenge when indoor spaces are constrained, yet the “visioning is limitless,” according to Young. “We have multiple projects where the space is limited yet dense with features. It really goes back to understanding how spaces can become multifunctional, and also fully visualizing how the space will come alive in a whimsically fun, logical and accurately calculated way.”

Added Ozburn, “Oftentimes we’ll need to work with the team to establish priority areas and determine areas that have a defined spatial need and cannot scale back. From there, we add in additional spaces that are more luxury or preferred.”

And what about trends or new technologies? “Designing aquatic parks that promote inclusion for all is a trend we’re seeing more and more,” said Caron. “Accessibility to features and creating attractions that

anyone can access is paramount to the success of a facility. Automation of systems and interactivity with devices such as point-of-sale, rentals, schedules and activities are becoming increasingly expected by patrons.”

Gerber agreed that designing for accessibility has become more important. “For years, importance has been placed on designing inclusive and adaptable aquatic spaces and reducing barriers to entry,” she said. “Examples of this that hold relevance are zero-depth entry pools, wheelchair-accessible ramps, water lifts, etc.

“More recently,” she added, “emphasis has been placed not only on designing for physical constraints but rather on designing for neurodiversity too. When designing adaptable aquatic spaces, it’s wise to take into consideration sensory-friendly features such as soft lighting, muted colors, non-slip safety flooring and appropriate water temperatures.”

Modern-day aquatic parks are adding new programs in an effort to attract new guests and have them return multiple times, said Caron, and designing facilities that appeal to multiple demographics creates a destination that appeals to entire families, not just kids or swimmers only. “Parents now have a place to relax or get things done while their children have the time of their lives

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ripping down slides, wading in lazy rivers or catching an epic wave in the surf pool. Creating safe, inviting and easy-to-clean and maintain spaces results in high customer satisfaction and increased membership. It can also result in additional revenue streams as more facilities are capitalizing on rentals and point-of-sale interactivity.”

In designing aquatic parks, Bevard said the driver is offering exciting amenities and a positive experience, all while reducing the operational subsidy required. “The intent is to increase attendance through unique and enjoyable offerings that cater to a broad demographic and serve the community as a quality-of-life enhancement.” **RM**



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# INDOOR Pools GO Multipurpose

NATATORIUM DESIGN INCREASINGLY EMBRACES FLEXIBILITY & MULTIFUNCTIONALITY

BY DAVE RAMONT

PHOTO COURTESY OF COUNCILMAN HUNSAKER AND ARCON ASSOCIATES

It's hard to beat swimming in the great outdoors on a beautiful day, but in cold-weather climates the season barely lasts three months. And even in states with longer seasons, there are still many weather days when pools are closed. Which makes natatoriums so important to communities—not only for recreation, but for competition, exercise, instruction and therapy opportunities as well. And these spaces are often community hubs, providing social interaction and non-water activities. Therefore, designs are always evolving along with programming desires, amenities, attractions, technologies and mechanical equipment.

Compared to indoor pools of old, modern natatoriums are oftentimes more aesthetically pleasing, with enhanced roof and window designs bringing more natural light into the space. “Indoor facilities are evolving not only with aesthetics but how they function within their surrounding environment,” said Justin Caron, principal and CEO of Aquatic Design Group. He explained that designing facilities with more natural daylight helps reduce energy costs, and structures that open and allow fresh air help reduce chloramines and “pool smell.” Additionally, “Different mate-

rials such as cross-laminated timber (CLT) are being introduced into natatoriums at an increased rate, replacing glulam beams or steel trusses.”

Frank Parisi is COO and managing principal with Williams Architects. He said most natatoriums want to have natural daylight incorporated into the exterior envelope, making the space more open and inviting, and providing a natural connection to the outdoors. “It improves the patron experience and turns it into something more positive.”

He said planning is essential, as the building orientation significantly impacts the need for lighting. “It’s



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more favorable to get indirect sunlight into a pool rather than direct, as it can reduce the operational cost for the facility. Sliding glass doors can be incorporated into the design, allowing the glass walls to be opened, bringing

in the outside.” He also mentioned retractable roofs as providing natural daylight.

“Natural light is very beneficial in natatorium design for the purpose of giving the space a comfortable aes-

thetic with a bright and open feel,” said Darren Bevard, principal at Councilman-Hunsaker, which provides design, planning and operations services within the aquatics industry. But he cautioned that there are factors to consider, including glare and solar heat gain, and these considerations will influence the HVAC design requirements. “The position of glazing relative to the pool water surface, sightlines for spectators and lifeguards, sun angles and solar heat gain will all be factors in architectural design in terms of both aesthetics and functionality. The regional location of the facility, climate and orientation of the building on the site will also influence the building design.”

It’s common for modern natatoriums to include a variety of non-water support spaces, everything from administrative areas to sport courts, and Bevard said the design of these spaces is key to the success of the facility. “Concession offerings, classrooms and reserve-able party rooms can be major revenue drivers for the facility and also provide versatility in the program offerings for various user groups. Not only do these spaces need to be comfortable, inviting and adequately sized, they also need to be durable and easy to maintain.”

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Parisi said it will become more common to see the inclusion of support spaces. "Aquatics training expands past just time spent in the water. It starts focusing on strength and fitness training as a tangential benefit to increase swimming performance inside the pool. Training spaces will become more prevalent in aquatic facilities." Additionally, "Providing gathering space for patrons, office space for personal trainers, etc., is essential."

