



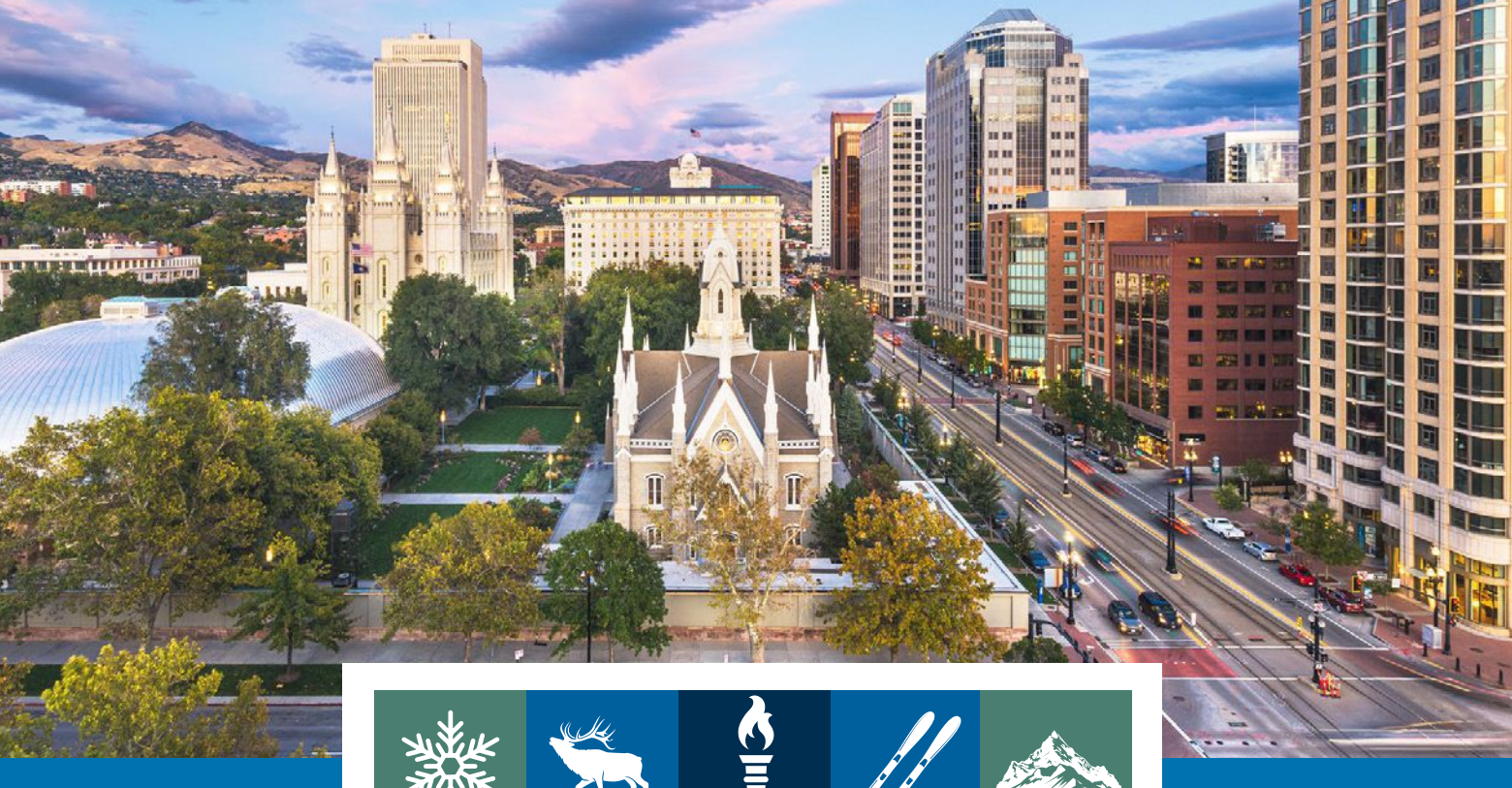
2026 PCI DESIGN AWARDS



PCI.ORG



SEE YOU NEXT YEAR



2027 PCI CONVENTION

SALT LAKE CITY ■ UTAH

FOR MORE INFORMATION, VISIT PCI.ORG OR
CONTACT EVENTS@PCI.ORG.





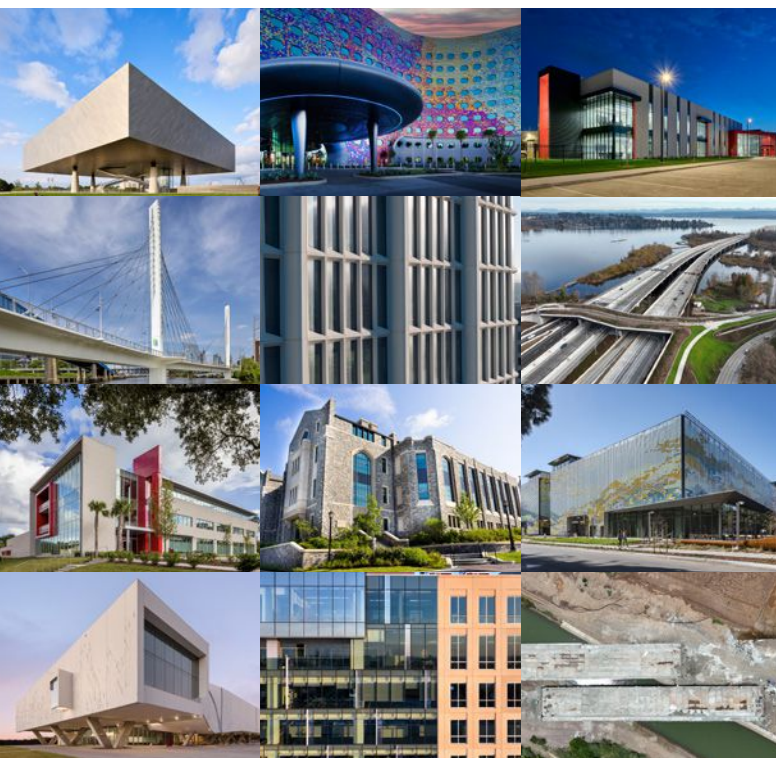
THANK YOU

TO OUR 2026 PCI DESIGN AWARDS SPONSORS



The 63rd PCI Design Awards Winners

As sustainable and resilient construction becomes essential in the built environment, precast concrete producers continue to advance the capabilities of this versatile building material, demonstrating precast concrete's durability, adaptability, and long-term performance. The 2026 PCI Design Awards winners exemplify the industry's advancements and leadership in sustainability, visionary aesthetic expression, and strong project team collaboration.



This year introduces a new Special Award category, the Structural Innovation Award. This award recognizes exceptional structural achievements that demonstrate creativity and advancement in the industry. The recipient, Schuylkill Banks: Christian to Crescent Cable-Stayed Bridge in Pennsylvania, is a remarkable example of the flexibility of precast concrete in bridge construction. As the only known curved, spliced, precast concrete post-tensioned U beam in a single-box configuration with a cable-stayed support system, the bridge represents a major technical achievement. Its innovative design, incorporating curved precast concrete U beams seamlessly into an architecturally significant bridge with a unique structural system, provides exceptional durability and a strong structural connection. The project team's coordinated effort ensured that the bridge meets sustainability goals that reflect the owner's vision and expectations.

