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Concrete Overlay: The Right Choice for Runway Rehabilitation at Greenwood County Airport in South Carolina



1 Concrete overlay under construction



2 55,500 square yards of P-501



3 Runway 9-27 completed

A five-inch overlay on Runway 9-27 was completed at the Greenwood County Airport in South Carolina. The plans, developed by Michael Baker International, called for milling off approximately three inches of the distressed asphalt prior to placement of the P-501, 650 flex concrete. The existing asphalt, nearly a foot thick in some locations on the runway exhibited various degrees of cracking and had become a safety concern.

Typically, late autumn in South Carolina is ideal for concrete paving with the average highs in the low to mid-sixties. Unfortunately, in 2014, the months of November and December exhibited very cool temperatures and wet conditions that added complexity to the project. Even with a second runway (5-23) available during construction, the owner wanted the closure time of RW 9-27 as minimal as possible.

Although the weather delays impacted the schedule by 31 days, the prime contractor, ACPA-SE member McCarthy Improvement paved the 55,500 square yard project and completed other improvements (lighting, asphalt paving of shoulders and taxiway tie-ins) in 75 days. A revised phasing plan enabled the elimination of a planned construction joint and expedited the concrete paving portion of the project. The original contractor's schedule illustrated 14 days for the concrete paving, and the revised plan enabled the contractor to finish in 10 days, a 30 percent reduction. The milling subcontractor controlled grade by

using stringline and controlled cross slope by manually adjusting (every 25 feet) with each change. Even though the milling subcontractor incurred additional labor costs using this method, it significantly reduced potential overage of the concrete material. From start to finish, the owner and engineer were impressed by the efficiency and quality of the paving.

"The project had its challenges, particularly related to coordinating and making improvements to re-open the previously closed Runway 5-23, but I am proud of the way that the design team, owner, and contractor came together to innovate solutions to challenges to complete the project with exceptional design and construction quality while being sensitive to impacts to airfield operations," said Andy Busbee, project manager for Michael Baker International.

ACPA-SE hosted training and participated at state aviation conferences offering technical materials and overlay success stories from across the country. This was the fifth South Carolina airport to receive funding for a concrete overlay by the FAA-Atlanta Airport District office since 2009. Prior projects have been constructed (on runways) at Lancaster County (2009), Charleston Executive (2010), Berkeley County (2010) and Laurens County (2012). The ability to stay out of the subgrade and the longer life of the concrete made the concrete overlay strategy very appealing when compared to either reconstruction or asphalt resurfacing.

By:
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