Project PROFILE

FORT MILLER

Washington-Dulles International Airport

Full Depth Taxiway Repairs Using the Super-Slab™ System

Super-Slab™* was used for overnight replacement of taxiway pavement on this important demonstration project.

*** Super-Slab™ is a patented product owned by the Fort Miller Co., Inc.**

Project Participants

Owner:	Metropolitan Washington Airports Authority
Engineer:	Clough Harbour & Associates, LLP
Contractor:	Lane Construction Corporation

Project Scope

Remove and replace two areas, 50' x 50', on Taxiway Bravo and 25' x 40' on Taxiway Yankee in a series of three overnight closures.

Project Summary

Each existing 25' square panel (15" thick) on Bravo was replaced by two 25' x 12.5' x 13" thick slabs. Each existing 20' x 25' panel (15" thick) on Yankee was replaced by two 20' x 12.5' x 13" thick slabs. All slabs were interlocked with standard load transfer dowels. The slabs were intentionally warped to match the surface of the surrounding pavement. The project was completed in three nights, with each closure beginning at 10:00 pm and lasting for 15.5 hours, 9.5 hours and 8.5 hours respectively. On the third night of installation, the grading of the bedding material and placement of the four slabs was accomplished in 2.2 hours. The new slabs were opened to airport traffic before grout was installed. Grouting was completed on two subsequent evening closures.

Technical Details

Bravo Slabs:	8 slabs – 25' x 12.5' (nominal) x 13" thick
Yankee Slabs:	4 slabs – 20' x 12.5' (nominal) x 13" thick
Design Concrete Strength:	750 psi Flexural
Actual Concrete Strength:	Over 1000 psi Flexural (14 day)
Reinforcing:	No. 7 epoxy-coated bars, 9" c/c top and bottom
Bedding Material:	1" stone cushion sand

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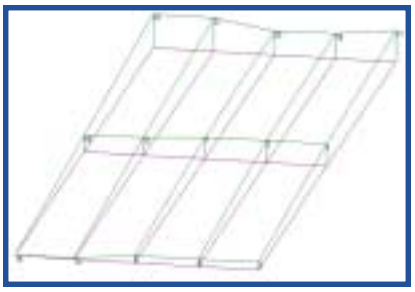
Precast Concrete Solutions

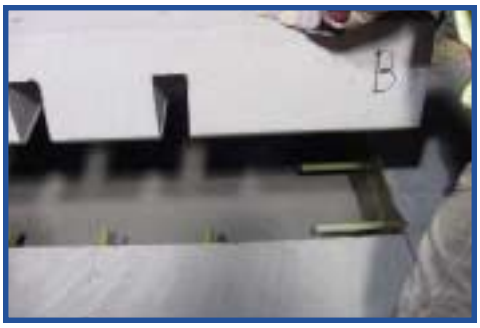
Warped Slabs



A computer enhanced three dimensional image of the 8 slabs on Bravo is shown above. Slabs were intentionally warped to match adjacent pavement surfaces.

The Supergrader (shown above) graded the subgrade to the required three-dimensional surface. The 4 slabs installed during the first night's closure are shown at left.

Dowel Connection Between New Slabs



Standard epoxy coated load transfer dowels were used to connect new slabs to new slabs. No connection was made to existing pavement.

During subsequent night closures the dowels were grouted as shown in photo, left. Above, a core taken at a dowel location from another project shows the dowel, the dovetail slot and the grout port extending to the top of the slab.

Removal of Existing Pavement Starting at 10:00 pm

Installing Last Super-Slab™ 5:00 am

Aircraft using Ungrouted Slabs 6:30 am