When it comes to sustainability, the Charles R. Jonas Federal Courthouse Annex & Modernization in North Carolina stands as a model for how precast concrete supports ambitious environmental objectives. The building achieved LEED Gold and SITES Silver certification

through a holistic strategy that was made possible with a precast concrete solution. Reduced carbon emissions, water conservation, improved indoor and outdoor ecology, and blast resistance were all achieved with precast concrete, while also achieving rigorous preservation goals. This federal courthouse truly encompasses many of precast concrete's inherent sustainability capabilities and has become a showpiece for many owners looking to improve the built environment.

These highlighted projects are just two of the 2026 PCI Design Awards winners that demonstrate outstanding team collaboration, innovation, and sustainability achievements. As in past years, many of these award-winning projects—such as Oppidan Data Center, Alta Parking Structure, Drosdick Hall - Home of the College of Engineering, Parque La Plancha, and the I-10 Broadway Curve Improvement Project—underscore the importance the precast concrete industry places on the environment and teamwork and continually showcase the invaluable role precast concrete plays in shaping the built world.

The PCI Design Awards celebrate design excellence in precast concrete and the inventive ways in which our members are advancing the industry. This year's winners continue that tradition. The three juries, consisting of top industry experts, selected 23 buildings, five special award recipients, six transportation projects, and 22 honorable mentions—an extraordinary number of winners that represent some of the best projects in precast concrete. PCI is honored to recognize these exceptional structures and the visionaries behind them.

The PCI Design Awards celebrate design excellence in precast concrete and the inventive ways in which our members are advancing the industry.





2026 PCI DESIGN AWARDS

Transportation Special Award

Jury



MATTHEW HUSLIG

Matthew Huslig, PE, is an engineering manager for Coreslab Structures (MIAMI) in Miami, Fla., where he has lived for the last four years. Before joining Coreslab, he was a structural engineer for 19 years at The Consulting Engineers Group (CEG) in Mount Prospect, Ill., and licensed in eight states. He has participated in the design of 250 precast concrete structures, including parking, residential, industrial, corrections, and stadiums.

Huslig is involved in many PCI committees, including Fire, Leadership PCI, Membership, and Online Academy. He was the chair of the Fire Committee and oversaw the International Code Council's adoption of the third edition of PCI MNL-124, *Design for Fire Resistance of Precast/Prestressed Concrete*, in its 2021 *International Building Code*. He also led the committee in the development and publication of PCI 124-18, *Specification for Fire Resistance of Precast/Prestressed Concrete*. Huslig received the Les Martin Award for his leadership of the Fire Committee.



SUZANNE LIANOPOULOS

Suzanne Lianopoulos is the senior director of marketing for the concrete business at Sika Corporation. With more than 23 years of industry experience, her career began as a scientist working in research and development for Master Builders admixture product development, where she focused on polycarboxylate-based dispersants. Since then, she has held multiple positions, including strategic analyst (competitive intelligence, strategy and new business development), product management (dispersant portfolio), and architectural manager, where she focused on a strategic portfolio of sustainable building solutions and driving value through specifications. Lianopoulos holds a bachelor's degree in geology from The College of Wooster and an MBA from Baldwin Wallace University. She is a LEED green associate and co-holder of the U.S. Patent "Copolymer Admixture Systems for Workability Retention of Cementitious Compositions" (US 8,519,029 B2). Lianopoulos lives in Mentor, Ohio, with her husband and four children.



CHRISTOPHER ZAJAC

Christopher Zajac is a design engineer at County Prestress & Precast in Westmont, Ill., bringing more than a decade of comprehensive experience across the precast concrete industry. His career spans engineering, project management, BIM development, field operations, sales engineering, and production—giving him a well-rounded understanding of how precast structures move from concept to installation.

Christopher is actively involved with PCI, serving on multiple committees including BIM, LPCI (Leadership PCI) from which he graduated, and Architectural Precast. He holds both a master of science in Structural Engineering and a bachelor of science in Architectural Engineering from the Milwaukee School of Engineering, along with certifications through PCI and ACI.



2026 PCI Design Awards: Transportation Special Award Contents

STORIES BY MASON NICHOLS, a Grand Rapids, Mich.-based writer and editor who has covered the precast concrete industry since 2013.

- 8 Structural Innovation Award and Bridge with a Main Span More Than 201 Feet**
Schuylkill Banks: Christian to Crescent Cable-Stayed Bridge,
Philadelphia, Pennsylvania



Structural Innovation Award *and* Bridge with a Main Span More Than 201 Feet

SCHUYLKILL BANKS: CHRISTIAN TO CRESCENT CABLE- STAYED BRIDGE PHILADELPHIA, PENNSYLVANIA

PROJECT TEAM

Owner: City of Philadelphia/Schuylkill River Development Corporation, Philadelphia, Pa.

PCI-Certified Precast Concrete Producer: The Fort Miller Co., Inc., Schuylerville, N.Y.

Engineer of Record: AECOM, Philadelphia, Pa.

Construction/Erection Engineer: Janssen & Spaans Engineering, Indianapolis, Ind.

General Contractor: PKF – MARK III Inc., Newton, Pa.

Located south of Fairmount Water Works in Philadelphia, Pa., the Schuylkill River waterfront was once a booming industrial hub, but by the middle of the 20th century, the area had fallen into neglect. To help the area regain its former luster, the Schuylkill River Development Corporation (SRDC) raised funds over the course of several decades, ultimately seeking to significantly enhance the built environment and a thriving off-road pedestrian and cycling route for the local community. Along with the City of Philadelphia and federal, state, and private partners, SRDC invested more than \$110 million in the effort, leading to significant improvements. Completed in May 2025, the Christian to Crescent Cable-Stayed Bridge builds on the success of previous work, finishing the trail on the east side of Schuylkill. The Fort Miller Co. Inc., in partnership with AECOM and the City of Philadelphia, used precast concrete products in the construction of the project's stunning 650-ft-long bridge.

A LANDMARK THAT'S HERE TO CABLE-STAY

According to Trevor Kirkpatrick, senior bridge engineer for AECOM, alternative materials were considered for the work, but none could match up with the benefits offered by precast concrete.

"A major project goal was to provide a maintenance-free structure for the city," he says. "Precast concrete had significant



Photos: PennDOT and J. Michael Worthington, Jr.

With this being the first of its kind, combining multiple strategies already prevalent within the construction industry into one single solution, the team was able to deliver a solution that could only be accomplished with precast concrete.

— Christopher Zajac, County Prestress & Precast LLC

benefits over a similar steel structure from a maintenance and painting perspective. Using precast elements rather than cast-in-place simplified the overall bridge geometry control and placed beam fabrication on a parallel construction timeline, allowing for concurrent construction activities.”

Eight curved precast concrete tub girders, ranging in length from 73 to 80 ft and in weight from 116 to 148 tons, were manufactured for the project. The bridge’s twin towers, which rise 139 ft above the deck, each anchor 28 wire-rope cables that support the curved, spliced, precast concrete post-tensioned U beams and a 25-ft-wide bridge deck. Circular overlooks at each tower offer sweeping views of the river and Philadelphia skyline. The cables are arranged in a unique basketweave pattern and use elegant pin-and-clevis anchors for a streamlined appearance. The precast concrete U beams chosen for the work also provide the torsional rigidity required to accommodate the bridge’s centerline cable arrangement. According to the project team, the Christian to Crescent Cable-Stayed Bridge features the only curved, spliced precast concrete post-tensioned U beams in a single-box configuration with cable-stayed support.