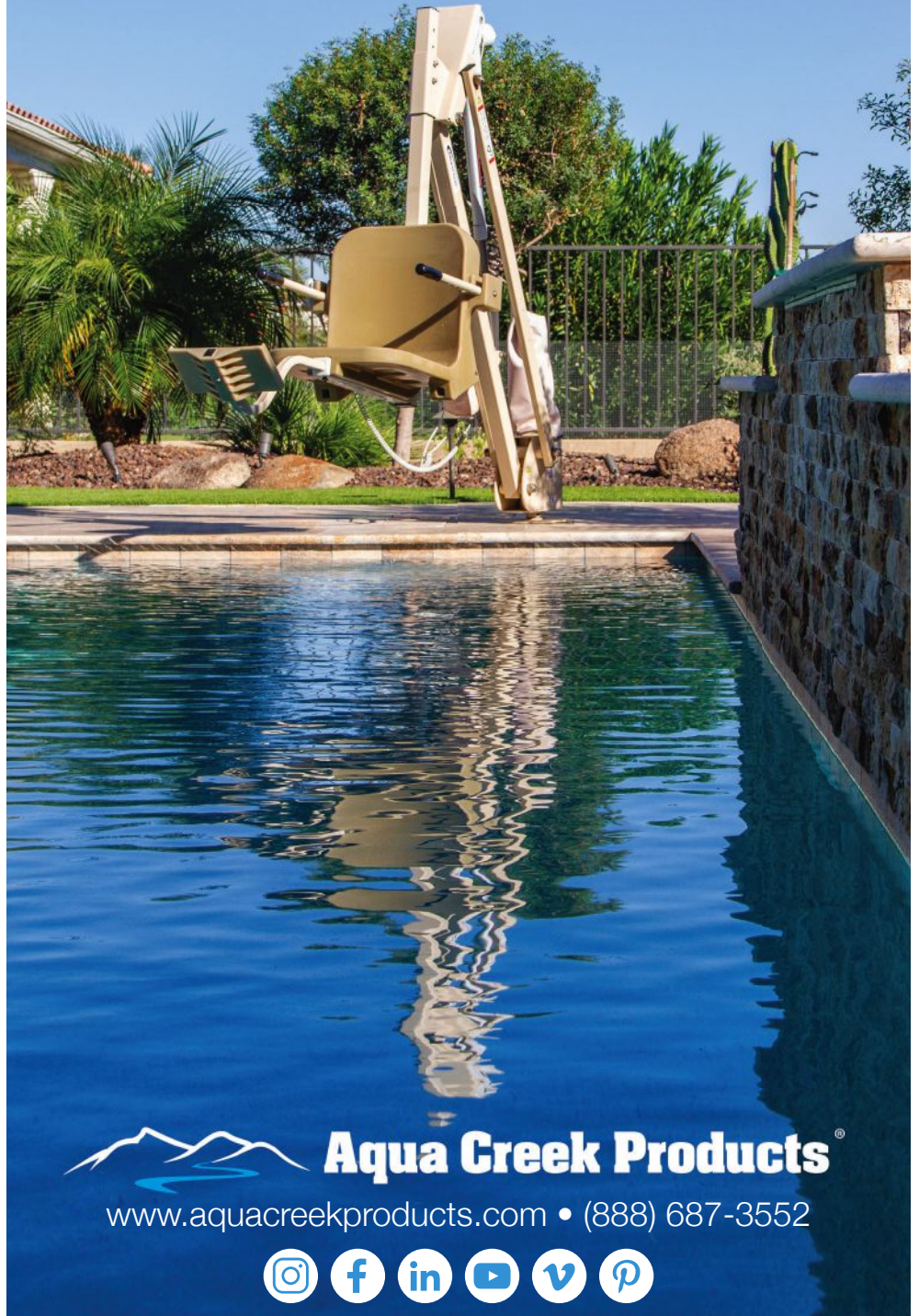
"Modern-day natatoriums are evolving to include additional programs, which in turn creates additional revenues for the facility," said Caron. "Additionally, having multiple programs within a facility allows an owner to consolidate multiple buildings into one facility, which also reduces long-term costs. These spaces are intentionally designed to accommodate wet and dry users and typically feature access from both wet and dry corridors with access to multiple securable storage areas for disparate user groups and programs."

One trend, as far as support amenities, is providing gender-neutral locker rooms, toilet rooms and family changing areas to multigenerational facilities, according to Parisi. "The benefit of incorporating such a model would inherently reduce the overall cost of bathrooms, locker rooms, toilet rooms, shower rooms, etc. Most school districts have a policy to address safety concerns regarding younger patrons using their facility. By creating more open, gender-neutral spaces, visibility is increased, thus decreasing safety concerns."

As more natatoriums are designed to be shared-use facilities, serving communities and schools together, for instance, there is often more focus on creating additional deck space to accommodate athlete and spectator seating for competitive events. And according to Bevard, seating capacity is primarily driven by the level of competition the venue intends to host, as a high school state championship meet requires much greater capacity than a typical dual meet. "This affects the required swimming program as well. In addition to spectator capacity, the position of the seating zones relative to the competition swimming and/

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or diving pool is critically important. Deck spaces must be designed to allow adequate circulation, required clearances and acceptable spectator viewing angles for the primary competition fields of play.”

But Bevard also pointed out that providing extra deck space comes at a cost premium, therefore careful planning is critical. And he said that oftentimes, locker room design

is driven by capacity and the number of teams/athletes expected for meets and events. “Dedicated spaces for meet management, coaches and training use are very attractive when competing to host regional or national-level competitions.”

“Joint-use facilities are becoming more and more popular with communities,” said Caron, who added that since addi-



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tional competitive programs are being added to facilities, the required infrastructure and space to support those programs is needed. "Bleacher seating needs to be accounted for; deck equipment needs the proper storage space; and timing systems will be needed within the facility too.

"USA Swimming's SafeSport policies—which prohibit spectator seating behind starting blocks and separate changing areas and bathrooms for minors versus adults—are also affecting layout," continued Caron. "Since the ideal viewing of swimming is typically opposite of the ideal viewing of water polo and located in a different area of the pool than diving or artistic swimming, creating flexible spaces where seating can be brought in is increasingly common."

