

The City of Claremore set out to replace existing pavement on the Claremore Regional Airport runway through a full depth reclamation (FDR) treatment in which nine inches of the pavement were milled, mixed with an engineered emulsion, replaced and then compacted.

Utilizing recycled asphalt is generally less expensive than typical hot mix overlays.

FDR reduces emissions and uses less energy than typical hot mix applications.

Nine inches of existing material was milled, mixed with an engineered emulsions and replaced.

Work was completed in short order while takeoffs and landings were temporarily moved.

FDR provides a life extension of up to 25 years.

BACKSTORY:

City-owned Claremore Regional Airport serves Rogers County, Oklahoma, and surrounding areas with general aviation services, complete with car rentals and a 5,200-foot asphalt runway (a total of 390,000 sq. ft. of pavement). Unfortunately, many years of heavy use, combined with a lack of resources and maintenance, left the old Claremore runway with major issues.

PROBLEM:

Over time, the airport runway began to show longitudinal, block and alligator cracking, among other distresses, that needed to be addressed in order to meet its operational goals. It was decided that an FDR treatment using Ergon A&E's specifically engineered emulsion would be a cost-effective solution to rehabilitate the runway, resulting in increased drainage capabilities, tensile strength and structural capacity.

The original design called for 10 inches of existing pavement to be milled; however, as the FDR application began, the contractor noticed the construction vehicles were sinking into the pavement. They found the roadbed was only nine inches deep with a clay bed underneath. Upon inspecting the site, it was decided that only nine inches would be milled instead of 10, in order to stay out of the clay. There would be no diminishing or detrimental affects of reducing the FDR material.

“ We know we can always count on Ergon A&E for quality, outstanding service and expert technical support throughout every project. ”

— Darren Coughlin, President of Coughlin Company

SOLUTION:

The mix design utilized millings of the reclaimed asphalt pavement (RAP) along with high-quality surfactants and cement. The targeted amounts of 2.9% asphalt emulsion to 0.75% cement were finalized by adjusting mix parameters within tolerances of the design. FDR was performed along the entire length and width of the runway.

Students and faculty from the University of Arkansas visited the Claremore site regularly during construction to study the efficacy and environmental impact of the work.

PHOTOS:



