

AustStab News

Industry View

AustStab congratulates Les Wielinga on his appointment as the new CEO of the RTA (see article for full story). This appointment is yet another event in the recent changes to the general landscape, which includes the Emoleum's sale to Works Infrastructure and the restructuring of AAPA.

Rehabilitation by insitu stabilisation is one efficient way to recycle our roads and the association would like to remind those road owners to keep recycling our roads to keep Australia sustainable.



There are a number of opportunities available at present with regard to contractor accreditation and pavement design that AustStab can hopefully use to strengthen the stabilisation industry's position. We look forward to some interesting times ahead of us.

Warren Smith
President

AustStab launches a new accreditation system

AustStab launched its stabilisation contractor accreditation system in July in NSW, Victoria, South Australia, Queensland and ACT. Following consultation with a number of Council engineers, it has become apparent that all contractors taking on insitu stabilisation work should be accredited to an industry standard, similar to the other State-based registration schemes for asphalt producers, laboratories and other contractors.

In the interests of setting and maintaining World's best practice standards in the industry, AustStab has established an accreditation system for stabilisation contractors to meet these objectives.

www.auststab.com.au

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The accreditation process is open to members and nonmembers of the association and the fees reflect the effort required to process and administer the system. AustStab believes the major benefit will be to road owners who indicate that the point systems currently used by many Councils are not adequate or effective compared to an accreditation system.

For a list of accredited companies, refer to www.auststab.com.au/accreditation/

New CEO for RTA

The new Chief Executive Officer for the NSW Roads and Traffic Authority was announced in July as Les Wielinga, a road engineer with 34 years experience. This sends another strong signal that engineers are well positioned to run organisations which have major responsibilities for managing infrastructure assets.

Wielinga started with the former NSW Department of Main Roads at the age of just 18 and since then has worked on building roads across many regions of NSW, from Broken Hill to Goulburn and Parramatta. Wielinga has worked on a number of major projects including the Westlink M7, the Cross City Tunnel and major upgrades of the Pacific Highway including Bulahdelah to Coolongolook, Yelgun to Chindera, the Tweed Heads Bypass and the Taree Bypass.

The Minister responsible for the RTA recently noted that the CEO has been charged with particular responsibility to:

- Refocus the RTA on project construction and delivery
- Efficiently reopen roads to improve traffic flow around the Sydney CBD
- Increase the usage of electronic tags on the Sydney Orbital and toll roads

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New CEO for RTA (cont'd)

Implement the M5 East Air Quality Improvement Plan

- Work with the Commonwealth Government to efficiently deliver the Hume and Pacific Highway upgrades
- Implement the Lemna Government's school road safety package
- Develop plans to address the current road toll
- Improve transparency and the public access to information in the RTA.

Conplant joins AustStab



Conplant Ammann Australia is a specialist provider of compaction equipment and associated services assisting businesses to effectively manage the construction and maintenance of infrastructure. To accomplish this, Conplant has blended its compaction equipment expertise and experience with its comprehensive service to deliver effective business solutions to meet its customers' commercial requirements. Conplant is the largest privately owned compaction specialist in Australia.

In 2005, Conplant expanded and realigned itself to better service its customers through the introduction of Ammann new equipment sales. This move, together with the company's entrenched customer service culture, is reflected in Conplant's new mission: To provide Total Compaction Solutions tailored to suit our customer needs whilst exceeding industry standards for safety, service, products and value.

The introduction of new and innovative products to the Australian market has been an integral part of Conplant's history and continues to be a significant strength and differentiator. For example, Conplant was the first company in the world to take delivery of STA's 22 and 27 tonne Single Drum Rollers which spent most of their lives compacting deeplift stabilised pavements.

Excess binder – Return it!

Over the last six months it has become apparent that some projects are showing excess shrinkage cracking at sections near the end of the works. Upon further investigation, it appears that contractors who have mistakenly ordered the wrong amount of binder have decided to incorporate this extra binder into the last section of the works. This has resulted in higher binder contents leading to cracking of the cured pavement material.

The correct action for contractors with excess binder is to return it to the supplier or use it under the direction of the Council engineer.

