



PROJECT PROFILE

Moses Wheeler Bridge

Concrete Cracking Investigation | Milford, CT



CLIENT

Walsh/PCL

BACKGROUND

The Moses Wheeler Bridge carries Interstate 95 (Connecticut Turnpike) over the Housatonic River between Stratford and the Devon section of Milford. The current bridge is a fourteen-span continuous girder and floor beam structure that carries three lanes of traffic in each direction, with full inside and outside shoulders. Completed in 2016, the current bridge replaces a pre-existing structure that was completed as part of the original Connecticut Turnpike in 1958. The barrier walls at each side of the bridge and median were constructed using slip-formed construction.

Shortly after construction, cracking and staining of the slip-formed concrete barrier walls was identified by the Connecticut Department of Transportation (CTDOT). They requested that the contractor perform an investigation to determine the cause of the cracking and prove a material defect did not exist.



SOLUTION

To complete our investigation, WJE performed visual surveys, nondestructive testing, and laboratory studies—including compression strength testing and petrographic examinations—to characterize the concrete, discover the cause(s) of the cracking and staining, and determine if defective materials existed in the concrete.

Our investigation determined that the cracking was located at the embedded reinforcement and was associated with late-age restrained shrinkage cracking. No material defects were noted.

We provided recommendations for CTDOT that would increase the durability of the cracked barrier walls and extend their service life.

