

### TRANSVERSE CRACK REPAIRS TO PAVEMENT SEDGWICK COUNTY, KANSAS, USA

#### PAVEMENT REINFORCEMENT—TRANSVERSE CRACK REPAIRS

##### Product: Road Mesh™

##### Problem

In July 2002, Sedgwick County pioneered the use of Road Mesh™ on a heavily trafficked junction to reduce severe rutting and shoving failures in the asphalt pavement (See Maccaferri Case History USA007). Two years later, the results look favorable, and the County is optimistic about the success of the solution.

Based upon this, Sedgwick County wanted to trial the use of Road Mesh™ in discreet panels to repair transverse cracks, rather than over the entire pavement area. An ideal test area was located where poor foundation material had caused transverse cracking across the road.

##### Solution

Usually, Sedgwick County would repair the crack by cutting and patching the area prior to placing the new wearing course, requiring intensive labor and cost.

Maccaferri Inc. recommended that in the immediate vicinity of the transverse cracks, the existing surface be milled by 1", then the Road Mesh™ placed and secured before a 1" thick layer of asphalt was placed.

However, Sedgwick County wanted to test the system without any milling at all. If successful, this would remove more maintenance operations, realizing further time and cost savings. Therefore, the rehabilitation consisted of;

- Fill cracks with asphalt to existing pavement level
- Place and secure Road Mesh™ to existing pavement
- Lay new 2" thick asphalt wearing course

The Road Mesh™ panels were 13.1' wide (4m) and 12' (3.64m) long (average). They were placed so that 6' (2.82m) of mesh extended on either side of the transverse crack and then secured to the pavement surface using 2.5" (63.5mm) long Hilti™ sleeved nails drilled into the pavement surface.

Client:

SEDGWICK COUNTY, KANSAS

Main contractor:

CORNEJO & SONS, WICHITA, KS

Designer:

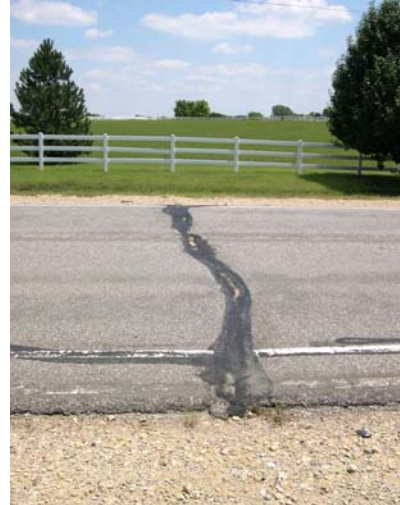
SEDGWICK Co. PUBLIC WORKS DEPT.

Products used:

ROAD MESH™

Date of construction

AUGUST 2004



Existing transverse crack



Cutting Road Mesh™ to correct lengths

Placed within the upper layers of asphalt pavements, the main function of Road Mesh™ in this application is to retard crack propagation. However, independent research and testing have proven that Road Mesh™ also structurally reinforces the pavement and reduces rutting, shoving and fatigue cracking.

The entire pavement surface was paved with 2" (50mm) wearing course and then rolled.

26 transverse cracks were repaired in total, and will be monitored closely.

Road Mesh™ is expected to improve the **whole life costings** for the pavement by reducing the maintenance requirements, and traffic delays to local business and individuals.



# MACCAFERRI



Filling crack with asphalt



Rolling asphalt crack fill



Securing Road Mesh™



Road Mesh™ ready to receive wearing course



Placing asphalt wearing course



Completed construction

**Headquarters—East Coast**  
10303 Governor Lane Blvd, Williamsport, MD 21795  
Tel: 301-223-6910 Fax: 301-223-6134

**MACCAFERRI INC.**  
E.mail: [hdqtrs@maccaferri-usa.com](mailto:hdqtrs@maccaferri-usa.com)  
Web site: [www.maccaferri.com](http://www.maccaferri.com)

**West Coast**  
3650 Seaport Blvd, West Sacramento, CA 95691  
Tel: 916-371-5805 Fax: 916-371-0764