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Rehabilitating A Pier In The Niagara Frontier



A 70-ton Lima crane mounted on barge sets precast concrete post base.

Buffalo's Bird Island Pier Repaired To Avert More Tragedies

Recreational Pier Is Rebuilt To Safeguard Fishermen And Walkers

Lake watchers in the Niagara Frontier city of Buffalo have had plenty to interest them this year as the city, the state of New York, and the Army Corps of Engineers worked together to rebuild the local recreation and fishing facility known as Bird Island Pier.

The original pier was built over 150 years ago as an integral part of the Black Rock Canal and Lock System, located at the confluence of Lake Erie and the Niagara River. Running from Squaw Island under the Peace Bridge to a point opposite Buffalo's La Salle Park, the pier was designed to provide a calm water navigation channel between Lake Erie and Tonawanda Harbor and the Erie Canal.

With a length of about two miles, the pier in recent years became a favorite fishing spot - but a dangerous one. Wind from the southwest drives water into the canal, which is blocked at the north end by the locks. This causes a



The tugboat Mohawk pushes one of the materials barges.



A clamshell bucket is used to place riprap on the pier.



Bhandari's project manager, Jack Wellington, right, confers with Mike Gruber, Army Corps of Engineers construction representative.

dramatic rise in water level until it overlaps the pier. Such changes often occur with very little warning, so that fishermen and walkers can easily be washed into the fast-flowing waters of the Niagara River. And in fact, this has been happening three or four times a year, often with fatal results.

Structural alterations on the pier have already been completed by Bhandari Constructors & Consultants, Syracuse, NY, under a \$3.8 million contract. Bhandari's contract called for raising the level of the pier by installing a 6-foot-wide elevated walkway rising approximately three feet above the existing level.

The new walkway extends south from Squaw Island, a distance of nearly 7,000 feet, with approximately 200 culverts under it to allow the water from the canal to continue flowing into the river.

In addition, safety platforms have been installed at intervals along the pier's length, rising 10 feet above the existing structure. These 25-foot-wide platforms are designed to serve as places of refuge should the water level rise suddenly.

According to Bhandari's project manager, Jack Wellington, they placed about 15,000 tons of riprap on the pier. Supplied by County Line Stone and Frontier Stone, the material was trucked to Squaw Island and barged out to the pier.

In raising the level of the pier and constructing the walkway, the contractor installed precast concrete post

bases every 10 feet on concrete foundations. The coated, elliptical culverts (Armco coated corrugated metal pipe), were set on a bed of stone and anchored in place with stone. More than 600 precast post bases were installed; they were fabricated by Frank E. Stettenberg Company, Orchard Park, NY.

Bhandari had two crane barges and two materials barges shuttling back and forth. Two barge-mounted Lima truck cranes, one 70-ton, one 90-ton, were used to set the precast and cul-

verts. The 90-ton machine was also utilized to place the riprap and pour the walkway concrete.

About 2,800 cubic yards of concrete went into the walkway, concrete supplied by Clarence Materials. Bhandari used a pair of 4-cubic-yard Garbro buckets to pour it.

Both the tugboat Mohawk - which pushed the crane and materials barges - and the workboat Cheyenne, were provided by well-known Buffalo boat owner Tommy Dawes. ■



Bhandari crewmen position one of the culverts.