



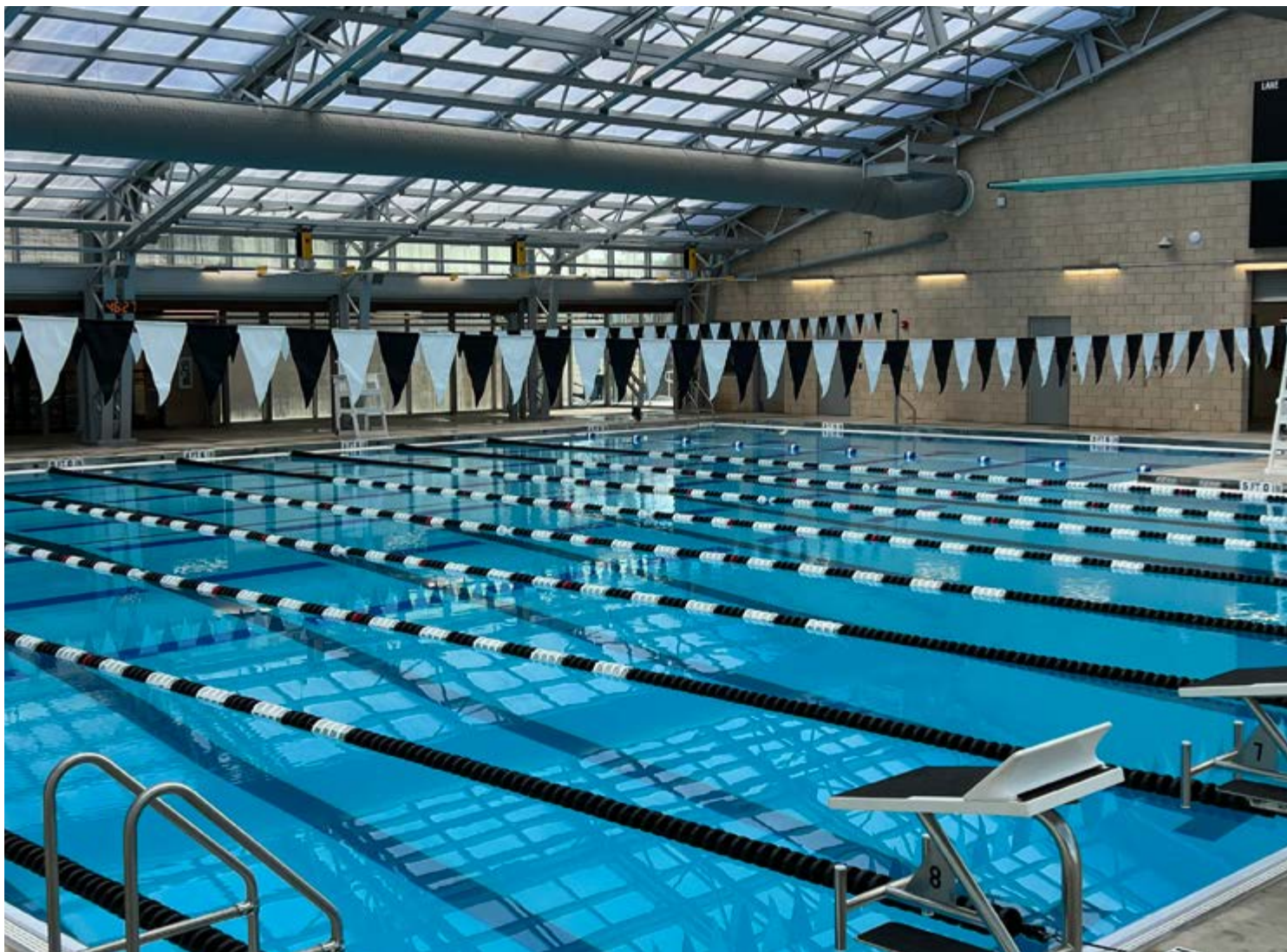
Designing the Modern Natatorium

Balancing performance, experience, and long-term value in collegiate aquatic facilities

BY WATER TECHNOLOGY, INC

As natatoriums evolve, colleges and universities are rethinking how these facilities support athletes, spectators, and campus life. Today's designs must deliver far more than water; they must deliver flexibility, efficiency, and lasting value.





By leveraging advances in aquatic planning, design, and engineering, modern natatoriums have transformed from simple indoor pools into high-performance environments. For higher education institutions, these facilities now serve as recruitment tools, competitive venues, recreation hubs, and community assets while operating under increasing pressure to maximize efficiency and long-term return on investment.

Drawing from insights shared by Steve Crocker, director of Sport Swimming at Water Technology, Inc. (WTI), the following explores how natatorium design is evolving—and what institutions should consider when planning their next aquatic facility.

