



June 2011 Newsletter

Contents

- **Boardwalks and Fire**
- **Project Gympie All Abilities Playspace**
- **Project Walkway Richlands Railway Station**
- **Good Sounding timber**
- **Quote Request for Steel Bridge**
- **Quote Request for Timber Bridge**

Boardwalks and Fire

You can only wonder at the mentality of people who destroy infrastructure, built for their enjoyment and the enjoyment of others. As much as we cannot understand it, vandalism by fire is a reality we have to consider. The two images using widely different materials graphically illustrate the problem.

The Hardwood Boardwalk

Normally a grass fire burns rapidly and, with relatively short grass, it passes under the boardwalk doing little if any damage. This was obviously not the case here. This boardwalk, built approximately 10 years ago, was situated in a swamp and went through long grass. In the midst of a drought, when it was only days old, someone set the grass alight.

The fire was intense and the long burning grass fell across the full length of the boardwalk and the whole structure burnt to the ground. Our first thought was that the CN oil that we had used to coat the bearers, joists and decking was the reason for losing the structure so completely. But when we checked with the manufacturer we learnt that the flashpoint of the oil was very similar to that of the hardwood used and so there was no increased fire risk with oiling.

The problem was simply that there was a source of flame over the whole length of boardwalk instead of a localized flame that you get with normal vandalism. This poor boardwalk did not stand a chance.

The intense fire also saw the CCA H5 pine posts burn to the ground. It is difficult to find a better foundation than a H5 CCA pine post. It has a design life of 50 years, is light and inexpensive. They are also easy to carry in to sites with poor access. The drawback is that when they are subject to fire they can experience "afterglow", a phenomenon whereby when after the fire source is removed they continue burning because of the effect of the preservatives.



New hardwood boardwalk subject to vandalism

The replacement boardwalk was re-built in timber but this time consideration was given to how to avoid a repeat performance. The posts, bearers, joists and the underside and sides of the decking were painted with Luxury paints fire retardant paint. The paint was tinted to be less obvious. The paint system was not considered robust enough to be used on the face of the decking. The rebuilt boardwalk is still going strong.

How big a problem is fire in a hardwood boardwalk? To my knowledge this is the only one I have lost in 14 years. We occasionally are called for a few replacement boards but that is all. By careful choice of species with low Early Fire Index you can reduce the risk to an acceptable level. Remember the ubiquitous F14, F17 specification does not address this, but our Deckwood and Joistwood specification does. We deal with fire on page 21 of our Boardwalk Design Guide. See link below.

Pine of course is a different matter. It has an affinity with fire.

The Plastic Decking

Likewise the plastic decking was subject to vandalism by fire. Ignoring the difficulty of simply being able to certify material that frequently only has an MOE of 3000, the next major difference between Deckwood and composite decking is its behavior under fire.

Under fire, the half of the composite material that is generally made up of wood flour behaves like wood flour and the half made of plastic behaves like a petrochemical i.e. they burn extremely well, even after the source of flame has been removed.

When we had the University of Southern Queensland test composite decking against Deckwood and fibre composite we found little problem with the timber but *“All wood plastic samples continued to burn after removal of the flame. The samples with the voids burned more ferociously than the solid sample”*. For a copy of this report contact us, it is not in the links below. Designers should not underestimate the difficulty of getting both the numbers and fire resistance correct.

If there is any doubt that hardwood does not burn easily, look closely at the hardwood joists. They are virtually untouched by the fire. If the subframe is designed in accordance with our guides the joists should have an 85 year life

Designers considering new materials for their weather exposed decks and boardwalks have to factor in two things, a higher and more costly incidence of vandalism by fire as well as paying a lot more money for new subframe material with only minimal improvement in performance.

Is Galvanised framing an option?

We have serious doubts about the suitability of galvanized framing in bushfire prone areas. When a fire goes through, the protective galvanized coating is often removed allowing the steel to rust far more quickly. But without fire, rust at groundline remains a serious issue and the pine or correctly installed hardwood post should long outlast a steel post. See the link to the March newsletter.