This unique structural system accomplishes the community’s goal of spanning historic industrial landmarks while completing a long-awaited connection to adjacent trails. Previous sections of the trail are well-loved and much used by area residents, with more than 33,000 trips logged per week. The bridge’s aesthetically pleasing design—combined with the low maintenance requirements and extended service life of precast concrete—ensures that residents will be able to enjoy this critical link for decades to come.

“The Christian to Crescent Cable-Stayed Bridge creates a vital new connection for cyclists and pedestrians, reshaping how people move through Philadelphia,” says Joel Cummings, associate vice president and project manager for AECOM. “It provides an entirely off-road route for pedestrians and cyclists between Center City Philadelphia and the Grays Ferry neighborhood, which was historically cut off from waterfront and trail access. The project provides a missing link across neighborhoods, eliminating what had been an almost 15-year-old gap in the trail.”

KEY PROJECT ATTRIBUTES

- 650-ft-long cable-stayed bridge serves as a missing link across neighborhoods, helping to revitalize a former industrial hub.
- The bridge spans historic landmarks in the area and provides key connections to adjacent trails in the vicinity.
- Circular overlooks located at the bridge’s twin towers offer sweeping views of the Schuylkill River and Philadelphia skyline.

PROJECT AND PRECAST CONCRETE SCOPE

- Eight curved precast concrete tub girders, ranging in length from 73 to 80 ft and in weight from 116 to 148 tons, were manufactured for the project.
- The bridge features the only curved, spliced precast concrete post-tensioned U beams in a single-box configuration with a cable-stayed support.
- While the overall project spanned four years, precast concrete erection took just two weeks to complete.



2026 PCI DESIGN AWARDS

Transportation Awards

Jury



KRISTIN LANGER

Kristin Langer, PE, is the chief bridge engineer at the Pennsylvania Department of Transportation's (PennDOT's) Bureau of Bridges. A 1993 graduate of Rensselaer Polytechnic Institute in Troy, N.Y., she joined PennDOT in 2008 after working for 15 years in consulting, specializing in bridge design and inspection. Langer was named chief bridge engineer in September 2024, having previously served as an assistant chief bridge engineer since 2009. She leads the Bureau of Bridges, which is organized into three groups that support structure-related topics. The three groups help develop policy and standards within their respective areas of expertise: design quality assurance, bridge inspection, and structural materials.

Langer's personal areas of expertise include concrete design, accelerated bridge construction, geosynthetic reinforced soil integrated bridge system structures, and bridge protective fencing. She serves as vice chair for AASHTO's Committee on Bridges and Structures Concrete Design subcommittee and is a member of both the Loads and Knowledge Management/Workforce Development subcommittees. In addition, she has served on two NCHRP panels, given numerous presentations, and has published several articles. Langer lives in the Mechanicsburg, Pa., area with her husband and daughter.



TROY JENKINS

Troy Jenkins, PE, is the vice president and chief engineer of Northeast Prestressed Products LLC, with oversight of both the engineering and quality assurance departments. He is a registered professional engineer with an associate's degree in architectural engineering technology and a bachelor of science in structural design and construction engineering technology. Jenkins has 24 years of experience in the design and fabrication of prestressed concrete products.

Jenkins was first introduced to the design concepts of prestressed concrete by Dr. Alex Aswad during his junior year at Pennsylvania State University at Harrisburg. Looking to learn more about the industry, he obtained an internship with Oldcastle in the summer of 2000. After graduation, Jenkins was hired as an entry level engineer at Schuylkill Products Inc. His first introduction to PCI was the 2003 PCI Convention in Orlando, Fla. In 2005, he joined the Bridge Producers and Bridges Committees and subsequently became vice chair of the Bridge Producers Committee in 2014 and chair in 2018. Currently Jenkins chairs the Transportation Activities Council and serves on the Council Chairs Committee and on the PCI Board of Directors—positions he held since 2022. Jenkins is also a member of various subcommittees including AASHTO LRFD Specifications Review & Implementation, the Precast Post-tensioned Bridge Subcommittee, the MNL 137 Task Group, and the Strand Bond fast team.



JULIE SARSON

Julie Sarson is a project manager at Burns & McDonnell in Kansas City, Mo. She has been designing bridges and managing bridge projects for more than 30 years. Sarson currently serves as the chair of the PCI Bridges Committee.



2026 PCI Design Awards: Transportation Awards Contents

STORIES BY MASON NICHOLS, a Grand Rapids, Mich.-based writer and editor who has covered the precast concrete industry since 2013.

- 12 Bridge with a Main Span from 76-200 Feet**
I-10 Broadway Curve Improvement Project, Phoenix, Arizona
- 14 Bridge with a Main Span from 76-200 Feet**
SR 520 Montlake to Lake Washington Interchange and Bridge Replacement, Seattle, Washington
- 16 International Transportation Structure**
102.6 M Long-Span UHPFRC Bridge over Nira Canal, Pune, Phaltan, Maharashtra, India
- 18 Non-Highway Bridge**
192nd Street Underpass (Morton Branch Br 14.02), Tacoma, Washington
- 20 Transportation Special Solution**
New Jersey Wind Port, Lower Alloways Creek, New Jersey



Bridge with a Main Span from 76-200 Feet

I-10 BROADWAY CURVE IMPROVEMENT PROJECT PHOENIX, ARIZONA

PROJECT TEAM

Owner:
Arizona Department of Transportation, Phoenix, Ariz.

PCI-Certified Precast Concrete Producer:
EnCon AZ, d.b.a Tpac, Phoenix, Ariz.

Engineer of Record: Aztec Engineering, Phoenix, Ariz.

General Contractor:
Pulice FNF Flatiron JV (PFFJV), Scottsdale, Ariz.

As one of America’s busiest hubs, Phoenix Sky Harbor International Airport in Arizona has serviced an increasing number of passengers every year since 2020. In 2024, more than 52 million passengers moved through Sky Harbor. Interstate 10, which runs adjacent to the airport, also supports a large number of travelers—in 2020, the Arizona Department of Transportation (ADOT) reported that I-10’s “Inner Loop,” which in part runs along Sky Harbor, was one of the most heavily traveled freeways in the region, carrying up to 300,000 vehicles per day. This, combined with the presence of more than 5000 businesses along an 11-mile stretch of I-10 near the airport, makes the region one of Arizona’s key commerce corridors. To address critical transportation challenges in the area—including severe traffic congestion, complex interchange navigation, and limited connectivity for pedestrians—ADOT engaged in the I-10 Broadway Curve Improvement Project, an endeavor powered by precast concrete products and spearheaded by precast concrete manufacturer Tpac and engineering firm Aztec Engineering.

MASSIVE PROJECT, MASSIVE RESULTS

Precast concrete bridges were an integral part of the project, with girders installed on 18 of the 21 bridges constructed. This included girders used for the rapid, 48-hour replacement of two bridges along the route. Bridge lengths varied significantly, from 1080 ft to just 39 ft. Overall, the project was a massive undertaking—bridges built with precast concrete comprised 55 spans hosting 68 lanes of traffic, totaling 6400 ft in length and 1050 ft in width. Some of the 306 girders manufactured included the largest prestressed girders produced in Arizona,



This project represents one of the largest and most complex urban freeway reconstruction projects in the state's history, demonstrating innovative construction techniques and significant regional economic impact.

