BURNS McDONNELL

CASE STUDY / **GREAT BEND RUNWAY RECONSTRUCTION**

PAVEMENT RECONSTRUCTION BRINGS MAIN RUNWAY BACK TO LIFE

With services dating back to the World War II era, Great Bend Municipal Airport had over 70 years of runway wear and tear. After performing many smaller repairs, the city of Great Bend needed a total reconstruction of the pavement.

NAVIGATING FUNDING FOR AIRPORT PROJECTS

Collaboration with the Kansas Department of Transportation proved successful in obtaining critical funding needed to complete the project.

CHALLENGE

Great Bend Municipal Airport (GBD) in Great Bend, Kansas, was once used during World War II by the U.S. Army Air Force. During that time, it was known as the Great Bend Army Airfield and served as a training base for those being deployed to the Western Pacific in 1944.

While a lot has changed since that time, Runway 17-35 at GBD had remained the same. After more than 70 years, the concrete began to expand underneath the asphalt overlay, causing blowouts and large bumps on the runway. After many attempts to fix the runway, the city of Great Bend, the Federal Aviation Administration (FAA) and Burns & McDonnell determined the only solution would be full reconstruction.

SOLUTION

The city selected Burns & McDonnell to perform design-bid-build services for Runway 17-35, which began with runway length justification to determine FAA funding participation.

The original length of the runway extended 7,851 feet. Upon examination, the FAA provided reconstruction funding for the south 5,500 feet of the project, and the city chose to reconstruct the remaining north 2,351 feet of the runway separately so that the full length would not be lost. Our team worked with the city and the Kansas Department of Transportation to obtain the funding required for the south part of the runway.

The design for the north section of the runway included new 5-inch asphalt pavement on a 10-inch aggregate base with a treated subgrade. The original asphalt overlain pavement system was removed, which had consisted of 3 inches of asphalt above 7 to 10 inches of original concrete.

Construction phasing on the project was necessary, to allow airport operations to continue uninterrupted. A two-phased approach with a displaced threshold was utilized during reconstruction at the intersection of the crosswind Runway 11-29. The design and cost-benefit analysis determined reconstruction with an asphalt pavement section was the right approach to allow for the future ability to increase pavement strength if required for growth in airfield capacity. This also matched the north section with a 4-inch milling and asphalt overlay.

RESULTS

After ongoing collaboration across all phases of the project, the completed 7,851-foot runway successfully met all needs for operations. With new pavement in place, Runway 17-35 can provide safer and more reliable service for many years to come. GBD is now looking to reinstate its FAA Part 139 certification with hopes of restoring commercial service.

PROJECT STATS

CLIENT
City of Great Bend

LOCATION
Great Bend, Kansas

COMPLETION DATE
May 2020

7,851
LENGTH OF RUNWAY, IN FEET

18411-ANF-1020