Parisi agreed that shared-use benefits are becoming more prevalent in natatorium design. "Sharing maximiz-

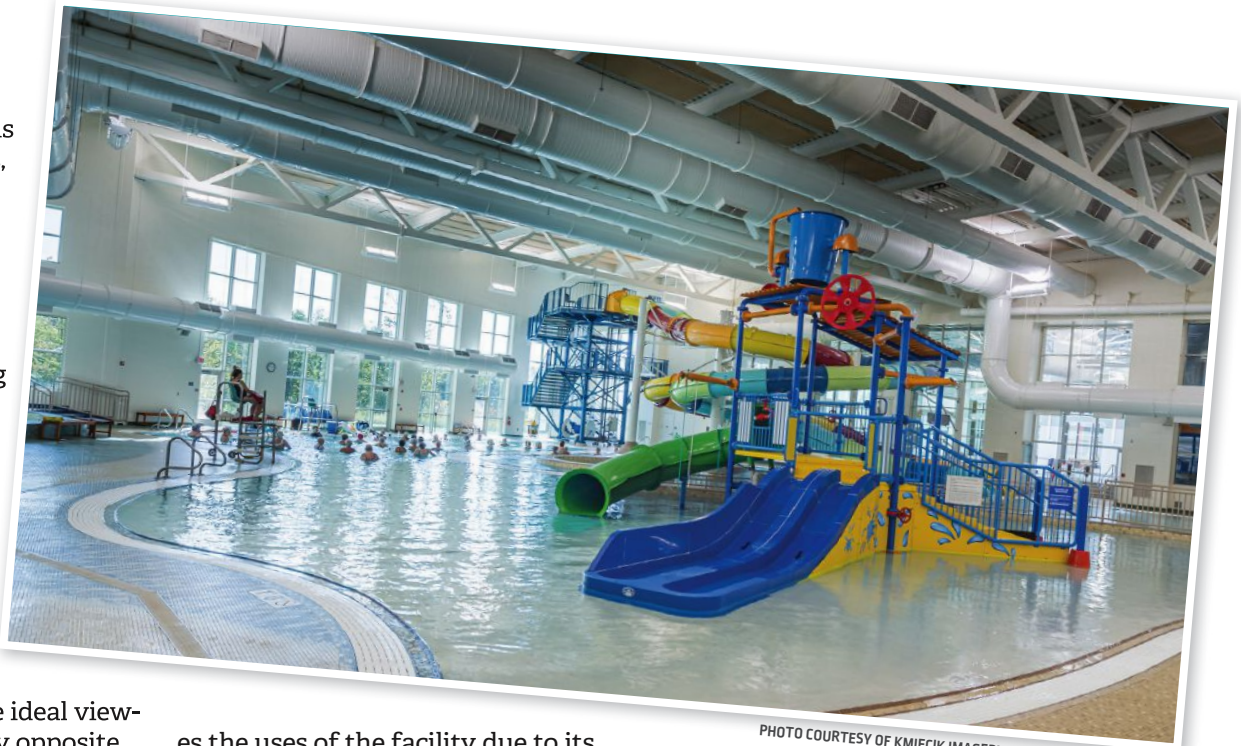


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es the uses of the facility due to its initial capital cost. Therefore, school district pools also incorporate community needs regarding learning to swim, exercise, health and wellness. It creates more transparent intergovernmental agreements regarding the conscientious use of taxpayer dollars."

And he added that if the school or

community seeks to host competitions, then certain support functions do become necessary, including additional deck and locker room space for teams, spectator viewing areas and concessions. "The deck/team space is the highest priority, and you must con-

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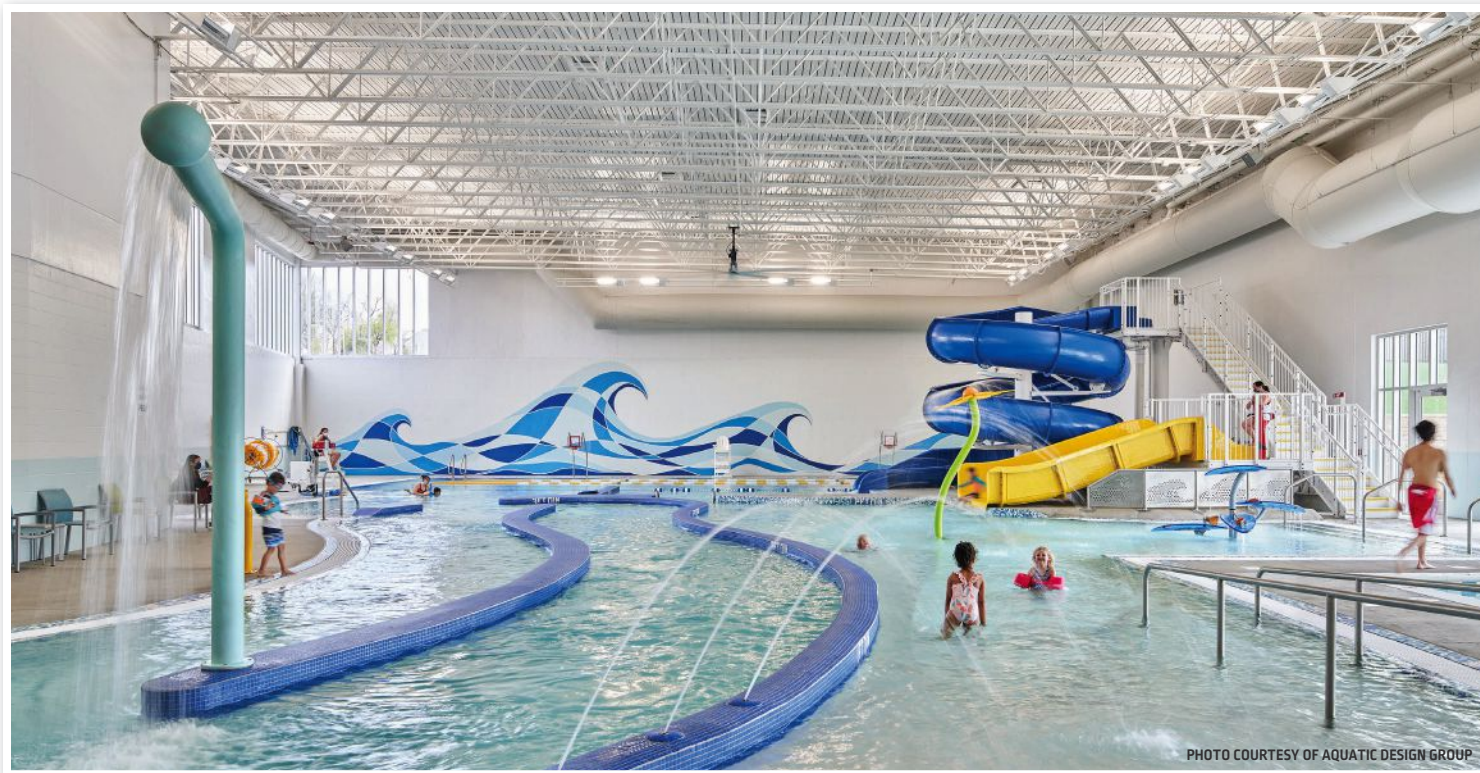


