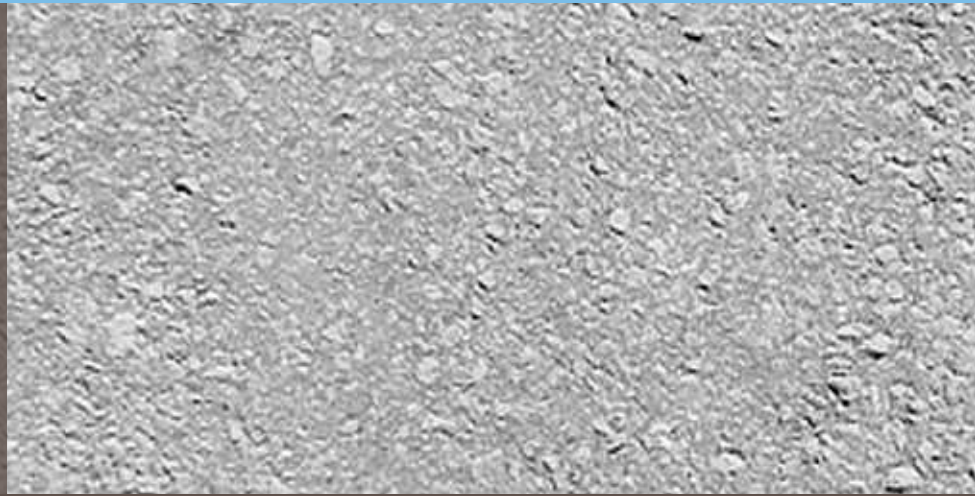


CASE STUDY

GATT Pavement Surface

MILLS ROAD, CITY OF GREATER BENDIGO, 1999 – 2009



Client/Construction Team

Product: GATT Pavement Surface

Client: City of Greater Bendigo

Location: Mills Road,
Shanahan Road to Giris Lane

Construction Team:
Boral Asphalt

Objective

To provide a cost effective alternative to regular road maintenance of an unsealed granular road, especially where inordinately short maintenance cycles apply.

The solution must have ecological and environmental benefit and reduce the inconvenience caused by dust, corrugations, loose aggregate, slush and lack of amenity associated with gravel roads.

Project Scope

Mills Road is an unsealed road adjacent to farmland in partly undulating terrain. It carries approximately 100 vehicles a day of which, less than 10% are commercial, and has historically had a short maintenance cycle to arrest corrugations, dust and erosion attributable to the primarily dry, arid conditions in the area.

The depth of pavement is variable along the road and at least the upper 100mm of its base consists of local gravel, introduced during resheeting operations. The strength of the pavement in equilibrium moisture conditions has adequately supported traffic and failure had occurred due to decompaction and erosion.

Although the exact age of the road is unknown, it is likely to have provided a thoroughfare for at least 50 years. The terrain affords adequate drainage and the road is mainly flanked by grassed verge in the section considered for treatment.

CASE STUDY

GATT Pavement Surface

MILLS ROAD, CITY OF GREATER BENDIGO, 1999 – 2009

Treatment

Constant efforts to remove corrugations and reduce dust on Mills Road had cost Council a disproportionately large part of its maintenance dollar in previous years. Unprecedented dry climate experienced in Victoria during this period had compounded the traditional ills of dust, erosion and loss of base material.

Traditional alternatives such as dust suppressants, regular wetting, regrading and resheeting were rapidly becoming ineffective and costly. Spray sealing was also discarded as an option due to high cost associated with its application and significant base preparation work required.

A solution to these problems emerged when Boral proposed an innovative and cost effective treatment known as GATT (Graded Aggregate Total Treatment) Pavement Surfacing.

This bituminous surfacing treatment is new to Australia and has been developed exclusively by Boral. It is readily available and in this case provided Council with the opportunity to address some of its long term maintenance concerns in Mills Road.

Design

GATT Surfacing is applied by spreading a graded aggregate over a sprayed bituminous binder using specialist equipment for optimum performance. The demands on grading envelope and aggregate properties are significantly different compared to other bituminous treatments and allow excellent utilisation of natural resources.

The binder used in GATT may be a cutback bitumen or a bitumen emulsion, allowing flexible application throughout most months of the year, anywhere in the country. Polymer modification can be used to achieve better performance. The 'Total Treatment' aspect of the application refers to the fact that a prime is not required for this surfacing.

GATT Pavement Surfacing is generally suitable in low to moderate traffic conditions and needs to be designed separately for each application. All the same, GATT has been used in some heavy traffic load situations.

The preparation of the granular base required ahead of GATT application is usually minimal, as long as base quality material of adequate depth and a history of providing sufficient in situ bearing strength exists in the pavement.

GATT Pavement Surfacing is a durable, flexible treatment with an expected design life of at least six years for a single application, eight to ten years when polymer binder is used, and at least ten years when a double application is used. For Mills Road, a mainly cutback bitumen, single application of GATT Pavement Surfacing was used.

2001 Review

Inspection of Mills Road in January 2001 indicated that GATT Pavement Surfacing was performing successfully and would be expected to fulfill its design obligations.

GATT Surfacing has an appearance somewhere between asphalt and sprayed seals as shown overleaf.

2009 Review

The GATT Surfacing was still providing exceptional service in 2009 when resealing was undertaken with a PMB seal due to edge break at interface with exposed shoulders. Importantly, the life achieved by GATT was almost twice that expected and could be treated by resealing.

Boral website:

Visit the Boral website for the full range of Boral products: www.boral.com.au

Asphalt information:

For asphalt news and information visit: www.boral.com.au/asphalt

For the full range of Asphalt products see: www.boral.com.au/asphaltproducts

For asphalt locations around Australia go to: www.boral.com.au/asphaltlocations

Contact us:

At Boral we are committed to excellence in service so for further information please contact:

NSW (02) 8801 2000
VIC 1300 132 964
QLD (07) 3268 8011
SA (08) 8425 0400
WA (08) 9458 0400

Specialty Products:

Tel. 1800 555 445 or email: asphaltNSW@boral.com.au

Product images are indicative only, and should be used as a guide.
Copyright Boral Construction Materials Limited ACN 000 614 826
– all rights reserved 2011.

