

# CPR – REBUILT TO LAST



## Olmsted County in Rochester, Minn. Still Benefitting from Long-Term Solution

### >>> DIAMOND GRINDING & DOWEL BAR RETROFIT

IN 2000, OFFICIALS AT OLMSTED COUNTY, Minn. sought to repair a six mile section of the two-lane County State-Aid Highway (CSAH) 25, from CSAH 3 to CSAH 22 – a total of 5.34 miles. Originally surfaced in 1982, the concrete pavement has 12-foot lanes coupled with 8-foot aggregate shoulders. The panels were constructed using skewed joints spaced at 15-foot intervals without the aid of dowel bars for load transfer. The smoothness at that time was measured at 60-inches per mile with a 2/10 blanking band. As the road aged, the joints began to fault, the shoulders started to settle and random cracking occurred. According to local motorists, “the ride was rough.”

Repair options included placing a bituminous overlay, concrete pavement preservation or taking no action at all. Although Olmsted County gave serious consideration to an asphalt overlay, they selected the concrete pavement preservation option including dowel bar retrofit (DBR), diamond grinding, partial and full-depth patching as well as joint re-sealing in order to obtain a longer-term solution.

The team patched more than 800 square yards

of concrete, installed 11,000 dowel bars to rehabilitate the joints and used 84,000 square yards of diamond grinding. Further, the existing joints -- approximately 60,000 lineal feet -- were resealed, edge drains installed, and the asphalt turn lanes and shoulders were repaved.

According to Mike Sheehan, Olmsted County Engineer, the road and its improvements nine years ago are still performing very well. Although the road is now 27 years old, it is still in great driving condition with many more years of useful life.

“DBR and the complete CPR process has held up very well since it was completed in 2000,” said Sheehan. “The road should last at least another six years, which is 15 years from when it first had corrective work completed.”

With a total project value of \$924,131, the cost over an estimated 15-year life is just \$61,608 per year. The chosen construction methods resulted in a fast-track project, completed more than three months ahead of schedule. Upon completion, the smoothness improved to 5-inches on 2/10 blanking band, resulting in more than 90 percent improvement in ride quality.

### TEAM MEMBERS

- Olmsted County Public Works (Owner: Kay Bieniek, Design Engineer; Curt Bolles, Construction Supervisor; and Mike Sheehan, County Engineer)
- Simplex Construction Supplies (Construction materials supplier)
- Wel-Co Diamond Tool Corp. (Diamond blade supplier for grinding)
- Diamond B. Inc. (Diamond blade supplier for slot cutting and grinding)
- PCI (Milling shoulders)
- J.A.G. Inc. (Joint sealing)
- Forby Contracting (Patching)
- Diamond Surface Inc. (Diamond grinding, dowel bar retrofit and traffic control)