PHOTO COURTESY OF AQUATIC DESIGN GROUP

sider the operational viability of the expenditure on that space.”

When the Deaconess Aquatic Center (DAC) in Evansville, Ind., celebrated its grand opening, hometown hero and

Olympic gold medal-winning swimmer Lilly King hosted the ribbon-cutting ceremony. The city’s existing pool was no longer in a state to support quality recreational and competitive swimming. Bevard’s firm provided design services for the new facility, which features two separate areas—competitive and recreational. The 50-meter competition pool features lap lanes, a separated diving well, stair entry, two bulkheads and four springboards. The leisure pool features lap lanes, zero-depth entry, stair entry, underwater bench and shelf, play features, a water basketball hoop and spray features.

Jennifer Brown is COO at YMCA of Southwestern Indiana, which manages the DAC. She said they host eight high schools that train and have meets at the center. They also host meets for the University of Evansville, as well as other collegiate events and championships. In 2026 they’ll host the NCAA Division II men’s and women’s swimming and diving national championships. They also host numerous USA Swimming events.

The DAC has a mezzanine providing views of the entire swimming area, and Brown said they can accommodate 989 spectators. “As for the deck, we can accommodate 781 swimmers.” She said their bulkheads “get a lot of traffic during the year. We’ll move the bulkheads around to meet the needs of various groups that we’re hosting. I believe we have seven different configurations.”

The concession stand is operated by a USA Swimming team, which “helps them raise revenue. If teams who are renting the facility want to operate the concession stand to raise money, they can rent it out.”

Both pools have their own locker rooms. “We also have a universal locker room.”

As far as community offerings, Brown said they offer swim lessons and water fitness in the recreation pool and

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lap swimming in both pools. There's also a Masters Swim team and an underwater hockey team that train at the DAC. Also, "We're planning to have a water polo club and a competitive diving team." Party rentals are also popular at the venue.

As far as mechanical equipment, she said they have sand filters, a chlorine tablet system, CO2 tanks for pH management, a UV light system as a secondary disinfection system and a pool dehumidification system with a "purge option to bring in fresh air."

As more facilities of all sizes are hosting competitive events and LED technology has advanced, Bevard said that large scoreboards capable of video playback have become commonplace in natatoriums. "This style of display can be sized and specified based on the layout of the facility, viewing distance and position of the display relative to spectators and athlete viewing angles. Video boards allow much greater flexibility in displaying meet results and the amount of data that can be communicated, as well as opportunities for advertising, promotional videos, marketing and revenue-generating events, such as dive-in movie nights."

As indoor venues of all types look to offer diverse programming and attract a wide spectrum of visitors, it's often-times a desire to have multiple bodies of water available under one roof. "Designing for multiple bodies of water allows for variation in water temperature, water depth and is advantageous for scheduling and separation of various user groups," said Bevard.

He explained that in a competition venue, having a warmup pool separate from the main competition pool provides additional lane space for athletes during competitions, and can also serve as shallower, warmer water for alternative programs.

Parisi added that "Competition swim predominantly wants cooler water versus learn-to-swim, younger children and seniors who want warmer water. Trends in natatoriums are to provide a warm-water therapy pool from a wellness therapy and well-being perspective."

Of course, budget and space constraints are considerations. "Features such as movable bulkheads and movable pool floors serve to provide great-

er flexibility in pool programming", said Bevard. Bulkheads can set the pool up for various competition course lengths and divide program areas within the pool such as instructional areas from lap swimming or a diving area from water polo training. "A movable floor allows for water depth adjustment to maximize programming from deep water for competition/training use, to shallow water for fitness or instructional programming."

"We're certainly seeing more facilities with multiple bodies of water with different depths and temperatures," said Caron. "According to one bulkhead manufacturer we work with, annual bulkhead sales have doubled over the last decade. Movable floors are often requested, but due to their cost it's often less expensive to build an additional body of water."

Lauren Ozburn works in operations and as a project manager at Waters



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Edge Aquatic Design, and she said that while having multiple bodies of water for flexibility is highly desired, many communities can't afford to build the size of facility needed to offer them. "To accommodate a multitude of programs in one body of water, water depths and methods of entry/exit will be important to consider, along with deck, seating and storage spaces for the various users and programs of

the facility. When multiple pools can be accommodated, we want to look at how to maximize adjacencies and reduce deck and/or square footage wherever possible."

And then there's the biggest consideration in indoor versus outdoor pool design. "Indoor air quality in a natatorium space is not only critically important to user health and comfort, but also to lifecycle and maintenance of the building and building systems," said Bevard.

HVAC systems must be designed to maintain appropriate relative humidity levels and minimize condensation, according to Bevard, as natatoriums are humid spaces by nature. And while the pool is the source of elevated humidity levels, it's also the source of chloramines (combined chlorine) which off-gas from the pool surface as a byproduct of the disinfection process, potentially causing undesirable odor, eye irritation, respiratory distress and a "corrosive environment that poorly designed or poorly operated facilities have become notorious for."

