

The Australian Small Bridges Conference 2005

► October 12-13, Powerhouse Museum, Sydney ◀

www.halledit.com.au/conferences/bridges/



GOMACO DECK FINISHER

This two-day national conference explores all the important issues involved in small bridges in Australia including road and pedestrian bridges as well as boardwalk structures.

Topics include:

- Public Liability • Nonfeasance • Risk • Personal Responsibility • Engineering Safe Outdoor Structures
- Bridge Asset Management • Alternative Funding
- New Bridge Code AS5100 Requirements
- Inspection and Assessment • Load Testing
- Monitoring Timber Bridges • Maintenance
- Bridge Materials • AAR • Repair • Strengthening
- Deck Overlays • Safety Barriers • New Construction
- Bridge Architecture • Temporary Bridges



ROCLA M-LOCK® BRIDGE

Leading international and Australian bridge experts and asset owners are speaking including:

- Local Government Engineers • State Road Authorities • Consulting Engineers
- Architects • Bridge Contractors • Bridge Industry Suppliers

About the Conference

There are over 30,000 small road bridges and many thousands more pedestrian bridges in Australia. Many of them are coming to the end of their structural lives. The cost of replacing these bridges is in the billions of dollars, and could impose a crushing burden on councils which are responsible for the vast majority of these, mostly, timber bridges.

At the same time, the legal responsibilities for councils and road authorities have changed enormously with the decision by the High Court to abolish the concept of nonfeasance. While a number of states have legislated to protect councils and other road authorities, the legal position has been dramatically altered and continues to evolve.

Bridges built decades ago now have to withstand far greater and heavier traffic which is imposing greater risks, and forcing councils and road authorities to search for cost effective solutions and to improve their management of their bridge assets.

The Conference has a structured program of invited speakers to lead delegates through all the major issues associated with small bridges and will equip them with the knowledge to more effectively manage bridge assets into the future. Presentations are a blend of bridge topics and case studies to transfer practical knowledge that can be put into practice immediately.

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The Australian Small Bridges Conference

DAY I: Wednesday October 12

8:00 Registration and Morning Coffee

8:50 Conference Opening

PUBLIC LIABILITY AND ASSET MANAGEMENT

9:00 The Changing Landscape of Liability Issues Facing Authorities Responsible for Maintenance and Repair of Bridges

- ▶ Abolition of immunity for nonfeasance - *Brodie v Singleton Shire Council*
- ▶ The Courts' response to the High Court's judgment
- ▶ Statutory responses, including the *Road Management Act* in Victoria - the role of Codes of Practice
- ▶ Will other states adopt the Victorian approach?
- ▶ Specific issues affecting bridges - the changing landscape of liability issues facing bridge authorities

Michael Salter, Partner, Phillips Fox

9:30 Making Personal Responsibility Work for Asset Custodians

- ▶ Can the custodian of a small bridge get the user to exercise care?
- ▶ How recent case history has helped establish the principle of personal responsibility
- ▶ Example of the Australian Standard on walking tracks
- ▶ Engineering safe outdoor recreational structures: pedestrian bridges and boardwalks

Graeme Booth, Operations Centre Manager, Infrastructure, Sinclair Knight Merz

9:55 Preparation of Bridge Asset Management Plans

- ▶ Determining appropriate service levels and bridge criticality
- ▶ Implementing effective inspection regimes
- ▶ Performance benchmarking of bridges
- ▶ Development of risk-based maintenance schedules

David Coe, Director, Pitt & Sherry

10:25 Questions

10:35 Morning Tea - Granor Rubber & Engineering

11:10 CASE STUDY Implementation of Asset Management Strategies at Campbelltown City Council

- ▶ CCC was awarded the New or Improved Techniques Excellence Award for 'Achievements in Asset Management' project at the IPWEA NSW Division Excellence Awards
- ▶ Overview of asset categories in asset management system
- ▶ Development of bridge/culvert management system using *AustRoads Local Road Bridge Manual 2000*
- ▶ Condition assessment to establish risk score, overall bridge condition and priority of work
- ▶ Funding determined to meet adopted standard of services

