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

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

Official Newsletter of The Castle Group: *Volume 2*

company News

Mark celebrates 10th anniversary with The Castle Group:

Mark Kremper, Project Superintendent, started out as a temporary laborer looking for one month of work. Mark has been a major contribution to the growth and success of the company and we thank him for his continued service.

Melissa Stein:

She was promoted to Marketing Coordinator in February 2009. Melissa started with The Castle Group in August 2007 as an Administrative Assistant.

We would like to introduce the newest members of The Castle Group Team:

Bryan Van Lenten:
Engineer, May 2009

Shaylee McNally:
Administrative Assistant, March 2009

Shoring up the Bulkheads in Sea Isle City

Bayside homeowners of Sea Isle City, New Jersey were faced with an unfortunate act of nature this past January. Strong currents in the Townsend's Inlet bay caused a small area of the bulkheads to fail. With the constant force of moving water pushing against the bulkhead failure, the damage quickly progressed until approximately 125 linear feet of steel sheeting bulkhead collapsed into the bay. This led to the erosion of the foundation that was supporting the condominiums, thus creating unsafe living conditions. It also caused the docks to separate from the homes, dragging parts of the condominiums into the bay. As a result, all three of the bayside condominiums were deemed unsafe and shut down until the bulkheads and foundation were repaired.

Soon after, W.J Castle and Hydro Marine Construction, Inc. were hired by property owners of 82nd & Bay Condominiums Association to inspect the damage and install new bulkheads. After obtaining permits from Sea Isle City and N.J.D.E.P., the first and most important task upon which The Castle Group embarked was performing a preliminary underwater inspection to determine the extent of the damage and to discover how much debris was lying on the channel floor. This was performed by certified W.J Castle divers.

After the initial dive, the next step was to perform an underwater survey to determine the channel bottom, elevations, and debris field. This was accomplished using both a fathometric survey and also The Castle Group's newly acquired side scan sonar. The data that was obtained from these surveys was crucial when it came time to design the new bulkheads. To ensure that further erosion did not occur during the bulkhead design phase, The Castle Group constructed temporary bulkheads using concrete filled bags and placed them underwater along the entire west side of the property. Using these temporary bags significantly reduced the likelihood of complete failure and destruction of the condominiums.

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Bill Castle Honored by Penn State

Bill Castle was honored by Penn Statue University-Altoona with the "Outstanding Alumni Award" at the Ivyside Society Induction Ceremony on September 17, 2009. This award recognizes alumni of the college who have attained a significant level of accomplishment in their careers or contributed significantly to the betterment of society. Candidates for the award are individuals who possess a record of achievement that distinguishes them as leaders in their profession and/or community. Bill is the third ever recipient of this distinguished honor.

The Castle Group Sponsors Penn State Speaker Series

Penn State Altoona's Speaker Series featured Secretary of State, Madeline Albright on April 30, 2009 in the Adler Athletic Complex on campus. The Castle Group was the title sponsor of the event, along with media sponsors WTAJ-TV and the Altoona Mirror. Proceeds from Speaker Series events will benefit the Penn State Altoona Future Fund.

Our Innovative Solution To Pile Deterioration: The Hydro-Brace℠ H-Pile Repair

Patent-Pending Solution To Steel H-Pile Repairs That Reduces Costs, Installation Time, While Increasing Load-Capacity.

The Castle Group (W.J. Castle, P.E. & Associates, P.C.) announced the release of their innovative new H-pile repair system for marine structures, the Hydro-Brace H-Pile Repair.

Poised to revolutionize H-Pile repairs, this patent-pending repair system allows for fast installation and reduced cost, all while increasing load capacity of the H-Piles on which it is installed.

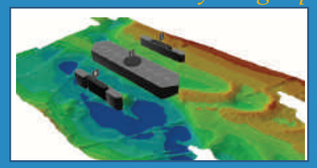
Traditional H-pile repairs are typically a time consuming, labor intensive process — The Castle Group's Hydro-Brace H-Pile Repair reduces cost by 20%, can be installed in a fraction of the time of pile replacement all while increasing H-Pile load capacity by 30-50%.

Recently Castle Group, along with its construction partner company, Hydro-Marine Construction Co., Inc., installed the system at a pier requiring over 250 steel h-pile repairs.

For information about the Castle Group's pile repairs, contact us at 1-800-644-4713 or email at wjc@wjcastlegroup.com.

New Technology at The Castle Group

Multi-Beam Hydrographic Survey



This surveying technology helps The Castle Group to see areas on the murky Delaware River bottom that were once unseen. Being one of the major causes for failure of marine structures, scour is the localized deepening of the river bottom around a structure's foundation. Now with the help of the newly acquired Multi-Beam Surveys, it is finally possible to locate scour holes, underwater cable runs, and debris. This technology even has the ability to provide a time-lapse history video to show how the river is changing over time.

