CASE STUDY: PERMANENT PAVEMENTS

Long-Life Concrete Overlay in Erie County, New York

CONTRACTOR
Surianello General Concrete Contractor, Inc.

OWNER
New York State Thruway Authority

ENGINEER
Stantec Consulting Services

After more than a decade in service, a 2012 pilot project on the New York State Thruway demonstrates the durability, longevity and smoothness of concrete pavements.

A concrete overlay was placed on the New York State Thruway (Interstate 90) in Erie County as a pilot project intended to compare the serviceability of concrete overlays to that of asphalt overlays. The existing pavement, located between milepost 438.5 and 451.5, was an asphalt overlay atop a 50-year-old jointed reinforced concrete pavement.

The 2012 project began with milling off the asphalt along the 10+ lane miles and performing crack and seat, a process in which existing slabs are cracked to reduce their effective length, then seated against the subbase to ensure support. (Underneath overpasses, instead of crack and seat, full depth excavation was performed to increase clearance). To prevent adhesion, a 2-inch asphalt bond breaker was applied, after which 74,000 square yards of concrete were placed to create a 9-inch-thick unbonded concrete overlay. Dowel bars were placed in transverse joints.

Surianello General Concrete Contractors used both mechanical dowel bar inserters and stringless paving during construction, making the project the first in Western New York where both mechanical insertion of dowel bars and stringless paving were introduced to the area's division of the New York State Thruway Authority. Nearly all the dowel bars tested were well within tolerance, with no corrective action required. A 100 percent smoothness performance bonus was achieved, as well, without the need to perform grinding. The project won ACPA's 2013 Excellence in Concrete Pavement Gold Award in the Overlays (Highways) category. Since that time, the pavement has continued to deliver superior performance, with drivers reporting that it continues to look and drive just as it did on the day it was placed.

The overlay project achieved its aim of showing that concrete pavements, including concrete overlays, provide durability, longevity and smoothness.

Learn more at **ACPA.org**.

KEY BENEFITS

- *Pilot project provided a testament to concrete overlay's performance.*
- *After more than a decade of service, the overlay continues to provide smoothness and resilience.*