Bevard said it's imperative to employ water treatment technologies to reduce combined chlorine levels and minimize chloramines, and secondary sanitation systems are well-established strategies. "A properly-sized and operated UV or ozone system will help to maintain acceptable levels of combined chlorine in the pool water and also help the pool to recover following periods of heavy use."

And in addition to pool water sanitation, HVAC systems must be designed to remove chloramine-laden air from pool spaces, and source capture exhaust systems and strategically designed fan technologies can aid in this purpose. "To achieve desirable indoor air quality, all of these natatorium systems must be designed to function in support of one another," said Bevard.

Caron said that source capture systems are now included in most

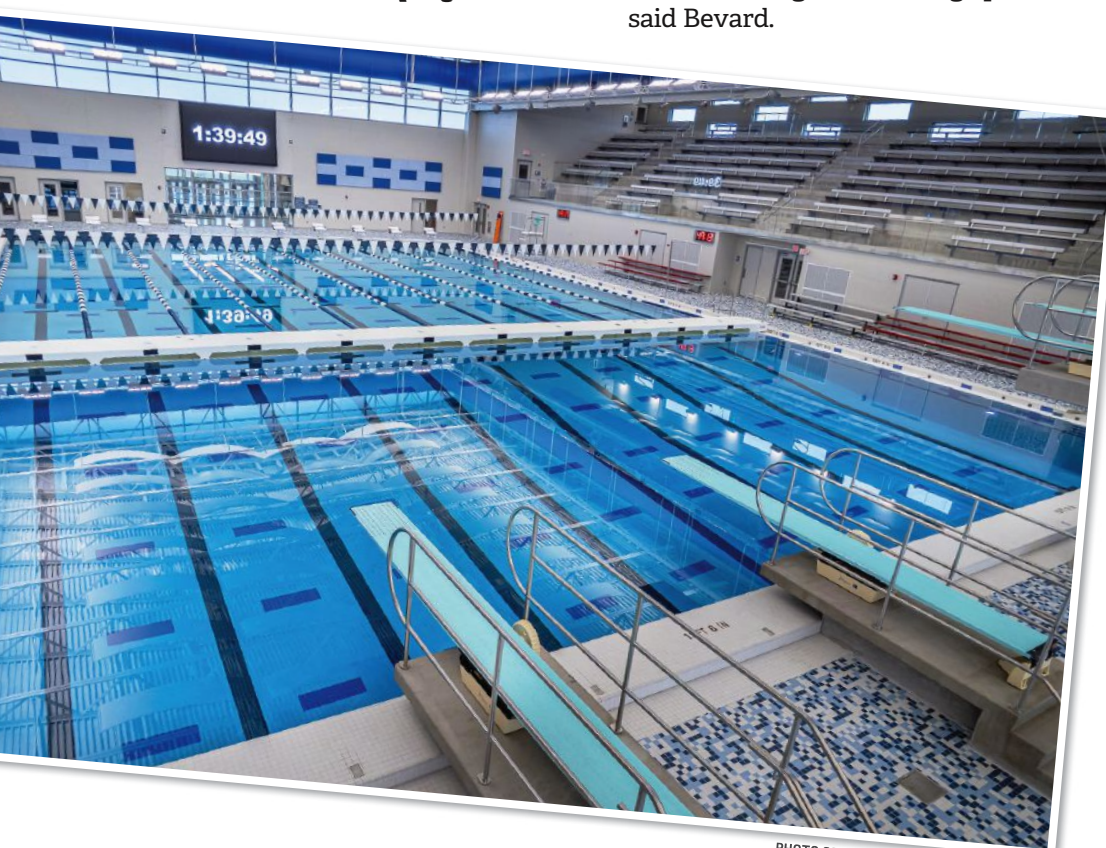


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natatorium environments. “As chloramines are heavier than air, being able to remove them at water surface level is vital to the overall health of the environment. Automated systems that integrate the water chemistry controller and air handling controller so that they can communicate and change output levels at various set-points is another newer trend that will continue to grow in popularity as it becomes more well-known.”

Parisi also stressed that the integration of water chemistry and dehumidification directly contribute to indoor air quality. “Innovation with dehumidification is tied to renewable energy sources like geothermal and/or solar photovoltaic to reduce energy use for these 24-hour, seven-days-a-week energy-intensive facilities.”

He also said that operators should consider several resources for sanitation and filtration to assist with water quality and energy usage. “To increase water quality, regenerative media such as perlite or long-standing diatomaceous material enhances water quality and decreases water consumption

compared to sand. Utilizing variable frequency drives (VFD) would reduce the facility’s overall electric energy usage. In tandem, incorporating sustainable equipment, such as solar hot water panels, allows for very efficient heat recovery from the sun to assist the hot water heaters supplying the pools.”

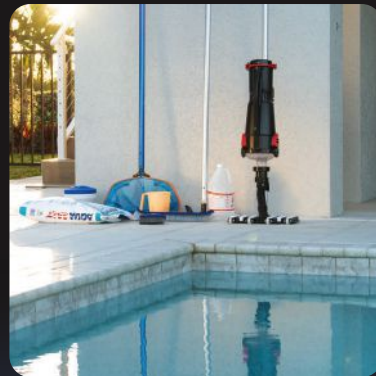
The Round Rock, Texas, Independent School District Aquatic Center is designed to be net-zero energy, meaning it will produce as much energy as it consumes, achieved through a combination of energy-efficient design and renewable energy technologies. Sustainable features include a combined heat and power system that generates electricity and heat from a single fuel source, natural gas; passive ventilation for the pool enclosures,

allowing natural airflow to optimize ambient conditions without the use of mechanical dehumidification or ventilation; solar panels to generate electricity; and operable doors along two sides of the enclosure, reducing the need for air conditioning. This highlights some strategies being incorporated as more natatoriums strive to become more sustainable. **RM**



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# Aquatic FACILITY Refresh

POOL RENOVATIONS BREATHE  
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BY DAVE RAMONT

PHOTO COURTESY OF RENOLIT

**T**here are a lot of aging pools out there, many of which are still in service but are just barely limping along. And while communities overwhelmingly desire access to aquatic facilities, oftentimes these ailing bodies of water struggle to draw visitors, leaking not just water but cash and resources too. But whether a pool simply needs a cosmetic facelift or a major structural or mechanical overhaul, renovating an existing facility can bring it back to life and get visitors excited about coming back to the pool.