John Hely, Director City Works, Campbelltown City Council, NSW

11:40 Panel Session and Questions: Liability and Asset Management

BRIDGE INSPECTION AND ASSESSMENT

11:55 Bridge Inspections and Load Rating

- ▶ Review of AS5100 requirements
- ▶ Objectives and processes for detailed bridge inspections
- ▶ Determining load rating of bridges
- ▶ Bridge load testing options

Toril Pape, Bridge Engineer, Pitt & Sherry

12:20 Non-Destructive Methods for Bridge Investigations

- ▶ Introduction to non-destructive testing (NDT)
- ▶ NDT methods and limitations: cover meter, metal detector, half cell potential, resistivity, impulse radar, dynamic impedance, acoustic methods, thermal imaging
- ▶ Application of NDT Methods in concrete and timber structures

- ▶ Case studies and examples

Simon Williams, Director, GBG

12:45 Remote Monitoring of Timber Bridges

- ▶ Critical issues (funding and resource availability) facing authorities responsible for the construction and maintenance of timber bridges
- ▶ A review of the inspection, assessment and repair methods used in the maintenance of timber bridges
- ▶ Determining the structural health of timber bridges
- ▶ Remote monitoring techniques involving fibre-optic or electronic sensors and the world wide web to observe the performance of existing bridges under real traffic loadings

Con Adams, Research Officer, Monash University, Timber Engineering Centre

1:05 Questions

1:15 Lunch

2:20 Fatigue Testing of In-Service Behaviour of Doolan Decks

Gordon Chirgwin, Manager of Bridge Policy, Standards & Records, RTA NSW and John McPhail, Manager Bridge and Rehab Methods, RTA NSW

2:40 Bridge Bearings and Expansion Joints - Assessment, Repair and Replacement

- ▶ Periodical inspections to maximise life of these components
- ▶ Maintenance requirements and site repairs
- ▶ New AS5100.4 'Bearings and Deck Joints' requirements including design loads and stresses, replacements and suggested specifications
- ▶ Failure of bearings and joints - monitor and review strategies
- ▶ Load-monitoring bearings and the relevance of proof-loading

Graham Davidson, Manager Engineered Products, Ludowici Ltd

3:00 Questions

3:10 Afternoon Tea

3:40 CASE STUDY When Bridges Become Barriers: Greater Taree, NSW

- ▶ Structural capacity
- ▶ Dealing with a deteriorating bridge network
- ▶ Using the community to assist in determining priorities
- ▶ Available funding sources

Greg Blaze, Director Engineering, Greater Taree City Council

4:10 Compaction and Durability of Concrete

- ▶ Results from 4 Mile Ck Project

Geoff Ayton, Rigid Pavements Manager, RTA NSW and Taha Ahmed, Project Engineer, RTA NSW

4:40 Impacts of AAR on Concrete Bridges

- ▶ What is AAR?
- ▶ Impact of AAR on concrete bridge elements
- ▶ Identifying AAR
- ▶ Avoiding AAR

Howard Morris, Manager of Bridge & Durability Protection, RTA NSW and Michael Moore, Project Engineer, RTA NSW

5:00 Panel Session and Questions: Assessment and Testing

5:15 Close of Day One

5:30-6:30 Conference Drinks and Networking

7:00 Conference Dinner

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The Australian Small Bridges Conference

DAY 2: Thursday October 13

8:00 Registration and Morning Coffee

8:45 Welcome

MAINTENANCE, REPAIR AND STRENGTHENING

8:50 Repair and Maintenance of Bridges

- ▶ Whole-of-life strategies for bridges
- ▶ Talking to bridges - Australian bridge deterioration data
- ▶ Current and emerging technologies for bridge maintenance

Dr Frank Collins, Associate Director-Advanced Materials, Maunsell

9:30 Strengthening of Bridges

- ▶ Objectives for bridge strengthening
- ▶ Typical methods for strengthening of bridges
- ▶ Case studies for timber, reinforced concrete, steel and wrought iron structures

David Coe, Director, Pitt & Sherry

10:10 WA Experience of Bridge Strengthening

- ▶ Overview of WA Bridge Asset and Main Roads Role & Management Practices
 - Age and distribution of bridges within WA
 - MRWA bridge asset management practices
- ▶ Strengthening & refurbishment of timber bridges
 - Repairs, maintenance & concrete overlays
 - Flat slab bridges, prestressed I-Beam & cellular box

