

CPR – REBUILT TO LAST



Arterial Street Rehabilitation in Ames, IA

>>> CONCRETE PAVEMENT RESTORATION & DIAMOND GRINDING

WITH A POPULATION of more than 50,000, Ames, Iowa is a charming city located approximately 30 miles north of Des Moines. Home to Iowa State University and its 23,000 students, Ames is ranked among the top small American cities for living and working.

In early 2009, engineers for the City of Ames recognized that the two roads that cross through the heart of the town as well as the campus (Stange Road and 24th Street) were in desperate need of repair. With a profile index of 100 inches per mile and transverse joint faulting in excess of one inch, this pavement rode rough. A four-lane section (0.64 miles in each lane), totalling 2.56 miles, was identified for repair.

Although the City of Ames traditionally uses an asphalt overlay for this type of repair, they instead opted to use concrete pavement restoration (CPR) with diamond grinding. Having learned of the success other municipalities have had with CPR, the city wanted to evaluate the life-cycle costs of each process to determine where taxpayers' dollars are best spent. The methods selected were full-depth repair and diamond grinding followed by joint resealing.

Since the project required heavy concrete removal and lane closures while maintaining traffic, it presented many challenges. Due to the project's proximity to nearby utilities and a railroad, the contractor had to coordinate with railroad and utility representatives, which is not typical of most CPR projects. Further complicating the project was the fact that the inner two lanes were constructed in the late 1950s, while the outer lanes were added in the 1970s and were paved with manholes and water valves. This presented multiple obstructions for the grinding contractor to work around and through.

The project began July 20, 2009 and was completed July 31, well ahead of the Aug. 17 deadline. The result for taxpayers is a safe, smooth pavement delivered in just a few weeks that is expected to last at least 15 more years. Although the specified profile index for the road was 20 inches per mile, it now measures 14 inches per mile, an 86 percent improvement in ride quality. With a total project cost of only \$267,697, the city has realized that CPR is the sustainable, cost effective maintenance answer for their concrete pavement.

TEAM MEMBERS

- City of Ames (Owner)
- Manatts Inc.
(Prime contractor, full-depth patching and diamond grinding)
- Iowa Erosion Control Inc.
(Joint saw and reseal subcontractor)
- Diamond Products
(Diamond blade supplier)
- Iowa Plains Signing
(Traffic control and stripping)