**— Troy Jenkins, PE,
Northeast Prestressed Products LLC**



Photos: Patti Reznik Photography for FNF Pulice Flatiron JV.

measuring approximately 180 ft long and weighing more than 187,000 lb. According to Mark Chase, chief operating officer for Aztec Engineering, precast concrete was the material of choice on the project for a variety of reasons.

“Precast, prestressed concrete was chosen to eliminate the need for falsework over traffic, to expedite critical-path bridge construction by allowing superstructure work to proceed in parallel with the foundation construction, and to provide a cost-competitive means to accommodate the span ranges required by the project,” he says.

Chase adds that, beyond its scale, one of the project's greatest challenges was the requirement to maintain all lanes of traffic in both directions at all times, except during designated closure periods at night and on weekends. Meeting this requirement using conventional falsework was feasible, but would have added significant cost and schedule implications to the work.

“The structural depth of the falsework would have raised the resulting profile of the system ramp bridges, creating downstream impacts to cost and schedule from taller and longer retaining walls and other major impacts to crossing overhead utilities,” Chase says. “Precast, prestressed concrete girders eliminated the need for restrictive falsework openings and provided the construction team with flexibility to keep the required lanes open using the entire pavement width available under the structures.”

Precast concrete's ability to address the monumental traffic challenges generated was key to the I-10 Broadway Curve Improvement Project's success. Specifically, the material's superior strength allowed span designs that eliminated the need to split mainline traffic during construction. With six construction zones and just one area closure per weekend, precast concrete enabled the fastest possible installation

within the project's designated five-hour work windows. The result is a vastly improved roadway ecosystem located in the heart of one of Arizona's most heavily traveled sectors and perfectly positioned for future performance.

“The completion of this project represents the culmination of many years of planning to improve this critical connection in the Valley's freeway system,” Chase says. “The work has transformed the area into something that works for the benefit of daily travelers rather than a segment of freeway that, at times, became an impediment to daily travelers, given its high congestion and challenging configurations.”

KEY PROJECT ATTRIBUTES

- The large-scale Interstate 10 Broadway Curve Improvement Project significantly enhances the traveler experience across 11 miles of roadway near Phoenix Sky Harbor International Airport.
- The work represents the largest freeway reconstruction project in the history of the Arizona Department of Transportation.
- Thanks to the use of precast concrete, crews were able to maintain all lanes of traffic in both directions at all times.

PROJECT AND PRECAST CONCRETE SCOPE

- More than 300 precast, prestressed concrete girders were installed on 18 of the 21 bridges constructed for the project, with bridge lengths ranging from 39 to 1080 ft.
- Bridges built with precast concrete comprised 55 spans hosting 68 lanes of traffic, totaling 6400 ft in length and 1050 ft in width.
- One bridge features the longest precast, prestressed concrete bridge girders in Arizona, measuring approximately 180 ft long and weighing more than 187,000 lb.



Bridge with a Main Span from 76-200 Feet

SR 520 MONTLAKE TO LAKE WASHINGTON INTERCHANGE AND BRIDGE REPLACEMENT

SEATTLE, WASHINGTON

PROJECT TEAM

Owner: Washington State Department of Transportation, Seattle, Wash.

PCI-Certified Precast Concrete Producer: Concrete Technology Corporation, Tacoma, Wash.

Engineer of Record: TYLin, Olympia, Wash.

General Contractor: Graham Contracting Ltd., Bellevue, Wash.

The Washington State Department of Transportation's (WSDOT's) vision for the SR 520 Montlake project near Seattle, Wash., was ambitious: Reconnect the communities divided by the freeway, construct a safer and seismically sufficient east-bound approach to the new floating bridge, improve regional mobility, ensure vehicle and pedestrian safety, and enhance pedestrian mobility by connecting local trails and paths. Such a massive project required not only extensive coordination and logistical planning, but also the right building material to bring everything together. WSDOT, in partnership with Concrete Technology Corporation and engineering firm TYLin, adopted a wide variety of precast concrete products for the effort. The result was a three-acre landscaped lid structure, a regional shared-use path tunnel, a signature pedestrian land bridge, and a 1.1-mile, 40-span, base-isolated approach bridge.

BRIDGING CONNECTIONS

Precast concrete was incorporated into the project from the conceptual stage, leading to significant cost and schedule improvements through accelerated bridge construction (ABC) techniques. The project includes four separate precast, prestressed concrete girder bridges, a pedestrian tunnel supported by precast concrete slab girders, and miles of prestressed concrete girders. Precast concrete columns and diaphragms were innovatively used for each pier of the

1.1-mile, 40-span approach bridge. Collectively, the SR 520 Montlake project deployed numerous precast concrete components: 513 girders, 80 columns, 39 diaphragms, and extensive stretches of traffic barriers.

The columns and diaphragms used on the project were particularly important because of the significant advantages they brought to the construction of the approach bridge. Complex geometry on the bridge's approach columns, combined with the project's strict aesthetic requirements, led to a flared column design with a smaller diameter at the base and a larger diameter at the top. Precasting the columns allowed for improved quality control while also eliminating the complex formwork efforts that cast-in-place concrete construction would have required. This shaved considerable time off the schedule, delivering crucial cost savings for the nearly \$500 million project.

The lower portions of the approach bridge diaphragms were also precast and prestressed for ease of construction and to reduce costs. Because the approach bridge is base-isolated, the diaphragms were set on triple-friction pendulum bearings atop the columns. The isolation bearings were temporarily locked and stabilized during construction. Using the precast concrete diaphragms allowed the girders to be erected and the upper, cast-in-place portions of the diaphragm to be poured without temporary falsework. This approach resulted in further formwork savings and minimized both in- and out-of-water work. Beyond these advantages, the decision to use precast concrete was heavily influenced by the sustainability goals of the project team.

"Using various precast components throughout the project reduced the overall quantity of concrete needed, thus also limiting the project's carbon footprint," says Eric Bowles, sales manager for bridges with Concrete Technology Corporation. "Traditional formwork tolerances often result in thicker-than-required concrete members. But with tighter tolerances, the opportunity for chemicals and construction materials to leak from formwork is decreased, resulting in less waste and minimized environmental impact."

Additionally, because the approach bridge was constructed using ABC techniques, work around the water was limited. This reduced impacts to the lake by preserving fish habitats and important natural resources. Precast concrete's resilience and expected long service life also mean that travelers in the region can expect the SR 520 Montlake corridor to serve them well for years to come—all with the added benefit of structures that were designed, manufactured, and installed to withstand the harsh environmental conditions of the area.

"This project increases the capacity of the SR 520 east/west corridor over Lake Washington, improving the connection between Interstate 5 and Interstate 405," Bowles says. "Using precast concrete resulted in reduced construction time with the promise of low maintenance costs and a long service life."



Photos: Graham Contracting and TYLin.

The judges liked this project because it demonstrates the innovation and efficiency that can occur when using prestressed, precast concrete products in design-build projects.

**— Troy Jenkins, PE,
Northeast Prestressed Products LLC**

KEY PROJECT ATTRIBUTES

- 1.1-mile, 40-span, base-isolated approach bridge helps connect the Montlake community and supports modern multimodal transit in Seattle, Wash.
- Beyond the bridge, the SR 520 Montlake project also includes a three-acre landscaped lid structure, a regional shared-use path tunnel, and a signature pedestrian land bridge.
- The construction of the project's main elements improved connections with nearby Interstates 5 and 405.

