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NEXT UP

**DAILEY PRECAST
CASTS FIRST NORTHEAST
EXTREME TEE BEAM**



Developed for ease of fabrication, the NEXT Beam has straight but no draping strands. Bridge Technical Committee members see production savings from the strand configuration offsetting lower efficiency from the elimination of draping. Beam width varies from 8 ft. to 12 ft.; use of magnetic side rails affords quick adjustment of a single NEXT form.



NEXT IN LINE

MODIFIED DOUBLE TEE OFFERS ALTERNATIVE TO ADJACENT BOX AND BULB TEE GIRDERS

Vermont-based William E. Dailey Precast, LLC has completed fabrication for the Maine Route 103 York River Bridge, the first structure incorporating Precast/Prestressed Concrete Institute Northeast Bridge Technical Committee's NEXT (Northeast Extreme Tee) Beam. Engineered according to the AASHTO LRFD method, it mimics a prestressed double tee, albeit with a 4-in.-thick, deck form-ready flange; 24- to 36-in. depth; and stems up to 13.75 in. wide. The initial version calls for a 4-in. deck cast on site; an alternative NEXT Beam will have an integral 8-in. deck flange.

Bridge Technical Committee members are targeting 45- to 90-ft. spans for the new design. In

that range of prestressed concrete-candidate jobs, the NEXT Beam becomes an alternative to adjacent-box (40- to 120-ft. typical span range) and bulb tee (70- to 150-ft.) girders. The new design exhibits rapid construction potential for variable width structures; improved navigational clearance compared with adjacent-box or bulb tee members, owing to the maximum 36-in. depth; and, open design, enabling simple, rapid visual inspections and utility installations.

Soon after assembling a dedicated NEXT Beam bed from four 50-ft. Hamilton Form segments, Dailey Precast staged a three-day open house that drew 100-plus engineers, architects and transpor-

PCI Northeast members figure the NEXT Beam will suit most short- to medium-span structures in their region, mirroring success the (Bridge Technical Committee-developed) Northeast Bulb Tee Girder has exhibited during the past decade as the standard stringer beam for medium- to long-span installations.



PHOTOS: Lee Edwards, Bob Wilcox of Dailey Precast



Dailey Precast is set to ship 28 NEXT Beams to York, Maine, for a June construction schedule.

tation officials—the latter including representatives from Maine, Massachusetts, New Hampshire, New York and Vermont. Many attendees were aligned with the Bridge Technical Committee, a public/private partnership of PCI Northeast producers, consultants and agencies representing six New England states and New York.

The premier NEXT Beam project entails replacement of a 17-span steel girder structure with a new bridge of five 80-ft. spans and 55-ft. end spans. At four across, the beams will provide two 11-ft. lanes, 4-ft. shoulders, and 5-ft. sidewalks. Dailey Precast will deliver the 28 beams in June for bridge contractor C.P.M. Constructors

of Freeport, Maine. The new S.R. 103 York River crossing is based on a Maine Department of Transportation design and Hoyle, Tanner & Associates engineering. — *Don Marsh; information provided by Dailey Precast, Shaftsbury, Vt.; PCI Northeast, Belmont, Mass.; and, CME Associates, East Hartford, Conn.*

HAMILTON FORM CREATES FUNCTION

10 CASE STUDY

NORTHEAST EXTREME TEE (NEXT) BEAM



“Innovation is critical to successful accelerated bridge construction. In working with Hamilton Form, we were able to capitalize on their capabilities and ingenuity. The formwork they designed helped us optimize our investment and streamline production to keep the project on track.”

*Noble Levesque
General Manager, Dailey Precast*

The Northeast Extreme Tee, or NEXT Beam, was designed to accelerate medium span bridge construction by minimizing the number of pieces required to build the superstructure and eliminate deck forming. The first project utilizing the NEXT Beam is a seven-span prestressed concrete bridge in York, ME. The beams were cast by William E. Dailey Precast of Shaftsbury, VT. Formwork provided by Hamilton Form Company.

Hamilton Form supplied Dailey Precast with a practical, flexible formwork package. Magnetic side rails make it easy to adjust for different beam widths. The stem depth measures 32 inches, but can be shortened with stem fillers to adapt the form for future projects. And, Hamilton Form designed the sections to take advantage of shipping efficiencies.



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