From Functional to High-Performance

Natatorium design has come a long way

from its early, utilitarian roots. Historically, aquatic facilities prioritized participation, with minimal deck space and limited accommodations for spectators.

Today, collegiate natatoriums are highly specialized environments that balance athlete performance, spectator engagement, and operational demands. This shift reflects broader changes in swimming from a participation-based activity to a performance-driven, spectator-supported sport.

Designing for Faster, More Competitive Pools

Modern competition has directly influenced how pools are designed. Since the 1980s, more of a race occurs underwater, particularly during starts and turns. As a result, deeper pools are now standard for competitive facilities.

Additional performance-driven features—such as deeper gutters and advanced lane line systems—help reduce turbulence and create a faster, more consistent swimming environment.

For universities, these decisions are not merely technical. They play a meaningful role in athlete development, program success, and recruiting.

Elevating the Athlete and Spectator Experience

As swimming has grown in visibility, expectations for the overall experience have increased.

- Large video boards and integrated AV systems
- Enhanced lighting for competition and broadcast environments
- Flexible seating and improved sightlines

At the same time, facilities are becoming more inclusive. Features such as universal locker rooms and flexible changing spaces reflect a broader commitment to accessibility and user experience.

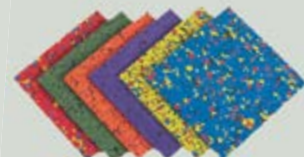
For campuses, this evolution helps natatoriums



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support not just varsity athletics, but also recreation, wellness, and community programming.

Why Air Quality Matters More Than Ever

One of the most critical—but often overlooked—components of natatorium design is air quality.

Modern air-handling systems are designed to control humidity, remove chloramines, and maintain healthy conditions at the water surface.

These systems play a vital role in swimmer health and comfort, as well as long-term facility performance. For institutions planning new builds or renovations, air quality should be considered a core design priority.

Technology and Flexibility Are Reshaping Design

As institutions rethink how their aquatic spaces need to perform, design priorities are expanding beyond air quality and mechanical systems. The next wave of innovation is centered on flexibility—how materials, layouts, and technologies can help a single natatorium do more.

- Advances in materials and systems are enabling more flexible aquatic environments.
- Panelized pool systems enable temporary or adaptable installations
- LED lighting improves visibility and reduces energy use
- Systems and layouts support multiple aquatic disciplines

This shift toward flexibility allows natatoriums to accommodate a wider range of programs, from competitive swimming and diving to water polo and recreation, within a single facility.

Designing for Daily Use

A common pitfall in natatorium planning is designing primarily for occasional high-profile events.

While hosting competitions is important, most facilities spend the majority of their time supporting daily use. As a result, leading institutions are prioritizing:

- flexible programming space
- efficient circulation and operations
- configurations that support both training and recreation

Designing with everyday use in mind leads to more sustainable and effective facilities over time.

Planning for Renovation and Operational Continuity

For institutions renovating existing natatoriums, downtime is often unavoidable.

Successful projects account for this early and may include strategies such as:

- identifying temporary off-site facilities
- phasing construction where possible
- utilizing temporary pools to maintain programming

Proactive planning helps minimize disruption and keeps athletic and recreation programs running.

A Look Ahead: Adaptability and Hybrid Spaces

The future of natatorium design is centered on adaptability.

Emerging concepts include adjustable pool floors that accommodate multiple activities, reconfigurable layouts for different competition formats, and indoor-outdoor hybrid facilities with operable roofs or walls.

These approaches give institutions greater flexibility, extend facility lifespan, and can help reduce operational costs through more efficient energy use.

Collaboration Drives Better Outcomes

Ultimately, successful natatorium design starts with a clear understanding of program goals.

Early collaboration between stakeholders—athletics, campus planning, and design professionals—ensures that facilities align with both current needs and long-term vision.

Touring peer facilities and learning from past projects can also help institutions make more informed decisions and avoid common challenges.

The Bottom Line

Modern natatoriums represent a significant investment for colleges and universities. But when thoughtfully planned, they can deliver meaningful value across athletics, student life, and community engagement.

As expectations continue to evolve, the most effective facilities will be those that prioritize flexibility, support diverse users, and adapt to the changing demands of aquatic sports and campus life.

Author note: This article was developed for PUPN as an educational thought leadership piece from Water Technology, Inc. based on an interview with Steve Crocke, WTI Director of Sport Swimming.



ABOUT THE AUTHOR: Water Technology, Inc. (WTI) is a global leader in aquatic planning, design, and engineering. For more than 40 years, WTI has combined innovation, technical expertise, sustainability, and creative design to deliver world-class aquatic environments that engage people, elevate experiences, and bring water to life.



Not every swim is the same.

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