PROJECT AND PRECAST CONCRETE SCOPE

- The nearly \$500 million project deployed a wide variety of precast concrete components, including 513 girders, 80 columns, 39 diaphragms, and extensive stretches of traffic barriers.
- Work was completed over the span of six years, beginning in 2019 and concluding in 2025.
- Precast concrete, combined with accelerated bridge construction (ABC) methods, limited the need for work in or on the water, reducing impacts on the lake and its aquatic habitats.



International Transportation Structure

102.6 M LONG-SPAN UHPC BRIDGE OVER NIRA CANAL, PUNE PHALTAN, MAHARASHTRA, INDIA

PROJECT TEAM

Owner:

National Highway Authority of India, Maharashtra, India

Precast Concrete Producer and Engineer of Record:

Longspan Structures Pty Ltd, Pune, Maharashtra, India

General Contractor: Vijay Nirman Company Pvt Ltd,

Pune, Maharashtra, India

In western India, a new bridge constructed over the Nira Canal offers an important connection for travelers in the region. Located at Palkhi Marg near Pune, the bridge is on a dedicated route that's heavily traversed during the annual Pandharpur Wari pilgrimage. During this pilgrimage, hundreds of thousands of devotees, known as "varkaris," walk for three weeks through nearby villages and cities, many traveling more than 150 miles to reach the Vitthal Temple in Pandharpur. This is a significant event in the region that serves as a three-day celebration and time of reverence. The new 335-ft-long bridge supports varkaris in their journey—along with the region's many other travelers—thanks to the installation of 156 precast concrete segments.

A MAJOR ADVANCEMENT IN INDIA'S BRIDGE ENGINEERING

To design the bridge, Longspan Structures Pty Ltd leveraged an innovative ultra-high-performance fiber-reinforced concrete (UHPC) U-girder system with a conventional deck slab. According to Sudeep Joshi, head of design at Longspan Structures, the original design called for steel, but the team opted for a precast concrete approach to take advantage of the material's wide array of benefits.

"UHPC was chosen to achieve high strength, durability, and precision in construction while ensuring safety during erection," Joshi says. "The 335-ft-long span demanded materials that could handle extreme loads, slender sections, and



Photos: Longspan Structures and DURA.

minimal maintenance. Precasting also allowed controlled production conditions, ensuring consistent quality that is difficult to guarantee on-site.”

In total, the project used six UHPC U girders, each spanning 335 ft and weighing approximately 456 tons. Each girder consists of 26 precast concrete segments. Once the segments arrived on-site, they were positioned and aligned on a temporary support structure built adjacent to the main bridge. Workers used a trolley-rail system to temporarily assemble the segments, which were then permanently joined via post-tensioning. After the project team stressed and grouted the tendons, the girders were then shifted into their final positions. This innovative method streamlined construction and eliminated the need for heavy, complex beam-launching equipment.

The project team’s decision to select precast concrete also delivered significant sustainability advantages. Using data generated in material quantity take-off reports, the team determined that, while installing precast concrete U girders increased the weight of the bridge superstructure by 15%, the precast concrete design resulted in a 69% reduction in embodied energy, 63% reduction in embodied carbon, and a 63% reduction in global warming potential over 100 years compared with the structural steel I-beam composite solution. These reductions represent substantial decreases in greenhouse gas emissions, resulting in energy savings and a lower environmental impact.

Beyond the environmental advantages, the decision to use precast concrete resulted in numerous benefits to the project team and the greater Maharashtra region. The precast concrete approach reduced costs by 52% compared with the steel solution. The innovative construction method required no road closures, allowing travelers to move through the area without delay. And, thanks to the inherent characteristics of the building material—such as low permeability and high durability—the new bridge is expected to continue serving Pandharpur Wari pilgrimage participants and all those in the community for decades to come.

According to Joshi, “Being the first of its kind in India, this bridge establishes the region as a pioneer in advanced infrastructure technology, encouraging further development in the future.”



The UHPC tub girders reduced costs by over 40%, accelerated construction by 8 months, reduced greenhouse gas emissions, and created a durable, resilient structure that highlights precast in a positive light.

— Kristin Langer, PE, Pennsylvania Department of Transportation Bureau of Bridges

KEY PROJECT ATTRIBUTES

- New bridge in western India constructed over the Nira Canal offers a critical passageway for the “varkaris” who travel during the annual Pandharpur Wari pilgrimage.
- The original design called for steel I-beams but was converted to a UHPC U-girder system.
- No road closures were required during the installation process.

PROJECT AND PRECAST CONCRETE SCOPE

- The project used six UHPC U girders, each spanning 335 ft and weighing approximately 456 tons.
- Each girder consists of 26 precast concrete segments. A trolley-rail system was deployed to temporarily assemble the segments, which were then permanently joined via post-tensioning.
- Precast concrete delivered significant environmental advantages on the project, including a 63% reduction in global warming potential over 100 years compared with the original steel design.



Non-Highway Bridge

192ND STREET UNDERPASS (MORTON BRANCH BR 14.02)

TACOMA, WASHINGTON

PROJECT TEAM

Owner: Rainier Rail, Tenino, Wash.

PCI-Certified Precast Concrete Producer:
Concrete Technology Corporation, Tacoma, Wash.

Engineer of Record: Kimley-Horn, San Diego, Calif.

General Contractor:
RKC Infrastructures Pvt Ltd, Woodinville, Wash.

Developer:
Panattoni Development Company, Inc., Tacoma, Wash.

In the Pacific Northwest, a new industrial park located on 310 acres in Tacoma, Wash., promises to help local businesses “connect faster” and “think bigger.” The park, dubbed FRED310, is centrally located and offers more than 600,000 ft² of space to interested firms. Operating such a large industrial park efficiently requires optimum access to the location. To that end, part of the development process for FRED310 included construction of an underpass to provide public road access beneath an existing spur railroad track. To bring the 151-ft-long bridge to life, Concrete Technology Corporation and project engineering firm Kimley-Horn partnered with Rainier Rail on a precast concrete solution using accelerated bridge construction (ABC) techniques.

MINIMAL DISRUPTION, MAXIMUM VALUE

For more than a decade, ABC techniques have increased in popularity, primarily due to their ability to expedite installation while minimizing closures. Precast concrete is generally the material of choice for such projects, as was the case for the 192nd Street overpass project at FRED310. According to Conner Doolan, structures engineer for Kimley-Horn, both precast, prestressed concrete box beam and steel deck plate girder superstructure options were evaluated. Although the two options had similar projected construction costs, Rainier Rail chose precast concrete because of its low maintenance requirements, long-term resilience, and ability to counteract the project’s challenges. Additionally, precast concrete eliminated the need for temporary shoofly tracks, resulting in cost savings.



Photos: Kimley-Horn and Concrete Technology Corporation.

