

PROJECT PROFILE

General Project Information

Location: Barstow Road, City of Barstow, California
Road Owner / Contact: City of Barstow, Domingo Gonzales, William Henderson
Date Placed: July 27-July 31, 2009

Cross-Sections

Before:

- ◆ Variable 4 to 10 inches of aged and cracked HMA
- ◆ 6 inches of aggregate base
- ◆ Clayey sands

After:

- ◆ 1.5 inches of HMA
- ◆ 6 inches of **Fortress® Full Depth Reclaimed** base
- ◆ Clayey sands



Construction Information

Contractor: Hardy & Harper,
Pavement Recycling Systems as subcontractor

Equipment Used: Two CAT RM-500 Reclaimers
Ingersoll Rand Compactors, CAT Motor Grader

Construction Notes: The reclaimer made four passes from curb to curb, pulverizing a total of 28,800 square feet of asphalt concrete. The reclaimed material was treated with 4.5% engineered emulsion.

Traffic Return: The road was opened to traffic immediately after compaction of the reclaimed material.

Surfing: An overlay consisting of 1.5 inches of HMA was placed five days after compaction of the reclaimed material.

Photos

BEFORE



FORTRESS APPLICATION AND COMPACTION





Fortress®
Full Depth Reclamation

PROJECT PROFILE

AFTER COMPACTION AND TRAFFIC RELEASE



FINISHED PRODUCT WITH 1.5" HMA OVERLAY



Design, Testing and Performance Information

This primary road in the City of Barstow had major distresses related to aging and structural deficiency. The design was performed by the city engineer, who determined the road would need a Traffic Index of 9 for the next 10 years. A final structure of 1.5" of HMA and a high performance base of 6" was required. The city opted for the Fortress FDR application, which included Road Science's assistance throughout the process: site assessment, mix design, emulsion formulation and on-site technical support.

The major highlights of this project related to the successes in process know-how, cost savings and increased performance. Prime contractor Hardy & Harper acquired valuable experience with a green recycling technology working alongside the highly experienced recycling subcontractor, Pavement Recycling Systems. Most importantly, the City reported a cost savings of 40% using this process compared to conventional reconstruction, while also achieving an improved structural strength, a smoother ride and an aesthetically better road.

For more information on this Emulsion FDR project or other Engineered solutions in California, call Gary Hildebrand at (916) 798-0455 or Lisa Wolf at (949) 421-7523.