With so many facets of pools and

support spaces, owners and operators must examine all of these areas to begin to see just what needs repairing, renovating or replacing. Justin Caron is principal and CEO at Aquatic Design Group, which performs facility assessments, providing details related to the condition of existing facilities, and he said they not only assess the condition of the pool and its mechanical systems, they also look for any code violations that could potentially close or restrict facility use.

“Since swimming pool codes are updated over time, the facilities

need to keep up with those changes,” Caron said. “Many aging facilities are also exploring replacing outdated or underutilized pools with modern amenities such as moving water, interactive toys and thrill experiences. Competitive facilities are often looking at substantial renovations or replacements to create more versatile bodies of water that can accommodate multiple programs and teams, and growing sports such as water polo.

“When a project budget is tight, renovating rather than replacing the existing pool or mechanical systems

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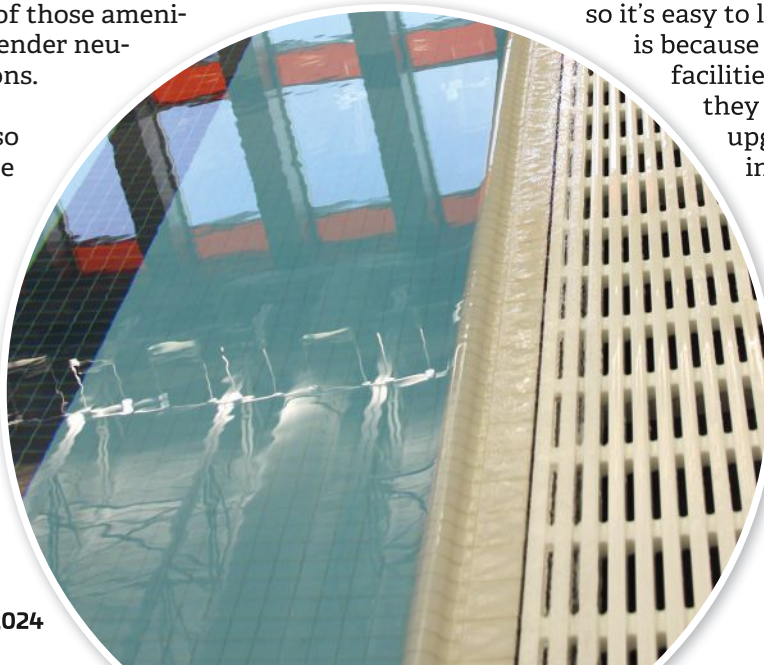
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can make the most sense,” continued Caron. “This is where a thorough needs assessment study can benefit the owner to gain a better understanding of what improvements should be made and why. In some cases, it can be cheaper to remove and replace the feature versus renovation.”

“Each facility is unique unto itself,” explained Frank Parisi, COO and managing principal at Williams Architects. “We recommend that the team conduct a facilities assessment before a renovation, identifying the opportunity to reuse pool structures and filtration and what can be salvaged in a renovation project. Due to patron expectations and changes in usage, we find that entire renovations of the bathing facilities are required to comply with current international and building code standards.” He added that some of those amenities include additional privacy, gender neutrality and family accommodations.

Darren Bevard is principal at Counsilman-Hunsaker, which also offers audits and assessments. He said these can identify and document deficiencies of an aging facility and begin to outline an appropriate project scope, as the audits analyze a facility from two perspectives: “The physical category would encompass characteristics such as equipment that is nearing the end of its service life as well as code compliance or life safety concerns.



Functional obsolescence is consideration of whether the facility is meeting the necessary program and user needs to drive attendance and establish a successful facility pro forma.”

The physical audit includes—but is not limited to—inspection of pool structure and finishes; recirculation systems, piping, fittings and valves; filtration systems and overflow recovery systems; water chemistry treatment systems; pumps, flow meters, gauges and controls; and deck equipment. Additionally, code compliance with state and local health codes and the Model Aquatic Health Code (MAHC) is analyzed.

Sometimes facilities might be functioning satisfactorily even though they could use some updating, so it’s easy to let them chug along as is because budgets are tight. But facilities often find that when they perform even simple upgrades, more visitors are inclined to utilize the facility.

“Renovations and park upkeep are essential to keeping parks fresh and inviting,” said David Keim, director, public market business development at Aquatic Development Group, discussing aquatic parks. “Keeping a park



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looking and feeling new adds to a positive guest experience.

“Periodically adding or updating attractions provides operators with marketing opportunities, regardless of the age of the park,” continued Keim. “Renovations and/or expansions of existing parks are a big part of our business as parks continue to add attractions and/or rebrand or refresh areas in the park.”

He said it’s common practice for aquatic parks to periodically undergo major renovations “that in some cases result in significant changes to the overall park layout and attraction mix.”

“Pools became popular in the mid-1900s, right?” asked Sophia Young, communications manager at Waters Edge Aquatic Design. “In many cases they were a traditional rectangle with maybe a diving board and small deck space. Those older models of pools have been reaching the end of their life and don’t draw crowds. A community must decide what’s best for them: invest in modernizing the swimming facility, or let it go?”

She said it’s common for facilities to decide to make improvements that add more programming options and

expand their user base. “They usually face the decision to renovate when the pool has reached its life expectancy and/or pool patronage is low.”

“In the case of a facility where the entire site has reached the end of its life or has been deemed not feasible or appropriate to renovate, we may be working with a community to determine the appropriate next steps, including the decommissioning of a site and rebuilding a new facility,” said Lauren Ozburn, project manager/operations at Waters Edge Aquatic Design. “A master plan or feasibility study can really help a community understand the options and establish the appropriate recommendation for the future.”