A primary concern for the project team was reducing disruptions to the railroad, making the deployment of ABC methods essential. Following the completion of the underpass's foundations, which were constructed under active rail service using strategically placed piles that straddled the track, the precast concrete caps and superstructure were erected as part of a planned multiday service outage. For the bent caps, reinforcement from the pile extensions was inserted into corrugated blockouts in the caps and then grouted. At the abutments, smaller-diameter reinforcement cages extended from the bottom of each precast concrete cap into corrugated blockouts in the pile tops, which were also grouted to ensure structural continuity. Precast concrete also streamlined installation of ancillary features of the underpass: wingwalls, handrails, and cover plates were efficiently integrated using cast-in anchor bolts in the abutment caps and threaded inserts in the beams, enhancing construction speed and overall quality.

Customized design elements, including nonstandard spans, tailored beam sections, and bespoke abutments, all helped address the project site's complex constraints. These included a requirement to avoid obstructions in the roadway median, the presence of overhead transmission lines, and the curved alignment of the track. The result was a nonstandard bridge layout with short end spans and a long interior span of 89 ft. The irregular span configuration meant typical industry-standard details could not be used, requiring innovative structural solutions. The unequal span lengths imposed high torsional demands on the bent caps, which were specially designed to accommodate these forces. Additionally, the precast concrete abutments featured tapered backwalls to account for the curvature of the track, allowing the bridge ends to align perpendicularly to the track and maintain proper rail geometry.

Using precast concrete brought additional advantages to the work. High-performance materials and optimized prestressing—including permanent, temporary, and debonded strands—enhanced structural efficiency and durability. Modular detailing of structural components will facilitate future maintenance, with elements including individual beams, wingwalls, handrail panels, and cover plates all designed

for straightforward removal and replacement. This increases resilience by enabling future repairs and upgrades to take place with little to no disruption to operations. In addition, construction-related traffic disruptions and associated emissions were reduced thanks to the shorter ABC timeline, limiting the project's carbon footprint. The result is a 151-ft-long, three-span bridge structure that will help spur the region's business activity.

"Precast concrete allowed us to complete major bridge work during a single seven-day rail outage while delivering a modular and long-lasting structure with minimal maintenance needs," Doolan says. "The underpass improves safety for the community by removing the need for a rail crossing and supports local growth by enabling the expansion of the FRED310 industrial park."

This project took full advantage of the modular nature of precast concrete elements to accelerate construction.

— Julie Sarson, PE, Burns & McDonnell

KEY PROJECT ATTRIBUTES

- 151-ft-long underpass provides a direct connection to FRED310, a new industrial park near Seattle, Wash.
- Built with accelerated bridge construction methods, the 192nd Street underpass required just a seven-day railway outage.
- The bridge consists of three spans: 38, 89, and 24 ft.

PROJECT AND PRECAST CONCRETE SCOPE

- A series of customized precast concrete products brought the bridge to life, including nonstandard spans, tailored beam sections, and bespoke abutments.
- While a steel deck plate girder superstructure was originally considered for the work, precast concrete was selected for its low maintenance requirements, long-term resilience, and ability to counteract the project's challenges.
- Project work kicked off in June 2023 and was completed just one year later in June 2024.



Transportation Special Solution

NEW JERSEY WIND PORT

LOWER ALLOWAYS CREEK, NEW JERSEY

PROJECT TEAM

Owner:

New Jersey Economic Development Authority, Trenton, N.J.

PCI-Certified Precast Concrete Producer:

Precast Systems Inc., Allentown, N.J.

Engineer of Record and Architect:

Moffatt & Nichol, Baltimore, Md.

PRECAST CONCRETE SPECIALTY ENGINEERS:

Precast Systems Engineering, Exmore, Va.;
AH Sample, Ottsville, Pa.

General Contractor:

Ferreira and Pierson, JV, Branchburg, N.J.

As leaders across the world seek clean energy solutions, the adoption of wind turbine generation continues to grow in the United States. From 2014 to 2023, the amount of electricity produced from wind more than doubled, representing an increase of 243,580 GWh over the period. This amount of energy is enough to power approximately 23 million U.S. homes for an entire year. In New Jersey, officials have set an ambitious goal as part of the state's Energy Master Plan to achieve 100% carbon-neutral electricity generation by 2050. To help meet this goal, the New Jersey Economic Development Authority (NJEDA) invested in the construction of the New Jersey Wind Port (NJWP)—a purpose-built offshore wind marshaling port located in Lower Alloways Creek along the Delaware River. The project, which will facilitate the installation of wind turbines along the Eastern Seaboard, was brought to life through precast concrete and the combined efforts of Precast Systems Inc., engineering firm Moffatt & Nichol, and NJEDA.

BREEZING THROUGH CONSTRUCTION

Constructing wind turbines at NJWP will involve receiving components from various international and domestic manufacturers, assembling tower sections and components on-site, and loading and positioning turbines onto installation vessels for final deployment. Due to the size and weight of turbine components, construction of NJWP required expansive space and extreme loading capacities. The only viable solution was precast concrete. Through the installation of more than 1700 precast, prestressed concrete piles, 315 pre-

This project really highlighted the versatility and effective use of precast concrete.

— Kristin Langer, PE, Pennsylvania Department of Transportation Bureau of Bridges

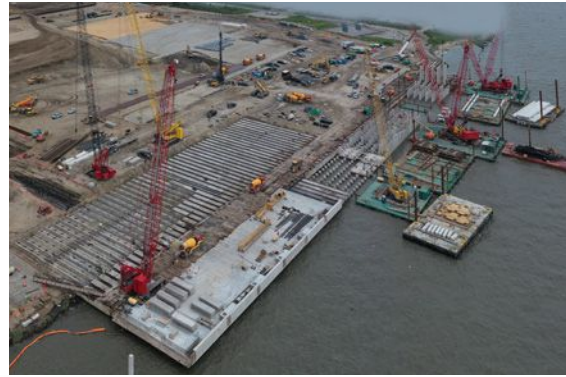
cast, prestressed concrete pile caps, and 840 precast concrete slabs, the port can withstand 6200 lb/ft² of live load, with the inland area capable of supporting up to 4800 lb/ft² of short-term foundation loads for storage and staging.

“The load demands for the offshore wind industry proved to be a challenge that precast concrete was positioned to overcome, as the piles and pile caps could be prestressed, the quality of the product could be better assured, and the rapid construction schedule could be met,” says Fernando González Chana, senior project manager for Moffatt & Nichol.

Beyond the load capacity required for the effort, a primary driver for the use of precast concrete was the project’s rapid construction schedule, tight timelines, and limited footprint. With the piles, pile caps, and slabs produced off-site, components could be transported to NJWP and immediately installed, maximizing the limited laydown area that was available. Additionally, by selecting precast concrete instead of cast-in-place concrete, crews eliminated the need for complex formwork on-site, making the labor safer, faster, and more efficient. With the volume of concrete required for the job, cast-in-place concrete would also have required numerous concrete trucks, increasing the overall hazards on what was already a busy site.

According to Nicky Benedict, civil associate for Moffatt & Nichol, leveraging precast concrete also aided the project team in overcoming numerous project challenges related to the environment where NJWP was built. Specifically, the site is located on artificial islands where the soil is a combination of silty, loose sand and soft clays with poor bearing capacity. This required piles with significant lengths—each measured approximately 100 ft. The piles had to be long, but also capable of withstanding the corrosive environment of the Delaware River as well as the site’s high marine growth activity. Precast concrete accomplished all this and more, including the biggest design challenge: handling the loads that would be imposed by the site’s wind turbine activity.