Peter Coughlan, Associate, BG&E Pty Ltd & Robert Scanlon, Main Roads WA, Senior Engineer Structures

10:45 Questions

10:55 Morning Tea

11:25 CASE STUDY Concrete Deck Overlay and Refurbishment Works - Riverton Bridge WA

- ▶ Substructure pile and halfcap maintenance
- ▶ Repair of stringers and sillbeams
- ▶ Relocation and improved packaging of services
- ▶ Removal of existing concrete deck and deteriorated timber decking planks
- ▶ Construction of a widened concrete deck overlay and footpath, new approach slabs, expansion joints & installation of new bridge railing

Hudson Lun, Development Manager, Structural Systems

11:50 New Barriers for Old Bridges

- ▶ Retrofitting of Bridge Safety Barriers
- ▶ Requirements of AS 5100 for higher and stronger barriers
- ▶ Many bridges built up to the 1960s will have grossly inadequate barriers
- ▶ Case study upgrades of 4 NSW bridges to provide safe and crashworthy systems

Frank Rapattoni, Principal Bridge Engineer, Victoria, Cardno

12:10 Innovative Barrier Upgrading

- ▶ Overview of Japanese solution for upgrading steel box beam barrier to concrete safety barrier by parapet slipforming

Tim Nash, GOMACO International, Regional Manager, Asia-Pacific, Singapore

12:20 Panel Session and Questions: Maintenance, Repair & Strengthening

12:35 Lunch

CONSTRUCTION AND REPLACEMENT

1:45 CASE STUDY Blayney Council, Day Labour Construction of Fagans Bridge

- ▶ Community recognition & satisfaction for council labour force
- ▶ Cost savings delivered to the council

1:55 CASE STUDY Rices Bridge Replacement

- ▶ Construction completed in only 20 days
 - ▶ Community consultation to minimise cost and impact on tourism, Aboriginal heritage and the wider community
- Wayne Galloway, Manager of Capital & Designs, Moira Shire Council, Vic*

2:25 Mechanisation of Concrete Bridge Deck Paving

- ▶ Why mechanise?
- ▶ Driver comfort and economic benefits of smoother surfaces
- ▶ Texas Transportation Institute study on direct benefits of smoothness related to road service life
- ▶ Case Study: Cole Street Overpass, Highway 70 through downtown St. Louis, Missouri, U.S.A. Overview of the equipment, set up and concreting

Tim Nash, GOMACO International, Regional Manager, Asia-Pacific, Singapore

2:55 CASE STUDY Rapid Replacement of Short Span Local Government Bridges Using Rocla M-Lock Bridging System

- ▶ Overview of short span bridge replacements
- ▶ AS 5100 and state road authority design requirements
- ▶ Development of M-Lock bridging for local roads & highways
- ▶ Applications of M-Lock bridging system to rural and urban bridge sites around Australia

Ken Wheeler, Senior Principal, Manager Bridges, Cardno

3:25 Questions

3:35 Afternoon Tea

3:55 Issues with Welding of Reinforcement

Warren Stalder, Project Contract Manager, RTA NSW and Warren Appo, Surveillance Officer, RTA NSW

4:15 Stainless Steel Reinforcement to increase Durability in Concrete Structures

- ▶ Appropriate use of stainless steel in selected components
- ▶ Repair of damaged reinforced concrete structures in marine environments

Ahmad Shayan, Chief Research Scientist, ARRB Group

PEDESTRIAN, CYCLE AND TEMPORARY BRIDGES

4:35 Pedestrian and Cycle Bridges ... Urban Promenade and City Gateways

- ▶ Architecture of bridges: collaboration, quality of design
- ▶ The engineer/architect relationship, collaborative process
- ▶ Investments in infrastructure and public space

Prof Steffen Lehman, Chair in Architecture, QUT and visiting professor at the Technical University of Berlin

5:05 Bridges to Go - Temporary Bridge Structures

- ▶ Implementation of temporary structures for emergency and short-term use: pedestrian, road and rail
- ▶ Safety requirements for temporary applications
- ▶ Options for temporary structures

Bernard Shepherd, Manager Rail & Construction Engineering, GHD

5:25 Questions

5:30 Conference Close

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The Australian Small Bridges Conference

Sponsorship & Exhibition Enquiries: To discuss sponsorship or exhibition please contact Scott Matthews on (03) 8534 5004 or scottm@halledit.com

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The Freyssinet Group is the innovator of prestressed concrete and segmental bridge construction and has expanded this knowledge and expertise into the field of stay and suspension cable technology. These technologies are now being included in the supply of cables suitable for the world's most technically complex bridges.