Foamed bitumen as subbase layer

The RTA has now started using foamed bitumen stabilised materials as a subbase layer for heavily trafficked roads. DMR (QLD) has also successfully used this technique for the rehabilitation of sections of the Logan Motorway, south of Brisbane.

The RTA has also used foamed bitumen materials in the base layer on rural highways to rehabilitate roads using the insitu process. The natural progression to using the insitu stabilisation technique in the subbase layer in urban applications makes sense given the quicker use of the insitu process and lower cost compared to plant mix.

One of these projects was on Campbelltown Road, Campbelltown (SW of Sydney) where the work consisted of both insitu work to the shoulders and full width rehabilitation of the existing road with an asphalt base layer (see picture). The traffic for this road is about 20,000 AADT and it carries B-doubles on longitudinal grades up to 4%.



Campbelltown Road has a fair proportion of 6 axle and B-double heavy vehicles.



Campbelltown Road after stabilisation and prior to the asphalt base layer.

Being such a busy road, the in situ stabilisation was carried out at night using conventional reclaimers and spreaders and although the work was carried out in low night time temperatures, the hot foamed bitumen was not affected by these climatic conditions.

Pavement engineers keen to read a proposed pavement design technique for foamed bitumen stabilised materials should contact AustStab.

Acid sulphate soils standards

Australian Standards has just released the following draft standards on acid sulphate soils for public comment:

- DR 06347 Analysis of acid sulfate soil - Methods of test - Part 0: Dried samples - Introduction and definitions, symbols and acronyms
- DR 06348 Analysis of acid sulfate soil - Methods of test - Part 2: Dried samples - Determination of pHKCl and titratable actual acidity (TAA)
- DR 06349 Analysis of acid sulfate soil - Methods of test - Part 3: Dried samples - Determination of peroxide pH (pHOX) and titratable peroxide acidity (TPA) or excess acid neutralizing capacity (ANCE)
- DR 06350 Analysis of acid sulfate soil - Part 1: Dried sample - Pre-treatment of samples
- DR 06353 Analysis of acid sulfate soil - Methods of test - Part 7: Dried samples - Determination of chromium reducible sulfur (SCR)

These free draft standards may be downloaded from www.saiglobal.com after typing 'acid sulfate soil' in the search window. Public comments are being sought by 9 August,

AustStab has a national lime supply specification aimed at getting the appropriate lime to the job, and consultants are welcome to use this specification for free. To get a copy of the specification go to www.auststab.com.au and click on Specifications.

Update on ALF trial on cemented materials

An Austroads project on the impact that heavy vehicles are likely to have on granular and cemented materials has been underway for several years, and part of the test program is to subject a thin layer of cement stabilised materials to accelerated loading using ALF (see picture).

One of the challenges with this project is the definition of fatigue failure. Whilst there is no definition for fatigue failure in the 2004 pavement design guide, it typically represents a material life

when a fatigue crack appears. But with 20 mm of asphalt over the cemented material and no technique to measure the occurrence of a fatigue crack, the rutting depth was a sufficient indicator to provide guidance to the researchers.

At this stage, the cement stabilised material has been subject to over a million cycles at 40, 60 and 80kN wheel loads. The standard axle load is 40kN and the pavement has been subject to substantial loading. It is also worth noting that CIRCLY and the fatigue equation in the design code predicated a design fatigue life of about 10,000 cycles. So far, the testing is promising and it is showing the conservative nature of the design model for cement stabilised materials.



View of deflected cement material pavement after about 700,000 ALF cycles.

With the current test program not allowing climatic conditions to be part of the testing regime, interpretation of the results may indicate that the 12 power exponent could be too conservative when cemented layers are used as a subbase, with asphalt being the base layer and no excess water can penetrated the subbase layer.

It is hoped that this research work will be published later this year.

Patching update

In 1999 AustStab published a guide for the best use of temporary patching roads using profiling attachments to skidsteer machines. This has been widely accepted however some road authorities are now using this small device for large rehabilitation works and expecting the same outcome as a reclaimer and stabiliser. This is not the case and has prompted AustStab to upgrade the document.

