Logan Diving & Salvage Protects Underwater Habitat Using Slingbag From QUIKRETE for Stabilzation Project

Virgin Islands recently stabilized a 300-foot long seawater intake pipeline using SlingBag® from QUIKRETE® placed by Logan Diving & Salvage. Designed to feed the HVAC chillers on the resort, the existing underwater intake pipeline was less stable than expected when original installed and became a potential hazard to the natural habitat. Logan Diving & Salvage placed more than 9,400 60-pound rip rap burlap bags of 3-in-1 sand/cement delivered in nearly 170 SlingBags to successfully stabilize the intake pipeline.

Following Tropical Storm Isaac in 2012, which moved the intake line enough to cause some damage to surrounding coral, stabilization efforts were undertaken to include placing weights anchored by Kevlar lines and metal cables on top of the intake pipeline were attempted. These techniques not only failed to prevent the intake pipeline from shifting during inclement weather, heavy seas and fast currents, but placed the coral at even greater risk. In a multi-step process that was completed in less than four weeks, Logan Diving & Salvage permanently stabilized the intake pipeline with the patented SlingBag system to insure that seawater reached the resort's HVAC chiller without being a detriment to the underwater environment.

After securing the five required permits from local and national governing authorities, coral within the stabilization footprint was relocated underwater for safe keeping, all debris around the intake pipeline was removed and the rip rap burlap bags were staged in SlingBags on the beach. In the shallow water, rip rap burlap bags were walked to the appropriate locations and placed under, beside and on top the intake pipeline. As the water got deeper, SlingBags carrying 56 rip rap burlap bags each were transported by boat before being placed around the intake pipeline by divers. Epoxy-coated #4 rebar was inserted into the rip rap burlap bags during the process to strengthen the bond between each other and with the sea floor. A high-strength material, the 3-in-1 sand/cement bags will harden to 4,000 PSI and become a single cohesive mass. In addition, the burlap is biodegradable and there is no chemical print on the bags. Once the placement of the rip rap burlap bags was done, the coral was safely transplanted and markers placed along the intake pipeline. Water quality samples were taken daily and analyzed with a turbidity meter during the project to reaffirm that the bag installation did not exceed permitted turbidity requirements. The underwater intake pipeline is now effectively stabilized, supported and protected from movement caused by coastal ocean currents and wave action during elevated sea states.

"During the past 70 years, we've installed, maintained and repaired more than 800 underwater oil, gas, liquefied natural gas and water pipelines across the U.S. and Caribbean using the industry standard cement bag method repair," said Scott C. Anderson, president of Logan Diving & Salvage. "In my experience, the SlingBag system is by far the best, fastest, safest and cleanest method for addressing underwater pipeline requirements. It consistently delivers consolidated, uniform and easy to handle materials for all of our pipeline underwater stabilization, immobilization and protection needs."

SlingBag has been used for underwater stabilization, to install running-bond retaining walls and for erosion control around culverts, ditches, lakes and canals across North America. A heavy duty woven polypropylene fabric tote with four polyester lifting loops that holds 56 60-pound rip rap burlap bags of 3-in-1 sand/cement bags, SlingBags are transported using cranes, forklifts and other heavy equipment making it easy, efficient and safe to store, move and place the bags five times faster. For more information on the SlingBag system and related products, visit www.slingbag.net or www.QUIKRETE.com. "In more than 40 years in this industry, I consider the St. Thomas project a real high point. Securing the five required permits was a challenging seven-month process, but critical due to the environmental considerations involving the coral reef in the project area," said Dickie Daigle, national sales manager for SlingBag. "Our SlingBag system has proven to be an effective tool for underwater pipeline stabilization, especially on projects with environmental requirements like St. Thomas. The biodegradable bags are not only safe for the environment, but actually contribute to the natural appearance of an underwater landscape as they harden and conform to the seafloor. Of course, I also attribute much of this project's success to Scott Anderson and his team at Logan Diving & Salvage."