Side Scan Sonar

The JW Fishers SSS-100K/600K is the newest addition to the Castle Group family. This model has both low and high frequency transducers in one towfish, allowing the operator to switch between 100K and 600K at any time during the operation. The towfish is rated for 500 feet depth and is equipped with 150 feet of cable. The data that is collected is then sent to a laptop computer where it can display a real time color image of the ocean floor. The Castle Group has two engineers who are certified by the side scan sonar manufacturers in operation and maintenance of the side scan sonar system.

Industry News

Teledyne Instruments Offer Year-End Savings

In an effort to support the oceanographic industry during this difficult economic time, Teledyne RD Instruments is pleased to offer substantial savings opportunities on its Marine Measurements Workhorse Acoustic Doppler Current Profiler (ADCP) products. Offers range from product trade-in credits, to product combo discounts, to free upgrades; and are valid on new purchases made now through December 31, 2009.
Visit www.rdinstruments.com for more information.

EdgeTech Delivers for USN Oceanographic Office

EdgeTech delivered fourteen 4200 Side Scan Sonar Systems to the U.S. Naval Oceanographic Office (NAVO). This is in addition to the eight 4200 Systems that were delivered to NAVO recently. These fourteen systems are all dual simultaneous frequency 300/600 kHz that will be utilized by NAVO for shallow water surveys worldwide.

Shoring up the Bulkheads in Sea Isle City

Continued from Cover

Once the damaged steel bulkhead and debris were removed, it was time to begin designing and constructing new bulkheads using steel sheeting. Fortunately, when the existing concrete anchor was inspected, it was found to be in good condition and only required minor repairs. The Castle Group was therefore able to tie brand new tie-rods, walers, and hardware into the existing anchor, saving hundreds in construction costs. Some of the hardware and equipment used for this project included 60 feet of high strength 1 1/8" steel, an underwater magnetic drill that helped in drilling cleaner, smoother, and faster holes, hydraulic chain saws and vibratory hammers, and hot-dipped galvanized nuts and bolts with a lifespan of 30 to 50 years. Work was performed off of a deep steel work barge, and a 75 ton hydraulic crane.

The Castle Group faced significant challenges in designing and building the new bulkheads. Some issues included keeping the costs within limits for the homeowners; working against strong currents; limited visibility; and being forced to perform all of the work from the water on a barge.

Having completed the installation of the new bulkheads by mid-August, the final task was to fill the space behind the new bulkheads with approximately 1,000 cubic yards of cement. However, prior to filling this space, there was still one more thing that The Castle Group felt was important. Two weeks prior to pouring the cement, The Castle Group sent two of their certified divers to go underwater and rescue any marine life that may have been trapped in the space between the newly installed bulkheads. Although the divers were not able to find much wildlife during this dive, crabs and other sea creatures began to rise to the surface a few weeks later as The Castle Group started to backfill the open space with cement. Some young local residents who were observing the construction quickly spotted the crabs, fished them out with their nets, and released them into the bay.

Looking back at the Sea Isle City project, it is hard to imagine how the design and construction of the new bulkheads could have even take place in as little as four months if it weren't for the integration and synergy of W.J Castle and Hydro Marine Construction. "With the synergy of the three interrelated companies that comprise The Castle Group, we have the unique ability to solve any problem and then keep moving forward without delay. When The Castle Group works on a project there is no stopping to outsource work to other companies, no arguing between engineers and contractors, and no re-learning," said William J. Castle, founder and president of The Castle Group.

4 Questions WITH Melissa Stein

Tell us about your background and position at the Castle Group.
My degree is in Spanish and English from Muhlenberg College. I started out as an Administrative Assistant with The Castle Group and over my first year with the company, I was given the opportunity to attend various marketing events. It was this exposure to marketing that made my interest grow. Bill and Janet both saw the need to expand this department of the business and created the Marketing Coordinator position which I now hold.

What is it about The Castle Group that sets it apart from other marine engineering firms?
The Castle Group is essentially your "one stop shop" for marine structural engineering and construction. We have the ability to analyze problematic marine structures, design the appropriate repairs ourselves without having to subcontract the work. We can also design and build small to medium prefabricated bridges from the design to permit to construction phases. Normally, you might end up dealing with numerous firms to get the project done, but with The Castle Group that is not necessary. Our services are diverse, innovative and unparalleled.

Where do you see The Castle Group going in the next five years?
We are currently a company of 18, but we are a mighty 18 that know how to get the job done. Each year, we are doing more projects and working harder to get our name out there. The Castle Group's reputation for excellent work and continued marketing efforts have paid off and we are headed for some growth. In five years, I can see The Castle Group doubling and doing work with more large corporations and government agencies. A solid team is where everything starts and the sky is the limit.

What's the most interesting (or exciting) thing about working at The Castle Group?
I would have to say the people and the opportunities. Because we are a small company, everyone wears more than one hat. We are all dedicated to making the company a success and to do that, we all carry more responsibility than what our job title describes. This allows for personal growth in that we are all exposed to different departments on a regular basis, whether it be attending an engineering meeting, going out in the field for an inspection, presenting The Castle Group to a potential client or working on a proposal. We are afforded the opportunity to work on many different type projects and constantly learn about the different aspects of what makes the company a success. This makes for more knowledgeable employees and results in a more exciting work place and successful company.