The Freyssinet Group has developed processes for repair and strengthening of structures using Carbon Fibre Fabrics and concrete electrochemistry. Structural instrumentation and monitoring systems have also been developed for various applications.

Following the acquisition of Terre Armée Internationale and Menard Soltraitements, the Freyssinet Group has become the world leader in reinforced earth and foundation construction, soil treatment and ground improvement techniques.

The circulation of technology and expertise between the world offices of the Freyssinet Group member companies ensures that Austress Freyssinet can deliver additional outstanding benefits to clients.

Austress Freyssinet can provide in Australia all of the specialist design and construction services offered by the Freyssinet Group to deliver innovative, economic and elegant solutions for pedestrian, cycleway and traffic bridges.

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Phillips Fox is recognised as a leading litigation firm in Australasia and has represented clients in many landmark liability cases. We have extensive experience in acting for Federal, State and Local government authorities. We strive to achieve commercially favourable outcomes, avoiding unnecessary litigation where possible.

We are dedicated to keeping clients educated about legal developments and proactively monitor legislative and regulatory change. We also focus on identifying emerging issues to ensure our clients and lawyers are fully aware of the critical issues that are impacting on the industry. In line with this we are delighted to be a Gold sponsor of this conference and to have Michael Salter, a partner from our Melbourne office, speak to the delegation about liability issues facing authorities responsible for bridges.

Further information about Phillips Fox can be found at our website www.phillipsfox.com

GOMACO Corporation is the worldwide leader in concrete construction equipment, with headquarters in Ida Grove, Iowa, USA, and offices in Australia, Singapore and England. GOMACO equipment will finish flat slabs, bridges, and slopes. GOMACO Corporation pioneered the development of the first cylinder finisher over 45 years ago. GOMACO was born from a construction company on a vision to design a mechanical bridge deck finishing machine. That vision is the cornerstone to our research and development in concrete paving technology. GOMACO Corporation originated and patented the cylinder finisher concept in the late 1960s and through four decades of engineering and manufacturing experience, we offer state-of-the-art technology for today's bridge building demands.

GOMACO equipment will slipform concrete streets and highways, airport runways, curb and gutter, sidewalks and recreational trails, safety barrier, bridge parapet, and irrigation canals. Support equipment includes grade trimmers, concrete placers, concrete placer/spreaders, and texturing and curing machines. GOMACO is always willing to consult on equipment for large or unique concrete paving projects. The products are offered through a worldwide distributor network for local sales, parts and service expertise. www.gomaco.com

Rocla is a leading building and construction products company which designs, manufactures and distributes a broad range of precast concrete construction systems and components.

Our products are sold to residential, non-residential and civil engineering construction industries throughout Australia.

Rocla's expertise in designing and manufacturing precast concrete products, gained over 80 years in Australia, has been extended to the development of pre-fabricated structures such as road bridges, retaining walls and a concrete boardwalk system. These are designed as modular systems, with standard components that can be quickly assembled on site to create permanent, durable structures.

Of specific relevance to this conference is the Rocla M-Lock[®] Bridge System which is suitable for rural and urban roads and is comprised entirely of precast, reinforced concrete components.

The system is a fast, simple means of bridging small to medium spans and is designed for single or multi-span bridges. Ideal applications include replacement of ageing timber bridges, new subdivision bridges and pedestrian walkways.

The Rocla M-Lock[®] Bridge System is based on a product produced by Rocla (Choctaw Inc.) in the USA over 50 years ago, and was re-engineered to comply with the Australian bridge code. It has also been approved for use by Main Roads NSW, QLD, VIC, SA & WA.

The first Rocla M-Lock[®] bridge was constructed in Australia in 1995 and since then 120 bridges have been constructed, predominantly for local government. For further information call Rocla on 131004.

