

**PRECAST CONCRETE PRODUCTS
FOR
WATERWAYS**



LOCK CHAMBER WALLS:
High performance precast concrete panels are used to re-face existing deteriorated chamber walls.



**WATERFRONT DOCKS
AND BULKHEADS:**

Attractive high quality precast elements are used to upgrade municipal dockside facilities.



**THE
FORT MILLER
CO., INC.**
A FORT MILLER GROUP COMPANY

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**TAINTOR GATE
PIERS:**

Precast pier segments speed replacement of original cast-in-place piers.

PRECAST CONCRETE SOLUTIONS



LOCK CHAMBER REHABILITATION



ABOVE:

Deteriorated concrete is typically removed by line drilling and blasting the existing monolith. All loose concrete is scaled and removed to ensure a clean, sound bonding surface.



ABOVE:

Panel anchor rods ("L"-shaped) are drilled and epoxy-grouted into the existing monolith to match loop bars cast into the back of the new panels. The precast panels are erected as stay-in-place forms. Infill concrete, placed behind the new panels, locks the new precast panels in place.



ABOVE:

The Federal Lock and Dam in Troy, NY was rehabilitated in the winter of 1992 and 1993. The project was the first lock that was rehabilitated using this innovative, structurally efficient and cost-effective precast method. Since then, lock rehabilitation in New York State is done by this preferred method of construction.



ABOVE:

Vertical steel whalers hold the panels in place while the infill concrete is placed. A specially cast ladder panel is shown in the foreground. This system provides for a 5" thick matrix of infill concrete and steel that locks the panels to the monoliths.

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LOCK CHAMBER REHABILITATION



ABOVE:

Ladders, line poles and line posts, shown above on Lock C-5, located in Schuylerville, NY, are cast into the precast panels as required. Other accessories include precast sidewalk slabs, valve boxes and precast fluted intake chamber lining units.



ABOVE:

Precast panels are also used to cover an existing inclined river wall, on the Troy Lock and Dam Project.

TAINTOR GATE PIERS

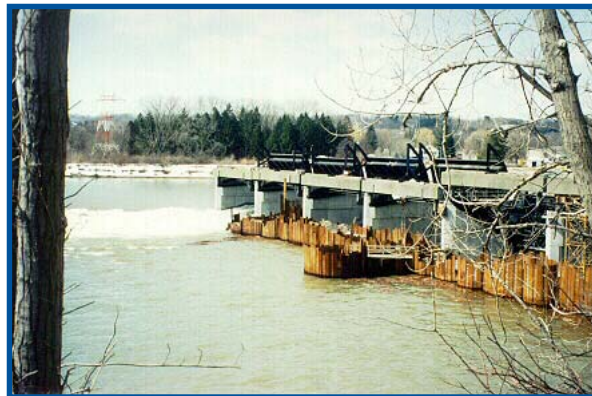


ABOVE:

Taintor gates rotate about a pin that was cast into the pier. Heavy concrete counterweights facilitated opening and closing. Piers were approximately 8' wide x 25' high and 56' long. In 1993 the New York State Department of Transportation replaced 7 piers at Lock C-1 located in the Hudson River near Troy, NY.

RIGHT:

The precast concrete "shells," made from high performance concrete were stacked as stay-in-place forms and locked together with infill concrete.



ABOVE:

The project was completed in two stages. The use of precast segments reduced construction time and gave the owner high quality, abrasion resistant piers.

WATERFRONT DOCKS

RIGHT:

The existing 1915 structure, on the Champlain Canal in Fort Edward, NY, was built by the New York State DPW and consisted of a crushed-stone filled timber crib.

The new ACI award winning structure, consisting of steel sheet piling and precast concrete cladding panels, was placed in the same location.



LEFT:

Steel sheet piling was driven in front of the old crib wall and tied back with soil anchors. Crushed stone placed in the resulting cavity held the original wall in position. A “cladding” of high performance precast concrete panels covered the steel piling.



ABOVE:

The new structure is augmented with historically significant snubbing posts and lampposts salvaged from an earlier era. Electric and water services were added to 8 new boater service pylons. The completed facility captures the charm of the original site while providing modern day waterfront utility requirements. This historic preservation project is an asset to the community and the New York State Thruway Authority as well as a benefit to all canal users.

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