Young agreed, pointing out that it’s difficult to know what’s happening behind the scenes of a facility until an assessment is professionally conducted. “Recommendations can then be made, but budget restrictions—and expected life-expectancy of the major components of the facility—often dictate the best course of action. In some situations it will make financial sense to build new, while other situations will be to repair.”

Added Ozburn, “In the case of a renovation, there are typically areas of the facility that are in working order and can be salvaged and improved upon, allowing for more of the budget to go toward those areas that wow guests and draw attendance.”

Indeed, facility owners/operators must consider the best use of available project funds in terms of replacement versus renovation, said Bevard, especially in light of the recent escalation of construction costs. “Depending on the facility type, existing conditions and project constraints, it often makes sense to consider renovation or repurposing of existing aquatic facility infrastructure.”

He explained that they’ve been involved with renovations and expansions at all levels, including existing pool shells, and complete replacement of pools within an existing building enclosure. “Priorities for these types of renovation projects are often a mix of addressing failing or deteriorating pool conditions as well as addition of features and functionality.”

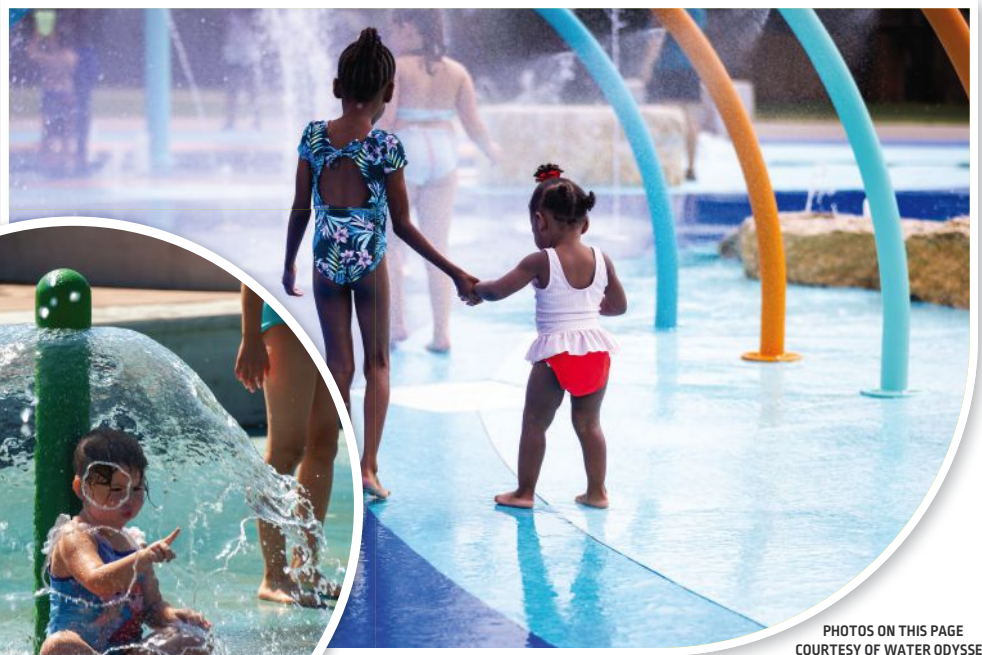
Renovations often involve mechanical rooms, whether it’s to introduce

new equipment as technologies have evolved or to replace worn-out systems. Bevard said these updates are common, and typically due to issues related to aging or failing systems and/or code compliance. "We often come across facilities that are dealing with excessive corrosion in the pool mechanical room areas due to the original design not providing proper isolation or containment of corrosive pool chemicals. That coupled with poor ventilation and humidity control can rapidly shorten the lifespan of pool mechanical systems."

"Since the mechanical systems are the lifeblood of swimming pools, it's important to make sure they're in good working condition to serve patrons," said Caron. "In addition, we're seeing a greater number of owners switching to more efficient systems and equipment. Adding variable frequency drives (VFDs) and smart pumps are just two examples of mechanical system improvements."

Some venues are working to make their facility operations more sustainable. "Designing a facility that's energy-efficient and sustainable not only makes sense for the environment but also the owner's budget," said Caron. "Specifying high-efficiency pumps can result in 20% to 30% greater productivity; VFDs can help reduce electrical use by up to 40%; thermal solar can reduce pool heating by up to 40% as well, among other considerations. Most states' energy codes now mandate designs to be equivalent to LEED as a baseline. Additional standards like WELL are helping shape healthier, more sustainable and eco-responsible facilities."

In addition to revamping facilities with fun adventure attractions, the "non-fun" features are also important considerations. "Replacement of deck equipment is common in terms of upgrading an aquatic facility through renovation," said Bevard. "An example would be replacing



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older-style stationary lifeguard stands with modern, portable stands, which not only allow flexibility in positioning and ensuring effective coverage of zones, but also are more comfortable and functional. Starting block design has advanced to the point where many aging competition facilities require an upgrade to meet athlete expectations and serve as a training tool for teams who are competing at modern facilities that utilize the latest technology."

Young said that some older ver-

sions of aquatic venues had separate wading pools that might even still be on a fill and drain system, and pointed out that one common transformation seen with older pool designs is converting the wading pool into a splash pad. "It evolves into a colorful space inclusive of individuals of all abilities. No lifeguards are needed in the space, which is a staffing benefit. It adds to the variety of water play at the pool. The space can even be fenced off in a way that the splash pad can open to the public at times that the pool itself is not open and staffed."

Chris Thomas, director of market-





PHOTOS COURTESY OF RENOLIT

ing at a San Marcos, Texas-based designer and manufacturer of interactive water features and aquatic play equipment, also mentioned the kiddie pools of the past, which typically had less than one foot of water and a low wall for parents to sit on. “Unfortunately, with the rise in new aquatic trends, these areas have become dead zones in many parks.”

Thomas said that as parks facilities are looking for ways to generate new interest and attract new patrons to aquatic play areas, converting kiddie pools to splash pads has indeed become a popular renovation option, as these spaces are ideal for all ages and abilities to enjoy.