“Sixty-two hundred psf is an unusually high loading capacity for a conventional cargo port,” Benedict says. “The pile caps based on the initial design were cast-in-place, large in size, and had connection conflicts. By using precast, prestressed concrete pile caps, reduction in density of the cap reinforcing was possible, allowing the connections between pile caps to stay reasonable while still meeting the design loading requirement.”



Photos: Jacob Ray (Moffatt & Nichol) and New Jersey Economic Development Authority (NJEDA) taken by Drone Deploy.

KEY PROJECT ATTRIBUTES

- The New Jersey Wind Port (NJWP) is the first greenfield port in the United States designed, built, and operated exclusively to support offshore wind projects.
- On-site at NJWP, wind turbines will be assembled before being loaded and positioned onto installation vessels for final deployment.
- Construction of NJWP is an integral part of achieving New Jersey’s goal of achieving 100% carbon-neutral electricity generation by 2050.

PROJECT AND PRECAST CONCRETE SCOPE

- Nearly 3000 precast concrete products made NJWP possible: 1748 piles, 315 pile caps, and 840 slabs.
- Use of precast concrete products allowed the NJWP project to meet its aggressive schedule and handle the live loads that will be present at the port.
- Precast concrete’s resilient attributes help ensure the state will benefit from offshore wind generation for years to come—even in the corrosive environment of the Delaware River.



Photo: Cajun Industries LLC.

PROJECT TEAM

Owner: Confidential

PCI-Certified Precast Concrete Producer:
Tindall Corporation, Spartanburg, S.C.

Engineer of Record:
KBR | Zachry Joint Venture, Houston, Tex.

General Contractor:
Cajun Industries LLC, Baton Rouge, La.

PCI Associate Supplier: Splice Sleeve North America, Inc., Birmingham, Mich.

KEY PROJECT ATTRIBUTES

- A liquefied natural gas pipe bridge serves as an integral piece of a new \$12 billion LNG export facility in Louisiana.
- The 2200-ft bridge spans swampy terrain and a highway.
- Due to the critical nature of the bridge, structural demands included seismic resistance, blast protection, and extreme thermal movement.

PROJECT AND PRECAST CONCRETE SCOPE

- Tindall Corporation manufactured 128 pieces of precast concrete for the bridge, with components traveling 700 miles to the project site.
- Two massive 700-ton super bents support the 260-ft highway span. Thanks to mass grouting and innovative connections, crews installed the super bents without scaffolding or mixer trucks, enhancing efficiency and safety on-site.
- Precast concrete excelled in speed of delivery, ensuring the project remained on schedule despite intense challenges and the site's remote location.

Structural Innovation Award

GULF COAST LIQUID NATURAL GAS PIPE BRIDGE STRUCTURE PORT SULPHUR, LOUISIANA

In the low-lying river delta of Port Sulphur, La., a major liquefied natural gas (LNG) export facility faced a complex challenge: transporting cryogenic LNG at temperatures around -260°F from storage tanks to a marine terminal nearly half a mile away. The solution required a 2200-ft-long pipe bridge spanning swamp terrain and a highway, with structural demands that included seismic resistance, blast protection, and extreme thermal movement. Originally designed as a cast-in-place concrete system, the bridge's substructure was re-evaluated early in development, with precast concrete becoming the clear choice for the effort.

Super Bents, Super-Fast

Tindall Corporation, which had already engaged with the owner on additional site infrastructure, proposed a design-build solution for the bridge's substructure bents. Partnering with KBR | Zachry, the general contractor and engineer of record, Tindall developed an emulative precast concrete design that met all performance requirements—including Federal Energy Regulatory Commission approvals—while cutting weeks off the timeline. The system leveraged grouted couplers and proprietary advancing bar connectors to eliminate closure pours and simplify assembly.

Two massive, 700-ton super bents support the 260-ft highway span. Each super bent includes segmented beams and columns weighing up to 52 tons apiece. Using mass grouting and innovative connections, crews installed the behemoth bents without scaffolding or mixer trucks, which was critical to supporting a project in a remote location with limited access. This fully grouted, super-bent-supported precast concrete assembly for accelerated bridge construction is a first in North America.

Because the pipe bridge was located on the critical path for plant commissioning, speed was everything. Sole plates—massive bearing components embedded deep into the beams—were detailed, fabricated, and galvanized in less than a week to stay ahead of schedule. Once pile caps were ready, the team averaged one bent installation per day. Grout reached design strength in less than 48 hours, allowing steel bridge modules arriving by barge to be set immediately. In total, 128 precast concrete components traveled 700 miles to the site, including 23 bents.

Pivoting from cast-in-place to precast concrete proved to be a game changer. The approach reduced site labor, improved safety, and allowed precise coordination in a challenging environment. By combining emulative design with smart connection systems, the team delivered a critical piece of the \$12-billion LNG export facility on time and under budget, positioning this key element of Louisiana's infrastructure up for long-term success and reliability with the power and versatility of precast concrete.

Bridge with a Main Span from 76-200 Feet

DOWNTOWN LINKS, PHASE III, 6TH STREET UNDERPASS TO BROADWAY BOULEVARD ROADWAY IMPROVEMENTS TUCSON, ARIZONA

Designed to improve community connectivity between Interstate 10 and Arizona State Route 210 in Tucson, Ariz., the Downtown Links Phase III project features the construction of a new roadway alignment in the city's downtown core. This transformative infrastructure effort, led by officials from the City of Tucson, includes three major bridge structures: the 6th Street Underpass at Union Pacific Railroad (UPRR), the 9th Avenue Deck Plaza, and the Maclovio Barraza Parkway Overpass at 6th Avenue. Each bridge was strategically designed to enhance multimodal transportation, including pedestrian, bicycle, and vehicular access, while also integrating public art and safety improvements. To bring their vision to reality, the City of Tucson partnered with project precast concrete manufacturer Stinger Bridge & Iron, HDR Engineering, and general contractor Downtown Links Constructors.

Speed, Precision, and Resilience

The decision to leverage precast, prestressed concrete girders for all three bridges on the Downtown Links Phase III project was driven by cost-efficiency considerations, accelerated construction timelines, and the need to meet complex geometric and structural requirements. For the 135-ft 6th Street Underpass, which supports four future rail lines on the UPRR Sunset Route, precast, prestressed, AASHTO Type V concrete girders were selected over the traditionally preferred steel superstructure. A preliminary analysis revealed that precast concrete offered a 15% cost savings while meeting the shallow-depth and skewed-geometry demands of the site. The use of 38 precast concrete girders, installed in just 6 days, minimized disruptions to active rail operations and capitalized on existing roadway closures.

The 9th Avenue Deck Plaza, a 100-ft pedestrian bridge with public amenities, was originally designed as a two-span, cast-in-place concrete slab bridge. To reduce costs and simplify construction, the design was revised to a single-span precast concrete Utah bulb-tee (UBT) girder bridge. This redesign leveraged updated Arizona Department of Transportation guidelines that allow higher concrete strengths—upward of 7.5 ksi initial and 9 ksi final compressive—enabling a shallower superstructure that met vertical-clearance requirements. The five UBT50 girders were installed in just 1.5 days, demonstrating precast concrete's efficiency even under the stresses of a fast-tracked schedule and challenging geotechnical conditions.

