



Fixing fault

Concrete pavement restoration helps cure faulted pavement on I-44

While much has been written about the use of stimulus funds and the state of our nation's infrastructure, one project that has been in the works for years was recently completed, highlighting the effectiveness of the concrete pavement restoration (CPR) process.

In August, the last 22.4-lane-mile section on I-44—a highway that runs from the southern border of Texas to the Missouri border in the northeast corner of the state—was finally completed. This is the rehabilitated area between I-40 and I-35 in Oklahoma City, located 0.6 miles north of Reno Avenue and extending north 2.9 miles to 0.5 miles north of Northwest 36th Street. It is the culmination of five projects on the roadway since repairs began in 2004. Penhall Co. (Division 40) has served as the prime contractor for all five projects.

The highway is significant because it connects three of Oklahoma's largest cities and is a primary corridor through the Midwest. The Oklahoma City section of the highway ranges from six to eight lanes and overlaps I-35 for a short time. Approximately 125,000 to 135,000 vehicles travel this roadway each day.

According to Tom Hubbard, P.E., resident engineer, Oklahoma Department of Transportation (ODOT), a physical

survey revealed severe panel damage and faulted pavement. The road was in desperate need of repair as the transverse joint faulting was in the ¼-in. to ⅜-in. range with isolated ½-in. to ⅝-in. faults and variable ¼-in. to ¾-in. faulting at the longitudinal joints. Pavement replacement areas were quantified using a vehicle-mounted digital image collection system.

Given the high level of traffic and poor road conditions, a fast-track yet long-term solution was needed. As such, ODOT selected CPR because of previous success with this method. By selecting CPR, the state was able to extend the life of existing pavement and minimize disruption to the traveling public at a fraction of the cost of doing an asphalt overlay or total reconstruction.

CPR is a nonoverlay option used to repair areas of distress in concrete pavement without changing its grade. This preventive procedure restores the pavement to a like-new condition and reduces the need for major and more costly repairs. Furthermore, CPR also addresses the causes of pavement distress, minimizing further deterioration. In contrast, covering the area with an asphalt overlay does not correct the cause, and the problem will eventually appear again, resulting in a much more expensive solution. In fact, reports from the