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ANDREW CONSULTING ENGINEERS WINS TWO STATEWIDE AWARDS FOR DESIGN OF COFFERDAM AND ELEVATED WALKWAY AT BATTLESHIP NORTH CAROLINA; FIRM ALSO HIRED TO OVERSEE HULL REPAIR PROCESS TO BEGIN IN MARCH 2020

Awards are Firm's Second Win from Structural Engineers Association of North Carolina and First from American Council of Engineering Companies of North Carolina

WILMINGTON, NC – Andrew Consulting Engineers, a structural engineering firm headquartered in Wilmington, NC, was recently honored with two statewide awards for its work on the new cofferdam and State Employees Credit Union Memorial Walkway that now surround the USS North Carolina, a WWII Battleship moored in the Cape Fear River across from downtown Wilmington.

The Structural Engineers Association of North Carolina presented ACE with an *Excellence in Structural Engineering Award for Special Use Structures* at its annual meeting in October. This is Andrew Consulting Engineers' third award from SEA of NC. Its first award was the *2016 Award for Excellence in Structural Engineering for Best Project, New Construction, $10 - $50 Million,* for its structural engineering work on the Wilson Center, a 1,500-seat performance hall at Cape Fear Community College in Wilmington, NC. In 2017, they also awarded an *Excellence in Structural Engineering Award for Special Use Structures* for their work on the St. Mark's Episcopal Church Bell Tower repair design. The Structural Engineers Association of North Carolina was established in 2009 and is dedicated to improving the practice, educational standards and pubic understanding of structural engineering.

The American Council of Engineering Companies of North Carolina (ACEC/NC) presented ACE with its *2020 Honors Award for Engineering Excellence* for its work on the Battleship North Carolina at its annual award dinner in November. Founded in 1969, ACEC/NC includes 200 member firms and is the sole organization in North Carolina that represents the business interests of the engineering industry.

"We are very honored by these two statewide awards, as this project is a once-in-a-lifetime opportunity for a structural engineer," said Neal Andrew, president of Andrew Consulting Engineers. "We've done a number of cofferdams, but the magnitude of this job is extraordinary. A cofferdam is typically a temporary structure used for underwater construction, but this cofferdam is permanent and had to not only be built to last, but also had to be aesthetically pleasing since the Battleship is a beloved Veterans Memorial and a historical icon for the City of Wilmington."

A cofferdam is a structure built within a body of water to allow the enclosed area to be de-watered to create a dry work environment. The Battleship cofferdam will enable workers to repair the ship's corroded hull and will enable the ship to remain open while repairs are underway. Andrew Consulting Engineers has been hired as Engineer of Record by the state of North Carolina to oversee a 6-month hull repair project scheduled to begin in March 2020. The last major dry docking and repair work on the Battleship North Carolina was done in November 1953, eight years prior to its move to its current berth in Wilmington in 1961. Since then, the ship has endured more than 50 years of wind and water at the tide line that has left the hull paper-thin in places.

The cofferdam is comprised of a series of 50' tall structural steel sheet pilings that form the wall and are held in place by a series of 55' to 60' tall steel "H" pilings, half of which are placed vertically against the sheet to hold

it in place and the other half placed at an angle to the sheet or “battered.” Both the sheet pilings and the H pilings were driven 30’ to 40’ below the mudline, with just 10’ showing above the water line.

“The H pilings need to be 55’ to 65’ long due to the Jello-like consistency of the mud surrounding the ship,” said Andrew. “They have to extend through the mud and down to bedrock in order to provide the structural support needed. The same applies to the cofferdam sheet piles and steel piles. In essence, we created a 6-story building with about four to five stories of it underground and only one story visible above the waterline.”

The cofferdam’s purpose of de-watering the work area is made possible by four weir gates built into the structure. Weirs are water-tight gates that can be opened to allow water to be pumped out and closed to allow water in. Typically, the weir gates will remain open unless repairs are under way and a dry work area is required.

The SECU Memorial Walkway, which was constructed simultaneously to the cofferdam, is a ½ mile long, 10’ wide timber walkway that is above the water line but below the main deck of the Battleship. The SECU Memorial Walkway completely surrounds the ship and enables visitors to see the entire hull for the first time. The SECU Memorial Walkway includes five bump-out areas to honor each of the five branches of the military -- Army, Navy, Marine Corps, Air Force and Coast Guard. The Merchant Marine are honored with its flag flying on the quarterdeck. Signage and displays are placed at various points along the SECU Memorial Walkway to educate visitors about the Battleship and the surrounding natural areas. The public can access the SECU Memorial Walkway free of charge and are not required to purchase a Battleship tour pass.

Established in February 2004, Andrew Consulting Engineers is a full-service structural engineering firm that provides structural, forensic, marine and forensic engineering services for companies, organizations and state and local governments throughout the southeast. Andrew Consulting Engineers has worked on everything from the Wilmington Riverwalk and Carolina Beach State Park Marina to Cape Fear Community College’s Union Station and GE’s Global Laser Enrichment Selective Isotope Laser Excitation Test Lab.

Andrew Consulting Engineers is headquartered at 3811 Peachtree Avenue in Wilmington, NC. For additional information, go to www.andrewengineers.com.

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