

CPR – REBUILT TO LAST



Bullitt County, KY Road Repair

>>> DIAMOND GRINDING, FULL-DEPTH PATCHING & JOINT RESEALING

BULLITT COUNTY, located just south of the city of Louisville, is one of the fastest growing counties in Kentucky. Louisville is Kentucky's largest city and home to the famed Kentucky Derby. Interstate 65 is a primary route through this region.

Constructed in the mid to late 1970s, the 52-mile, high traffic corridor of I-65 near Louisville was showing signs of deterioration. This section of the road carries about 88,700 vehicles per day, with truck traffic consisting of 39 percent of that total. The Kentucky Transportation Cabinet (KTC) recognized the need for repair as the International Roughness Index (IRI) for I-65 was approximately 150 inches per mile with a significant amount of sunken panels in the road, creating low spots, dips and an overall bumpy ride. The KTC chose to rehabilitate this roadway using full-depth patching, diamond grinding, spall repair and joint sawing and resealing. The project utilized 400 full-depth repairs, 2,800 spall repairs, 700,000 linear-feet of joint resealing and the diamond grinding of 365,000 square-yards of pavement.

Most of the sunken panels were removed and replaced with new concrete, re-establishing a level pavement surface. Diamond grinding followed to remove high spots and provide a safe, smooth and

quiet surface. After grinding, the existing joints were patched, widened and resealed to reduce infiltration of water and incompressibles into the joint reservoir.

The team had to overcome a number of challenges, which included record precipitation, unprecedented tornados and flash floods. Additionally, unexpected repairs and patch removal resulted in delays to the contractor's schedule. Further, production rates were hampered not only by diamond grinding removal of amounts in excess of 3/8-inches in some areas, but also by the required three-mile lane closures.

Beginning on August 9, work was completed on October 2, 2006 — ahead of schedule and under budget. Chosen as the American Concrete Pavement Association's Gold Award Winner for Concrete Pavement Restoration in 2007, the \$1.2 million grinding project cost a total of \$6,565,754. The average IRI was improved by 60 percent, measuring 60 inches per mile and it is estimated that taxpayers will receive another eight to nine years of service from the road. As a result of this project, KTC chose to award more than 1.5 million square yards of rehabilitation grinding in 2009 as a cost effective pavement preservation treatment.

TEAM MEMBERS

- Kentucky Transportation Cabinet (Owner)
- Costello Industries, Inc. (Prime patching contractor)
- Faulkner Construction, LLC (Concrete supplier)
- Safety Grooving and Grinding (Diamond grinding)
- Huff Sealing (Joint sealing and spall repairs)
- Diamond Products, Diamond B, Sanders Saws (Diamond blade suppliers)
- Crafcro, American Highway Technology (Material suppliers)