With all road construction materials, cutting corners will shorten the life of the pavement works, and it is recommended that engineers using this equipment read the revised construction tip and implement the tips detailed in the document. To obtain a free copy, go to the AustStab website.

AustStab Construction Tips
30.28-14 June 2014
Skidsteer stabilisers

Introduction
In the 1990s, vehicle and industry representatives worked on the development of the multi-axle patching machine shown in the Figure 1. This machine uses a 100 mm profile head mounted on a stabiliser. A 200 litre water tank, water pump and spray system has also been incorporated into the stabiliser. The outcome of this project was a report by Virochs (VicRoads) titled 'Skid Steer Patching using the 100 mm Profile Head Machine' (VicRoads, 1998) which highlighted the features of the skid-steer patching machine.

However, since the publication of that report, stabiliser stabilisation has been used, not just for small scale patching but also for large rehabilitation works. As the process has been applied to situations it was not designed for, there have been frequent signs of early distress of the material and inappropriate conclusions being drawn about its performance (VicRoads, 2013).

Figure 1: View of skidsteer patcher.

This equipment has also been used for shoulder stabilisation where the stabiliser has been used to reduce maintenance costs and enhance road safety. However this equipment is not suitable for long distance working applications where the stabilising material is to form part of a retained existing pavement, subject to heavy loading.

This construction tip provides a background to the process of stabiliser stabilisation and outlines its limitations. Similar to standard road construction practices.

Number: Construction Tip - Skidsteer stabilisers
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Come to the ARRB Conference

The 22nd ARRB Conference is scheduled for 29 October to 2 November 2006 in Canberra. If you wish to register for the conference, go to www.arrb.com.au. A list of invited speakers is also found on the web site.

Similar to other conferences, there have been a substantial number of papers submitted for review and it is hoped that one or more sessions will occur on the stabilisation topic.

For AustStab members attending the conference, a dinner is being organised for Tuesday 31st October for a set price of \$55 (incl. GST). For more details please contact George Vorobieff. A guest speaker is being organised for the dinner and full details will be made available closer to the conference date.

AustStab AGM

The annual general meeting for AustStab is scheduled for Tuesday 10th October in Melbourne. All members are encouraged to attend and participate in discussion of the future directions for the association.

As usual a guest speaker will be the highlight of the AGM dinner. Details of the AGM can be found on our web site at: www.auststab.com.au/agm2006/

AustStab Library

We would like to remind our members that they are welcome to loan any of the books, CDROMs and reports in the AustStab library for a period of 2 weeks.

Recent additions to the collection include:

- Proceedings from TREMTI 2005
- Selected papers from the 2006 TRB conference

For more information, please contact George Vorobieff

AustStab Member Details

The following companies are contracting or binder and equipment supplier members of AustStab. Contact details for these organisations by region, can be obtained by contacting AustStab or visiting their website.

Contractors

Andrew Walter Constructions

Tel 03 6249 8799
www.awconstructions.com.au

Highway Stabilisers

Tel 03 9775 2202

Stabil-Lime Distributors

Tel 03 8739 3888
www.stabil-lime.com.au

Stabilised Pavements of Australia

Tel 02 4340 0111
Tel 07 3807 7600
www.stabilisedpavements.com

Works Infrastructure

Tel 02 9897 4333 (NSW)
Tel 03 9619 5942 (Vic)
Tel 0419 120 171 (Tas)
Tel 08 8341 2465 (SA)
Tel 08 9475 6041 (WA)
www.works.com.au

Binder Suppliers

Adelaide Brighton Cement
Blue Circle Southern Cement
Cement Australia Lime Products

Hyrock
Independent Cement & Lime
Polymix Industries
Shell Bitumen
Sunstate Cement
Unimin Australia

Equipment Suppliers

Conplant
Wirtgen Australia

State Road Authority members

Department of Infrastructure, Energy and Resources (TAS)
Department of Infrastructure Planning and Environment (NT)
Dept. of Main Roads (QLD)
Roads & Traffic Authority (NSW)

Dept. for Transport, Energy & Infrastructure (SA)
VicRoads

Geotechnical laboratories

Network Geotechnics INSW
Testrite (NSW)
Western Geotechnics (WA)



AustStab

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