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Powerhouse Museum, Sydney - 12-13 October 2005

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Please indicate number of attendees for each of the below:

CONFERENCE FEES *12-13 October*

[] x (\$900 + \$90 GST = \$990) = []

CONFERENCE DINNER *12 October, 7.00pm*

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ACCOMMODATION: The Powerhouse Museum, is located in the Darling Harbour Precinct and so there are ample nearby hotels in Darling Harbour and the Sydney CBD. Further details can be found on the conference website www.halledit.com.au/conferences/bridges/ and will also be emailed to all delegates on registration.

PARKING: Parking for the Powerhouse Museum is available at the Entertainment Centre Car Park on Darling Drive. The Level 3A RED parking area is the most convenient to the covered walkway connecting the parking station to the Museum (a two-minute walk). When tickets are validated at the Museum, a special flat rate of \$9.00 (inc GST) applies.

FREE MUSEUM ENTRY: Between the hours of 10:00 and 17:00 delegates enjoy free access to the Powerhouse Museum galleries, Australia's largest museum, featuring many science and technology exhibits.

SUBSTITUTING DELEGATES If you are unable to attend on both days, you are welcome to share your registration with ONE OTHER colleague from the same organisation. Entry to the Convention will be by delegate badge only. You must inform Hallmark Conferences + Events if you are substituting delegates. Maximum 2 delegates may attend from the one registration

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The Australian Small Bridges Conference

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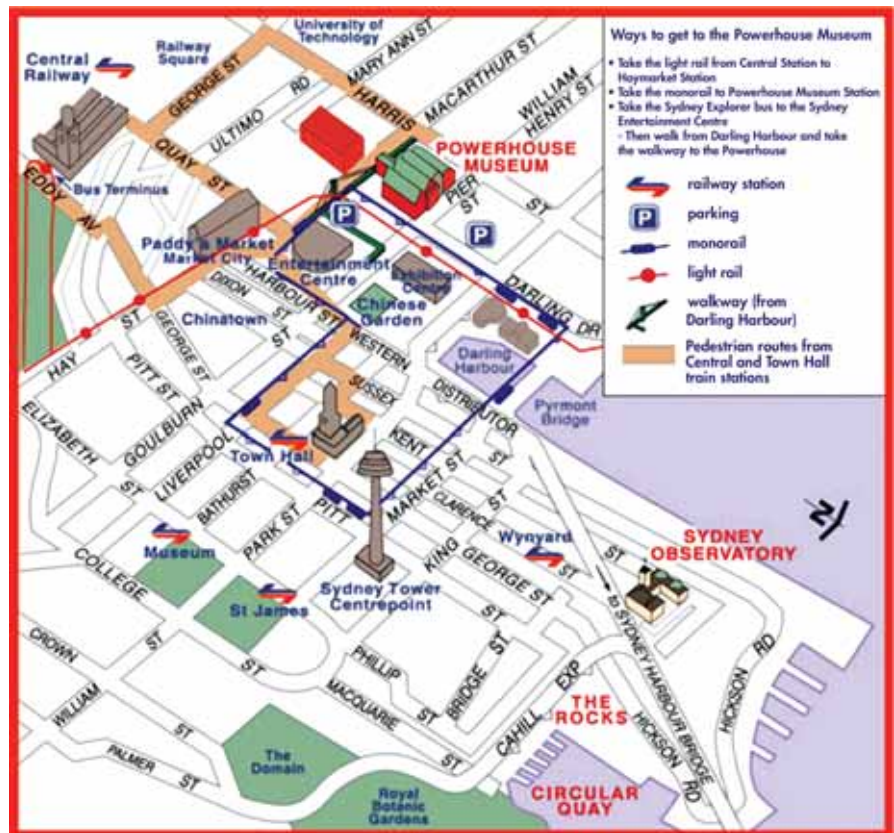
The Australian Small Bridges Conference features a small and intimate exhibition to view and discuss innovative products and services now available from bridge contractors, designers and suppliers.

Exhibitors include:

- Austress Freyssinet Pty Ltd
- GBG Australia
- Degussa Construction Chemicals
- Hanson
- Humes
- Gomaco
- Granor Rubber & Engineering
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October 12-13,

Powerhouse Museum, Sydney



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