

*PolyLevel® 400 Hydrophobic*

**Project:** Highway 15

**Location:** Highway 15, Belleville IL

**Date:** 10/7/2016

**Challenge:**

The Illinois Department of Transportation (IDOT) was receiving complaints from motorists that large bumps existed on a recently resurfaced section of HWY 15. A visual inspection of the area confirmed the issue and identified the source to be slope failure effecting the fill soil beneath the impacted area.

Commuter safety and protection of previous work required an immediate, but economical resolution to this issue. Mudjacking and concrete replacement were deemed to be either too expensive, too time consuming or both and neither option could be mobilized in the desired timeframe. Recalling the recent success on I64, IDOT recommended the prime contractor, Keller Construction, contact Foundation Supportworks by Woods.

**Solution:**

Foundation Supportworks by Woods visited the site and determined that a 12' x 90' section of highway had settled approximately two inches. To resolve this issue, Woods recommended PolyLevel 400 Hydrophobic (PL-400H) be installed beneath the impacted area. PolyLevel® is a two-part urethane that expands and cures in to a rigid foam used to fill voids, stabilize slabs and lift concrete. Once injected through small 5/8-inch drilled "ports" in a slab, a chemical reaction converts the liquid urethane components into a strong, rapidly-setting foam. In its foam state, PolyLevel® is extremely light, weighing 4 to 7 pounds per cubic-foot (pcf). Other void-filling or lifting materials can weigh upwards of 120 pcf, adding significant stress to supporting soils which will contribute to further settlement issues. With a minimum compressive strength of 80 pounds per square inch, PolyLevel® 400 Hydrophobic provides more than enough strength to support even heavy highway traffic.

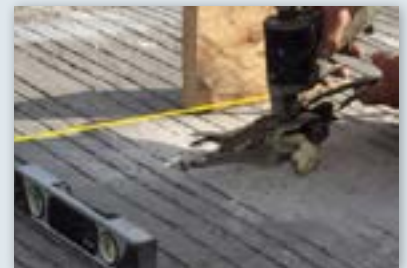
In a single six-hour shift, Foundation Supportworks by Woods injected 1,200 pounds of PL-400H under the impacted slab returning it to its original position. Because of PolyLevel's® extremely fast cure time, the highway was ready for traffic even before the barricades were removed. IDOT was amazed at the precision of the lift as well as the speed and cost of the repair.



String line shows the extent of the slab settlement



Injection holes being drilled



PolyLevel® being injected beneath slab



String line shows slab returned to a level position

**Project Summary**

**Installing Contractor:** Foundation Supportworks by Woods

**Prime Contractor:** Keller Construction

**Certified PolyLevel Installer:** Chris Blickenstaff

**Products Installed:** PolyLevel 400 Hydrophobic