PROJECT TITLE: Pier 3 Rehabilitation and Pier 6 Bulkhead

CONTRACT NO.: 850960 and 851166

LOCATION: BAE Systems Norfolk Ship Repair, Norfolk, Virginia

AWARD DATE: April 2006 **COMPLETION DATE:** April 2007

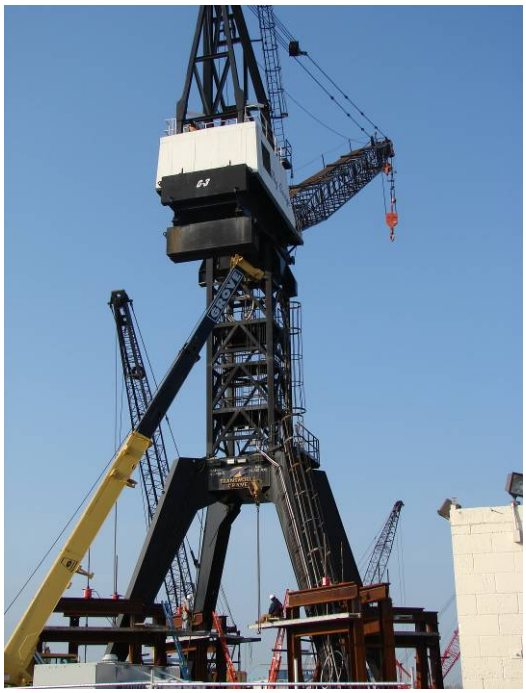
FINAL VALUE: ☐ $0-1 Mil ☐ $1-5 Mil ☒ $5-10 Mil ☐ $10-20 Mil
☐ $20-30 Mil ☐ $30-40 Mil ☐ $40-50 Mil ☐ $50+ Mil

TYPE OF CONTRACT: ☐ Fixed Price ☒ Cost Reimbursable

PROJECT DESCRIPTION:

To accommodate larger Navy vessels and to expand its line of commercial projects, BAE Systems Norfolk Ship Repair awarded W. F. Magann Corporation the contract to rehabilitate the existing Pier 3 structure and upgrade the Pier 6 structure. The new Pier 3 was constructed on top of the existing structure in an effort to save money and to avoid the environmental issues associated with demolishing the existing pier. Work was performed to minimize disruptions to the facility, which enabled the owner to continue operations while construction was taking place.

Work on the project began at the Pier 6 location and consisted of repairs to approximately 250 feet of the existing bulkhead located on the Southside of Pier 6. We performed exploratory excavation, excavated to expose the existing tie-rods, repaired the existing steel sheet piles, installed a new wale, installed new tie-rods, and backfilled to the existing grade. To complete the area, we placed approximately 2,900 tons of riprap slope protection on the dredge slope (approx. 2'D x 60'W x 400'L).



Jacking frame used to raise the portal crane.

As work shifted to the Pier 3 location, demolition of the existing pier surface had to be performed to enable the construction of the new pier surface on top of the existing. Timber curbing, bollards, utility stations, and concrete pedestals had to removed to create a uniform surface within a ¼" tolerance. The existing timber fender system was also removed to allow for a wider concrete deck surface.

A unique challenge of the pier involved raising the existing 200 ton portal crane approximately six-feet in the air. The crane had to be lifted in place, using an intricate jacking system that was designed by our in-house engineer, while construction of the elevated crane rail took place underneath. At the completion of the new concrete crane rail structure, the portal crane was gently set down onto the new structure.

To complete construction of the new pier we drove approximately 400 eighteen-inch square concrete piles, totaling over 33,000 linear feet, through the existing pier deck and placed approximately 4,000 cubic yards of concrete. The final pier structure was protected by 138 each 13" x 70' long timber piles and over 37,000 board feet of timber structure.

Installation of concrete piles through the existing pier deck surface.

Completion of the new elevated Pier 3 structure.