



# under the surface

MARINE ENGINEERING & CONSTRUCTION EXPERTS



The Castle Group  
Innovation in action  
W.J. Castle P.E. & Associates  
Hydro-Marine Construction  
Simplified Bridge Systems



## company News

Visit us at PORTS 2010

**Where You Can Find Us:**

- The Castle Group will be exhibiting at the PORTS 2010 Conference, April 25-28, in Jacksonville, FL. Be sure to visit us at booth #200.
- The Castle Group will also be sponsoring the Awards Luncheon featuring guest speaker Brian Brenner, P.E. on Monday, April 26 from 12:00 to 1:30 pm. We invite you to attend.

We are pleased to announce that The Castle Group will be receiving the COPRI 2009 Project Excellence Award at the Awards Luncheon. Please join us as we celebrate this prestigious achievement.

**For More Information On This Conference:**

- Visit [www.portsconference.org](http://www.portsconference.org)
- Contact Melissa Stein at [mstein@wjcastlegroup.com](mailto:mstein@wjcastlegroup.com)
- Call The Castle Group at 800-644-4713

*We look forward to seeing you in Jacksonville!*



Official Newsletter of The Castle Group: Volume 3



## CASTLE Wins COPRI Project Excellence Award for Quay Pier Rehabilitation

We are proud to announce that The Castle Group has won the COPRI 2009 Project Excellence Award for its work, repair and rehabilitation of The Quay Pier, located on the Delaware River at Penn's Landing. The Judging Committee of the Project Excellence Committee found The Castle Group's approach and execution of the project a stand-out among many other projects that were submitted. "The Judging Committee was faced with a difficult decision, due to the extremely high-quality of submissions. The technical expertise demonstrated in each of the [competing] projects was superb," says James E. Spady, P.E., Chair COPRI Awards Committee. The Coasts, Oceans, Ports and Rivers Institute and the Project Excellence Award Judging Committee selected The Castle Group as winner of the Small Project Category.

The Quay Pier, approximately 1,300 feet, had suffered severe damage when a tanker collided into the pier on March 16, 2006. The

pier had been previously used as a marina dock for US NAVY ships and other large vessels. After careful inspection and analysis by W.J. Castle & Associates, P.C. engineers (CASTLE), the pier was discovered to be structurally devastated and CASTLE deemed

*"For a company of only ten to be one of two companies in the nation to receive the 2009 COPRI Excellence Award is a major accomplishment for The Castle Group."*

- Melissa Stein of The Castle Group

the pier unsafe and unusable. "Based upon our inspection, it was found that the east end of the pier was only partially supported by one pile. Therefore, no work could be performed, either under the pier (underwater)

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## CASTLE Visits PSPE

The end of 2009 was a busy season for The Castle Group as we participated in PSPE Philadelphia Chapter events.

### November 2009

On November 5th, Bill Castle was invited by Past President and Current State Director Soheila Rahbari, P.E. of the PSPE Philadelphia Chapter to present the Quay Pier Rehabilitation Project. Bill's presentation was approved by the Practicing Institute of Engineering as acceptable for continuing engineering credits in New York State.



### December 2009

On December 3rd, W.J. Castle, P.E. & Associates was awarded Honorable Mention by the PSPE Philadelphia Chapter at the Delaware Valley Outstanding Achievement Awards for the Roebling Steel Plant Bridge Reconstruction. We competed against extraordinary projects such as Richard Stockton College Solar Carports by Eastern Energy Services, Inc., Lockheed Martin's GPS III Antenna Mechanical Design, WPVI Channel 6 Upgrade from Analog to Digital, and Maida Engineering's Quarry Pumps Project. We at CASTLE were honored to be in the presence of such excellence.

**The Castle Group**  
Innovation in Action  
Tynddol Building  
1345 Route 38 West  
Hainesport, NJ 08036

## New York Power Authority Project



In 2009, the New York Power Authority (NYPA) awarded Hydro-Marine Construction Co., Inc. (HYDRO) the contract to perform the upgrade and repair of the Long Island Cathodic Protection System after ten years in operation.

The Cathodic Protection System was initially installed in 1999 to mitigate stray DC currents that could impact the operating life of the Y-49 Self Contained Fluid Filled Cable.

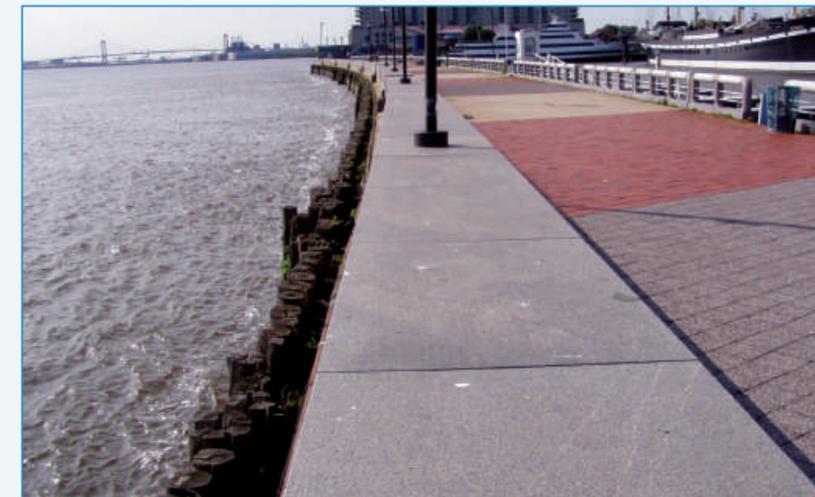
Prior to HYDRO's project mobilization, NYPA located the existing cathodic beds. HYDRO then performed an in-depth underwater inspection to verify the location of the cathodic beds as well as all existing submarine cables. Once located, the new cathodic beds were installed. All cables were then spliced on Hydro's workboat and finally relocated back in the water. A total of 18 anode beds, 8 reference electrodes and 2 density sensors were replaced