The Maclovio Barraza Parkway Overpass at 6th Avenue also benefited from a redesign that replaced a cast-in-place, post-tensioned concrete box girder with precast concrete UBT42 girders. By using higher concrete strengths, the team achieved a shallower superstructure depth than the original design, eliminating the need for falsework over an active roadway. This not only reduced construction complexity but also allowed the 120-ft bridge to be built within an existing road-closure window, further streamlining the schedule. While the bridge as a whole took eight months to construct, the 11 girders were set in just two days.

Across all three bridges, precast concrete provided significant advantages: reduced construction time, lower costs, improved safety, and adaptability to site-specific constraints. Additionally, using precast concrete components eliminated the need for falsework, minimized site disturbance, and improved structural performance and durability for the entire Downtown Links Phase III project, resulting in enhanced infrastructure that the community and its stakeholders can rely on for decades to come.



Photo: Downtown Links Constructors.

PROJECT TEAM

- Owner:** City of Tucson, Tucson, Ariz.
- PCI-Certified Precast Concrete Producer:** Stinger Bridge & Iron, Coolidge, Ariz.
- Engineer of Record:** HDR Engineering Inc., Tucson, Ariz.
- General Contractor:** Downtown Links Constructors (Granite-Borderland Joint Venture), Tucson, Ariz.
- PCI-Certified Erector:** Steel Girder, LLC dba Stinger Bridge & Iron, Coolidge, Ariz.

KEY PROJECT ATTRIBUTES

- The Downtown Links Phase III project in Tucson, Ariz., features the construction of a new roadway alignment in the city's downtown core.
- Three major bridges were constructed as part of the project: the 6th Street Underpass at Union Pacific Railroad (UPRR), the 9th Avenue Deck Plaza, and the Maclovio Barraza Parkway Overpass at 6th Avenue.
- Overall, the project was designed to enhance multimodal transportation in the area and for the wider Tucson community.

PROJECT AND PRECAST CONCRETE SCOPE

- All three bridges installed as part of the Downtown Links Phase III project used precast, prestressed concrete girders.
- Speed of erection played a significant role in the construction of each of the project's bridges, with precast concrete girders set in six days for the 6th Street Underpass at UPRR, 1.5 days for the 9th Avenue Deck Plaza, and two days for the Maclovio Barraza Parkway Overpass at 6th Avenue.
- Additional advantages provided by precast concrete included eliminating the need for falsework, minimizing site disturbance, and improving structural performance and durability.



Photo: Manson Construction.

PROJECT TEAM

Owner: NAVFAC Pacific, Silverdale, Wash.

PCI-Certified Precast Concrete Producer: Concrete Technology Corporation, Tacoma, Wash.

Engineer of Record: WSP (formerly Berger ABAM), Federal Way, Wash.

General Contractor: Manson Construction, Seattle, Wash.

KEY PROJECT ATTRIBUTES

- The P-834 Service Pier Extension supports the homeporting and maintenance of SEAWOLF-class submarines for the U.S. Navy.
- Work on this effort resulted in a mission-critical upgrade for Naval Base Kitsap-Bangor in Silverdale, Wash.
- Innovative engineering and environmental stewardship were key considerations in the Navy's approach to the extension project.

PROJECT AND PRECAST CONCRETE SCOPE

- The pier extension comprises a 68 × 520-ft pile-supported addition that's structurally independent from the existing pier via a 24-in. seismic joint.
- The superstructure was formed with precast, prestressed deck panels topped with cast-in-place concrete to create a composite system capable of withstanding heavy loads and harsh marine conditions.
- Additional precast concrete components installed on the project include trench lids, wave screen panels, and floating berths.

Transportation Special Solution

P-834 SERVICE PIER EXTENSION

NAVAL BASE KITSAP-BANGOR, SILVERDALE, WASHINGTON

Designed to support the homeporting and maintenance of SEAWOLF-class submarines, the P-834 Service Pier Extension at Naval Base Kitsap-Bangor in Silverdale, Wash., offers a mission-critical infrastructure upgrade for the U.S. Navy. With the need to boast a 50-year service life and to accommodate extreme tidal fluctuations, seismic activity, and high operational demands, the project team turned to precast, prestressed concrete as the backbone of a resilient, efficient, and low-maintenance solution. Concrete Technology Corporation of Tacoma, Wash., worked closely with the Navy and Federal Way, Wash.-based engineer of record Berger ABAM on the effort.

Marine-Grade Muscle

The pier extension comprises a 68 × 520-ft pile-supported addition that's structurally independent from the existing pier via a 24-in. seismic joint. Precast, prestressed concrete deck panels form the superstructure, topped with cast-in-place concrete to create a composite system capable of withstanding heavy loads and harsh marine conditions. The decision to use precast concrete was driven by several key factors, including durability in splash zones, an accelerated construction timeline, and the ability to maintain tight tolerances.

Due to the complex nature of the work, the project team encountered several challenges, and precast concrete played a pivotal role in addressing them. The site's glacial till soils and seismic risk demanded a robust fender system. Square precast, prestressed concrete fender piles were specified for their energy absorption capacity and long-term durability, outperforming alternatives in both cost and maintenance. Installed at 10-ft intervals, these piles provide a resilient berthing face for submarines and small craft.

One of the most innovative applications of precast concrete was in the design and fabrication of two floating concrete camels. These massive structures, used for submarine mooring, incorporated precast concrete walls and deck panels made with marine-grade lightweight concrete. The lightweight concrete reduced the camels' draft, enabling launch from a shallow dry dock while meeting the Navy's stringent durability requirements, including low chloride permeability and extended service-life modeling. The camels' asymmetrical, sloped berthing face introduced unique stability and fabrication challenges. Precast concrete components were cast face down with a 13.5-degree slope, then rotated and assembled in a dry dock using cast-in-place closure pours and post-tensioning. This approach minimized on-site labor, improved dimensional control, and ensured watertight joints, all critical considerations for long-term performance in a high-moisture environment.

Additional precast concrete components included utility trench lids, wave screen panels, and foam-filled small-craft floats. The wave screen, constructed from 10-in.-thick vertical precast concrete panels, protects the landside mooring area from wave action while minimizing future maintenance. The trench lids, reinforced for heavy vehicular loads, were designed for easy removal and replacement, supporting long-term utility access. The use of precast concrete not only accelerated the construction schedule, which allowed critical-path activities to proceed concurrently, but also delivered a high-performance, low-maintenance solution tailored to the Navy's operational and environmental demands.

The P-834 Service Pier Extension serves as a prime example of how innovative engineering, environmental stewardship, and precast concrete can coalesce to deliver a complex infrastructure project, all while meeting mission-critical demands.



2027 PCI DESIGN AWARDS

CALL FOR ENTRIES

Join us in our search for excellence and submit your projects electronically by **Wednesday, July 8, 2026.**

The PCI Design Awards is not just looking for design excellence, but also for projects with outstanding use of precast concrete. PCI looks for projects that push the envelope and advance the precast concrete industry.

The PCI Design Awards program showcases winning projects in multiple ways:

- PCI Convention Reception
- Full coverage in PCI publications
- Opportunity to appear on the front cover and/or as a project feature of *Ascent*
- Special project video
- Dedicated project profile on PCI website
- Editorial coverage in external, local, and national magazines

Sponsored by:



VISIT [PCI.ORG/DESIGNAWARDS](https://pci.org/designawards) FOR MORE INFORMATION AND SUBMISSION DETAILS.



THANK YOU TO OUR 2026 PCI DESIGN AWARDS SPONSORS

