Storm Water Project Requires Room Size Catch Basins

Built like bomb shelters, and looking like the front entrance to a museum of modern art, these precast structures are designed to take a load! The owner, the Port Authority of New York and New Jersey, decided they needed to add an entirely new storm water collection system to allow expansion at the Teterboro Airport. For ultimate flexibility, all parts of the system are designed for aircraft loading. In general, the Authority is very friendly to:

(continued on page 3)

PCANY Annual Meeting, Group Dinner, and Bridge Design Workshop

PCANY members will convene for their annual business meeting at 1:00 pm on February 22 at the AGC Headquarters conference room, 10 Airline Dr., Albany. In addition to a review of the year past and a forecast of the year ahead, there is some outstanding old business regarding our fall meeting with the DOT to discuss. Mr. George Biro, with our Associate Member Stelcrete Industries Limited, will give a presentation entitled “Ramping up the quality of precast reinforcing”.

Everyone is invited to socialize after the meeting with drinks and dinner, 6 pm at the Hilton Garden Inn, conveniently located near the Albany Airport. The Hilton is also the venue for the half day workshop on Bridge Design, scheduled to begin at 8:00 am the next morning, February 23. Registration with continental breakfast begins at 7:30 a.m. Since attendees will earn 4.0 PDH, and seating is limited, early enrollment is suggested. The workshop fee is $45.

Workshop presenters are: Dr. Larry Feaser, PE of RPI, explaining and illustrating the changes and enhancements made to the PCANY Culvert Design Program, Vers. 3.1.0; Ralph Verastro, PE, Delta Engineers, talking about Land Development Bridges - Bridge types, design criteria, cost considerations, and best practices; and Rita Seradarian, PE, PCI New England, giving an overview with successful examples of the Accelerated Bridge Construction concepts (“get in, get out, stay out”).

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Container Terminal Expansion Uses Precast Storm Water Trenches with Prepoured Inverts

At the Port Newark Container Terminal, where preloaded containers are moved to or from ships, wheel loads from the container hauling machinery are far above highway loads. These rolling cranes pick up three to five loaded containers, which can weigh 20 tons each. It follows that the storm water trenches running through their paved 15-acre expansion needed to be strong, had to be accurately built for water flow, and needed to be rapidly constructible in bad weather.

The typical piece was 20’ long, 3’ wide by 4’ tall inside dimensions, with 12” thick walls. Almost 1000’ were needed to complete the many runs traversing the site. Precast pieces were set on level poured footings, which helped to spread out the superimposed wheel loads, and simplified the preparation of the excavation bottom. Drainage flow was achieved with the trench invert prepoured within each precast unit. Joints between units were kept in alignment with dowels and sleeves, and made watertight using Volclay Waterstop field adhered and compressed in preformed keyways.

A & R Concrete Products, New Windsor, NY, already had the necessary trench and catch basin forms for these pieces, having previously supplied several similar projects. To speed the project, the Port contracted the first phase of this project directly with A & R, and then bid the remaining work publicly. D’Annunzio & Sons, Inc. of Clark, NJ, won the work, and installed the first phase, as well as purchased and installed the remaining work. Roger Souaid, Project Manager, said this system was easy to use, faster than forming and casting on site, limited his site labor needs, resulted in better quality, and, he noted, “precast is sometimes cheaper”.

Deep catch basins at run ends were also precast, and were built with extra thick side walls notched to receive the trench pieces. All trench pieces and catch basins were plant fitted with a heavy grating, supplied by Neenah Foundry Co.
Precast concrete structures fill many needs. Large paved areas, as required at this Self Storage Facility built by Sun-Up Enterprises in Poughkeepsie, contribute significant storm water runoff. To prevent damaging flows into municipal storm sewers, the business was required to build an on-site storm water detention system. The design called for hundreds of feet of large diameter pipe bedded beneath the property to accumulate the storm surge. This system ties into precast structures that serve as control outlets to insure controlled low flow leaving the site.

Most major projects in developed municipal areas include similar storm water control systems. Many are built underground concrete "rooms" to store water; standard precast products used for these applications are boxes, vaults, arches and culvert sections. All PCANY producer members, like A & R Concrete Products for the project pictured here, can supply products for these needs. Storm water detention facilities are major investments; using readily available standard precast units helps control this cost.

To fulfill two separate site contracts running concurrently, A & R built over 30 drainage structures; the last two 10’ x 12’, and the tallest of the structures, will be delivered late this winter. Lou Hutcherson, Project Manager for general contractor Anselmi and DeCicco on the project pictured, feels that precast kept the project on schedule, on budget, and relatively unhampered by bad weather. Noting that big pipe openings mean big pipes, he stated that they used Class 5 concrete pipe, 6’-6” inside diameter, with 8” thick walls (aircraft rated). Since the storm water collected will eventually end up in local drainage streams, the system utilizes five Storm Septer units to clean the flow, each enclosed in a 14’ diameter precast structure.

Calendar of Coming Events:

- March 30-31 PCI Zone 5 Meeting, Bethlehem, PA
- April 5-9 PCI Committee Days, Chicago, IL
- April 17-20 ACI Spring Convention, New York, NY
- April 20-24 ASCE Structures Congress, New York, NY
- May 16-18 PCI QC Levels I/II, Nashville, TN
- Sept. 23-26 NPCA IOC (Industry Outlook Conference), Sarasota, FL
## Newsletter focus changes monthly

For several years, this newsletter has featured different parts of our industry each month. This issue’s planned topics were the areas of storm water systems, waste water systems, and septic systems. During other months, we highlight building systems and hollow core, bridges, parking garages, and miscellaneous, such as sound walls. This by no means covers the entire range and scope of the precast concrete industry: it is meant to give us some coherence and direction in coverage. All stories, all projects, all products will fit somewhere.

But we had no story on septic systems – a huge market for some precasters, but an “out of sight – out of mind” system for most people. It is worthy to note that the PCANY Septic Tank Group of manufacturers, associates, and professionals has been meeting regularly over the past 15 months. This issue’s planned topics were the areas of storm water systems, waste water systems, and septic systems. During other months, we highlight building systems and hollow core, bridges, parking garages, and miscellaneous, such as sound walls. This by no means covers the entire range and scope of the precast concrete industry: it is meant to give us some coherence and direction in coverage. All stories, all projects, all products will fit somewhere.

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