and installed providing cathodic protection to the 4 major submarine cables that supply power to Long Island and surrounding area. HYDRO started work on the Cathodic Protection System in October 2009 and was finished in November 2009. All work was completed in 3 weeks.



## CASTLE Wins COPRI Project Excellence Award for Quay Pier Rehabilitation

*Continued from Cover*



or topside until the pier was stabilized. This required innovative engineering in order to protect personnel and also to save the pier from total collapse," says William J. Castle, President of The Castle Group.

Following inspection, Hydro-Marine Construction was retained to perform the emergency underwater repairs required to stabilize the pier, developing a repair procedure that stabilized the pier for repairs and eventually saved the concrete superstructure from being removed and replaced. CASTLE's method would reduce the estimated repair cost from \$1.5 - \$2.0 million dollars, to a cost

of \$875,000. Through the overall design and method of stabilizing the pier from collapsing, CASTLE was able to develop and execute temporary and permanent repairs.

The Castle Group will be present at the Project Excellence Awards Luncheon at the PORTS2010 Conference in Jacksonville, Florida April 25-28 to receive recognition of this prestigious accomplishment. "We are honored to have the hard work and innovation behind the success of this project recognized by such a prestigious institute and it motivates us to continue our standard for excellence," says Melissa Stein of The Castle Group.

## 4 Questions WITH

Greg McGrath



**What made you want to become an engineer?**

*I was working for a construction company and the foreman noticed my solid construction background and thought that I might benefit from adding an engineering skill set. He suggested I look into taking some engineering courses and I decided to apply to Rowan University where I received my B.S. in Civil Engineering with an Environmental Emphasis. I wouldn't be where I am today had he not made such a suggestion.*

**What are your personal goals within the marine engineering industry?**

*My first and most important goal is to obtain my Professional Engineering License. This would add another licensed engineer to the team. I would also like to be certified as a Level 4 NICET (National Institute Certifying Engineering Technologies). Holding this certification would allow me to be a Resident Engineer on any State Department of Transportation project. In completing my personal goals, I will become a better asset to The Castle Group.*

**What does a typical day look like for you at The Castle Group?**

*There are no typical days at The Castle Group and it's a challenge that I welcome and look forward to each day. I participate in both engineering, construction as well as training as a diver assistant. On any given day, you could find me at my desk doing calculations, burning steel in the field, driving the boat and assisting with underwater inspections.*

**You are an engineer, but you also perform diving and construction. How did you arrive at such a wide scope of work at The Castle Group?**

*The majority of The Castle Group's projects involve engineering, construction and diving affording me the opportunity to develop a diverse and dynamic knowledge. At The Castle Group, we don't do your typical cookie cutter projects and everyone on the team is a part of learning each of these trades. It is a great learning experience for me and I'm thankful to be a part of a growing organization that encourages its employees to continually cultivate their knowledge and refine their skills.*

## United States Army Corps of Engineers Timber Jetty Removal



In 2009 The Castle Group was awarded the contract by the United State Army Corp. of Engineers (USACE) to perform the inspection, analysis and removal of an existing timber jetty. The jetty was located in the confluence of Cedar Creek and Mispillion River at Slaughter Beach, Delaware. The entire jetty was deteriorated, and with portions of the 1,100 L.F. jetty extended above water, it had become hazardous to boats traveling in the area.

W.J. Castle, P.E. & Associates, P.C. (CASTLE) performed the underwater inspection of the jetty to determine the overall condition of the structure as well as the length, height and quantity of material to be removed. As per USACE requirements, the timbers were to be cut near the mud line. The jetty was removed by Hydro-Marine Construction Co., Inc. using in-house divers and company owned boats, barges, and cranes.

After Hydro-Marine had completed the removal of the timber jetty, CASTLE performed a side scan sonar survey to evaluate and confirm that all portions of the jetty were indeed removed in accordance with USACE specifications. Work began on the jetty in October 2009 and was completed by November 2009.

## Recently Featured In

The Castle Group has recently been featured in the following publications:



**Underwater Magazine**  
Jan/Feb 2010 Issue  
Page 54



**Roads & Bridges Magazine**  
Dec 2009 Issue  
Page 40



**Inland Port Magazine**  
Jan/Feb 2010 Issue  
Page 16



**Sea Technology Magazine**  
Jan 2010 Issue  
Page 56