The Georgia Department of Transportation (GDOT) continues to pave the way in innovation by approving Standard Specification 315 Cement-Stabilized Reclaimed Base (CSRB), which is more commonly known in the construction industry as Full-Depth Reclamation (FDR) with Cement. FDR was first used in Georgia in 2004 on a commercially traveled county road in Long County. Since then, over 100 miles of FDR on local state-aid roads have been successfully constructed throughout Georgia by special provision. Given its proven performance and cost savings, GDOT adopted Standard Specification Section 315 for CSRB in May 2018 and completed its first pilot project on State Route 70 (SR70) in September 2018.

This project consisted of a 4.461 mile section of SR70 in Fulton County (Fulton Industrial) beginning south of Fulton Parkway and extending north of Church Street. SR70 is a 42.6 mile state highway route that runs through portions of Coweta and Fulton Counties and connects Newnan with northwestern Atlanta (Bankhead). Based on 2016 data, SR70 is functionally classified as an Urban Minor Arterial highway with average daily traffic of 13,500 vehicles, 13% of which are trucks.

Plans called for variable depth surface milling of 1.5–6.5 inches followed by a 10–inch FDR base course which would then be overlaid with super-pave hot mixed asphalt. The CSRB Standard Specification required that the contractor provide an FDR mix design study to be performed by an accredited laboratory. Once the mix design was verified and approved by the GDOT Office of Materials & Testing, a preconstruction conference was held on July 16, 2018 and construction began on the following day.

E.R. Snell Contractor, Inc. was the prime contractor for this project, and Atlanta Paving & Concrete Construction, Inc. was the FDR subcontractor. Atlanta Paving & Concrete Construction began by premixing the road (after variable depth surface milling had been completed) to identify any problem areas and to bring the in-situ blended materials to the required optimum moisture of 100%–120%. Two high performance Wirtgen soil-stabilizers (reclaimers) were used, thus making for fast, quality work. Several delays were encountered due to staging (outlined in the plans) and two tropical storms. Even with delays, the project was completed in September 2018.

“Having GDOT intimately involved in the construction of SR70 daily allowed for everyone to make sure the final product was perfect! This roadway was the ideal candidate for serious subgrade remediation using FDR due to poor materials and drastic changes in traffic counts in the past decade. We were able to complete the roadway faster than anticipated and reduce the amount of time the roadway was detoured. The final product is a smooth, strong pavement structure built to last,” said Project Engineer Mandy Neese, PE, Atlanta Paving and Concrete Construction, Inc.

The success of SR70 has been followed by two state-funded FDR projects in Sumter and Wayne Counties. Also, GDOT is in the process of incorporating FDR (CSRB) into the Pavement Design Manual. This will make FDR an optional base possibility for future GDOT projects. FDR is growing in popularity with city and county governments as well as in the private and commercial sectors.

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