

GATT Pavement Surface

Case Study 25 - Mills Road, City of Greater Bendigo 1999 (Review 2001)

CS25

Location

Mills Road
Shanahan Road to Girls Lane

Customer

City of Greater Bendigo

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.

Existing Conditions

Mills Road is an unsealed road adjacent 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.

Selection of 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.

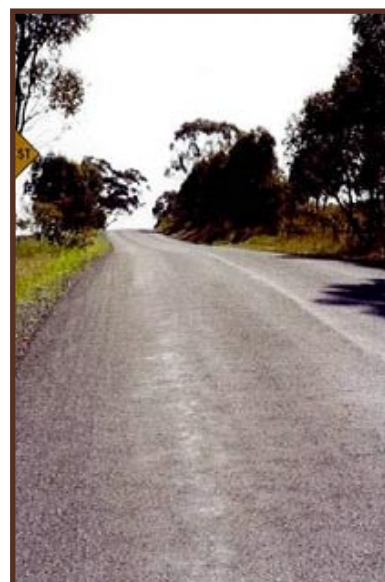
Traditional alternatives such as dust suppressants, regular wetting, regrading and resheeting were rapidly becoming ineffective and costly. Spray sealing was also discarded as an option due to high cost associated with its application and significant base preparation work required.

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 currently readily available in Victoria and in this case provided Council with the opportunity to address some of its long term maintenance concerns in Mills Road.

Design

Graded Aggregate Total Treatment (GATT) Pavement 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 greater utilisation of natural resources.



Mills Road

Gatt Pavement Surfacing, Mills Road, City of Greater Bendigo 1999 (Review 2001)

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. The 'Total Treatment' aspect of the application refers to the fact that a prime is generally not required for this surfacing.

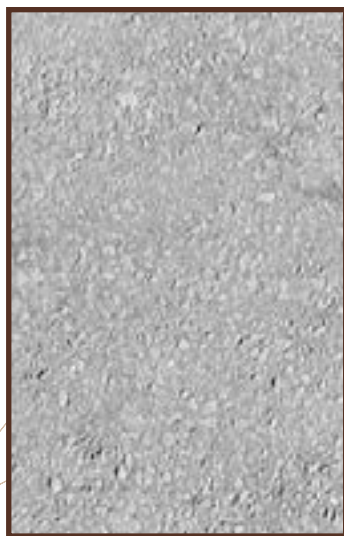
GATT Pavement Surfacing is generally suitable in low to moderate traffic conditions and needs to be designed separately for each application.

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 6 years for a single application and at least 10 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 indicates that GATT Pavement Surfacing is performing successfully and can be expected to fulfill its design obligations. GATT Surfacing has an appearance somewhere between asphalt and sprayed seals as shown below.



Gatt Surfacing after 1 year
in service.

For More Information

GATT Pavement Surfacing is a product exclusively designed by Boral. Detailed information about this case and innovative Boral Road Technologies can be obtained by calling:

Boral Asphalt

Phone (03) 9508 7144