“If a facility is interested in creating a more inclusive gathering space in their aquatic recreation area, we can help... to really make the splash play area attractive to a much larger segment of the population than any kiddie pool could ever attract.”

Thomas also said it’s possible to utilize existing infrastructure or plumbing. “There are lots of features that are easy to replace using the same pipes and feeds.”

For those renovating or adding amenities to indoor facilities, splash

and spray features are also showing up at indoor pools. “This is common for municipal rec facilities and water-parks alike,” said Bevard. But he pointed out that the more water that is aerated within the natatorium, the more evaporation is going to occur. “This means more humidity has to be removed from the space via HVAC... the HVAC design must be able to handle the increased humidity load.”

For those who are looking to add spray features indoors, Thomas said “They are commonly included on decks, in walls and in shallow bodies of water depending on the intent. They do not necessarily require separate mechanical systems from the pools if located within the indoor facility.” Additionally, there are options for reducing water usage with spray features by choosing nozzles with smaller orifices, sequencing features to operate less frequently and/or including a recirculation system.

For leaky pools or pools that are damaged or deteriorating with age, one option is to incorporate a pool liner into the existing structure. Jason Mart is owner of an Indianapolis-based manufacturer of products designed for public swim-

ming pool construction and renovation. They offer a pool shell that’s constructed onsite from a 60 mil reinforced PVC membrane, offering watertight containment. The shell can be installed over most any pool surface, including concrete, fiberglass, tile, stainless steel and aluminum.

“In addition to the textural beauty of a ‘like new’ pool interior, the primary advantage of a reinforced PVC membrane renovation lies in its ability to completely protect the underlying structural materials from the deleterious effects of water intrusion,” said Mart. “Even 100-year-old concrete structures that most engineers would condemn can be first repaired and then encapsulated with the reinforced membrane thus extending the vessel’s life.”

He said the membranes can be adapted to any shape pool and can be used indoors or outdoors.

There’s also a PVC pool deck surfacing product that can be used indoors or outdoors. “Decking issues can be masked by covering over the repaired sections, making the decks much more attractive and slip-resistant,” said Mart. He said the heavily-textured decking is easily cleaned

with a cleansing solution and brush. Additionally, “It’s a great locker room solution due to its slip resistance and ease of care.”

Pool recirculation systems are another area targeted during renovations, and Mart’s company offers stainless steel pool gutters available in numerous configurations, though custom designs are also available. “When the PVC membrane is combined with a stainless-steel gutter, it completely ensures the long term viability of the pool facility by completely eliminating all pool edge buried pressure piping.” For indoor use there are also PVC gutters.

Dustin Buckland is vice president of sales and marketing for an international manufacturer of plastic products, including reinforced textured PVC membrane pool liners for new-build or renovation projects. Buckland explained that the membranes offer the option to go on top of almost any surface to provide waterproofing and slip-resistance, “particularly with splash pads and spray parks, which is a growing trend across the country. Whether it’s a splash pool, kiddie pool, zero-entry area or a transition area in a water-park, (it’s) the product of choice for ease-of-use, long-term performance

and economies of scale when compared with a complete take-down and rebuild option.”

The PVC membrane has fungicides included throughout the product, intended to be a backup to pool water sanitizer, according to Buckland. There’s also a multipurpose lacquer included. “It includes light and heat absorbers to protect from the damaging effects of UV light. It also contains anti-stain/soil inhibitors to prevent the development of bacteria and fungi that can be problematic in commercial settings, and finally the lacquer protects against abrasion.”

Joshua Albertson is the sales manager for an Indianapolis-based company that designs, manufactures and installs stainless steel pools and equipment and systems for construction and renovation of pools. One offering is an indoor/outdoor decking solution for wet areas including pool decks, locker rooms and splash pads. “It easily installs over most deck and floor surfaces, especially those that are cracked, worn or in disrepair. It has a slip-resistant textured surface that gives superior comfort for bare feet, unlike concrete or wood that can become hot or slippery.” An acrylic coating making it resistant to stain-

ing, chlorine and UV degradation.

In Globe, Ariz., the Globe Community Center swimming pool had been shut down since 2014 due to continuous water loss and mechanical components that were worn out. The concrete gutters had failed along with the perimeter piping. The pool basin was in disrepair and the filtration system wasn’t working. In 2021, renovation plans and discussions were revived and Albertson’s company—which also offers pool facility evaluations and renovation consulting services—became involved.

The pool reopened in 2023 with double the square footage and many amenities including a splash pad, zero-entry area, heater to lengthen the season and new decking. Other products supplied by Albertson’s company included a stainless-steel perimeter gutter system, vacuum sand filtration system, PVC membrane and a moving pool bulkhead to allow competitive swimming. “Working with our pool builder partner, (we) were chosen to provide many aquatic components that would not only extend the life of the pool by many years but would save the city time and money in annual maintenance and allow additional programming to be added.” **RM**

## ADVERTISERS INDEX

ALLCHEM PERFORMANCE PRODUCTS INC. ....	14
AQUA CREEK PRODUCTS .....	23
AQUATIC DESIGN GROUP .....	11
AQUATIX BY LANDSCAPE STRUCTURES .....	5
AQUAWORX .....	19
BECS TECHNOLOGY, INC. ....	12
CHEMTROL .....	24
CHLORKING .....	27
COMMERCIAL RECREATION SPECIALISTS .....	15
COMPETITOR SWIM .....	3
COUNSILMAN-HUNSAKER.....	26
DALDORADO .....	25

DYNADOME.....	9
EMPEX WATERTOYS .....	11
LINCOLN AQUATICS.....	13
MEYCO PRODUCTS, INC.....	17
NATARE CORPORATION .....	33
OUTDOOR SHOWER COMPANY .....	16
PADDOCK POOL EQUIPMENT CO. ....	22
RECREONICS .....	2, 21
RENOSYS CORPORATION.....	31
ROCKY MOUNTAIN SUNSCREEN .....	18
WATER ODYSSEY.....	6
WATER TECH.....	29