



BinderTekk™ - New Jersey I-295

Project Profile – BinderTekk NJDOT I-295

Project Scope: The New Jersey Department of Transportation was rehabilitating a stretch of I-295 that consisted of old PCC that had been constructed between 1972 and 1974 and had reached terminal serviceability a decade prior. Due to the problem's magnitude and funding shortfalls, the project had been pushed back multiple times. The project encompassed just over 12 miles (from mile post 45 to 57.3), and included 21 structures within the project limits which required undercut locations to maintain clearance.



Project Design: The initial design utilized 1993 AASHTO standards, with 12" HMA over rubblized PCC, which required 16,000 feet or 3 miles of removal and replacement including 2400 linear feet of PCC removal and box outs for each structure. Additionally there were previous problems with box outs around rubblized PCC, requiring additional clay sub-grade removal. After consideration, NJDOT realized a great savings could occur if total HMA height was 8 inches, although they were cognizant that reflective cracking could be an issue at the thinner thickness. After consulting with Road Science, NJDOT decided on our perpetual pavement design which balanced

strength and flexibility. The evaluation included maximum tensile strain with the 8" HMA over rubblized PCC— with a cross section that included 2" SMA surface, 3" 19M76 Intermediate Course (IC) and 3" of NJDOT Base Course (BC).

Results: The BC was evaluated on a performance specifications on the Flexural Beam and Asphalt Pavement Analyzer testing, with Road Science's design passing the specification standards. The project included over 177,000 tons of BC, 127,000 tons IC, and 82,000 tons of SMA. The overall project was completed on time, with a significant cost savings—lowered material costs by \$10 million.

Additionally, the project included a bridge deck (BD) designed by Road Science which saved ~\$6 million. The BD is a waterproof mix which provides a thin, rut and fatigue resistant barrier that was placed without a vibratory roller. The NJDOT is considering this for sealing older bridge decks in their system.

