



Infrastructures Project Profile

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PROJECT: FTI-1-2011



Manahawkin Bay Bridge



Typical Crack Arrest Hole



Installing StopCrackEX

<u>Application:</u>	FTI StopCrackEX
<u>Customer:</u>	New Jersey Department of Transportation (NJDOT)
<u>Project Date:</u>	October 20, 2011
<u>Project Location:</u>	NJ RT.72 Manahawkin Bay Bridge
<u>Project Status:</u>	Open

Project Description

The Manahawkin Bay Bridge comprises seventeen steel riveted span, continuous, cantilevered girder and floorbeam system that opened to traffic in 1959. It has undergone rehabilitation work where fatigue cracks were found in numerous locations. All cracks were similar horizontal cracks in the floor beam webs and vertical cracks in the floorbeam-to-girder bracket connections. The horizontal cracks have typically been repaired by drilling crack arrest holes (CAH) at the tips of the cracks, which is monitored in routine inspections.

The conventional CAH on this structure is approximately 1" in diameter. In general, cracks have continued to propagate beyond the drilled holes. Cracks seem to initiate from out-of-plane bending loading conditions.

General Comments

Several candidate cracks were chosen to apply the FTI StopCrackEX crack arrest system to observe the effectiveness of the method. The tooling worked well and bushings were installed.

Current Status: Holes will be monitored on the next inspection cycle

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