Links

Boardwalk Design Guide

<http://www.outdoorstructures.com.au/gallery.php?gid=96&SID=12>

March Newsletter

http://www.outdoorstructures.com.au/pdf/osa_newsletter_03_11.pdf



Relatively new plastic boardwalk deck subject to vandalism

Gympie RC All-abilities Playground



Modified Triple Shelter by OSA



All abilities toilet by OSA



General View of Playspace

Asset Owner:	Gympie Regional Council
Consultation/design/design:	<ul style="list-style-type: none"> • Insite EMLA/Urbanplay - playspace design • Gympie Regional Council • Qld Government - Community Services, Lisa Stafford & Julie Glover • Suburban Engineering • Cooloola Access Committee • Tina Browne - Playspace • Clive Dodd - Consulting Engineer • James Pierce and Associates (for OSA)
Community Ceramic Art works:	<ul style="list-style-type: none"> • Co-ordinating artist - Stephanie Outridge - Field • Community groups such a schools, day care groups, sporting groups etc involved with over 1500 participants
Shelter & Toilet:	Outdoor Structures Australia
Consultant for OSA:	James Pierce and Associates

The All Abilities Play Space at lake Alford, Gympie, is one of 15 which have been made possible through generous assistance from the State Government. Funding was also sourced through sponsorship/donations. All Abilities Play Space is one of the most remarkable projects that OSA has been associated with.

Outdoor Structures Australia's involvement with this project was the design and supply of a shelter and all ability toilet block. The shelter is a modification of our Lindsay triple shelter. This was our first toilet block and we worked with Ed French of the Council to ensure that we delivered their exacting requirements. The finishes on the toilet are double strength Charcoal tinted Tanacoat and on the shelter http://www.outdoor-structures.com.au/images_email/lindsay-shelter-gympie-playground.png is jarrah tinted Tanacoat.

Rob Seymour of Insite EMLA said it was a great privilege to provide the Gympie community with such a high quality facility. Follow the link below to see more images of the project on OSA's project gallery.

Links

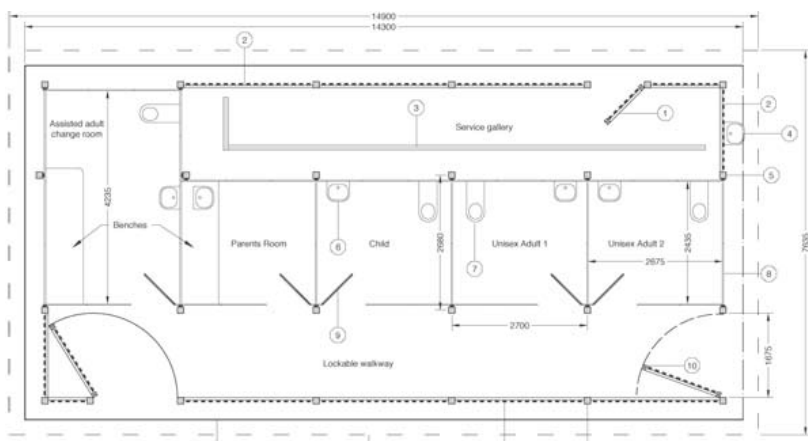
Project Gallery *with more images...*

<http://www.outdoorstructures.com.au/gallery.php?gid=106&SID=12>

PDF of toilet and shelter layouts

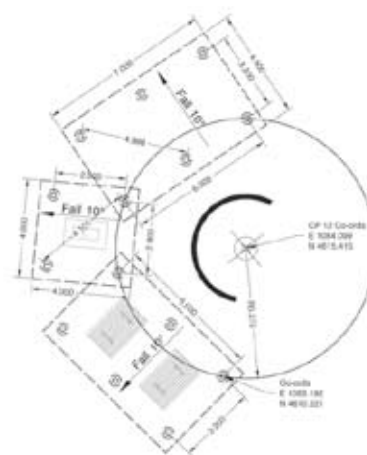
<http://www.outdoorstructures.com.au/pdf/gympie-toilet-layout.pdf>

<http://www.outdoorstructures.com.au/pdf/lindsay-shelter-gympie-playground.pdf>



Layout of Toilet

(See links above for larger files)



Layout of shelter

Walkway - Richlands Railway Station

Client:	Horizon Alliance
Walkway supply:	Outdoor Structures Australia
Walkway Design:	James Pierce and Associates
Construction:	Contrast Construction

The boardwalk uses Outdoor Structures Australia's standard construction system in conjunction with a modification of our C4 Cycleway Rail.

This rail has the addition of a disabled grab-rail. Unfortunately the addition of a kerb means that there was a possibility for pedal entrapment and so the walkway is supposed to be signposted "cyclists dismount". This shows the impossibility of designing a handrail that suits all applications. Follow the link below for more images of the project.

An AutoCAD block of the standard handrail is available from the Cycleway System design tools. Remember that you have to first save the file to your computer hard disk (from where you may open it in the AutoCAD application).

Links

Project gallery for more images

<http://www.outdoorstructures.com.au/gallery.php?gid=107&SID=3>



General view of walkway



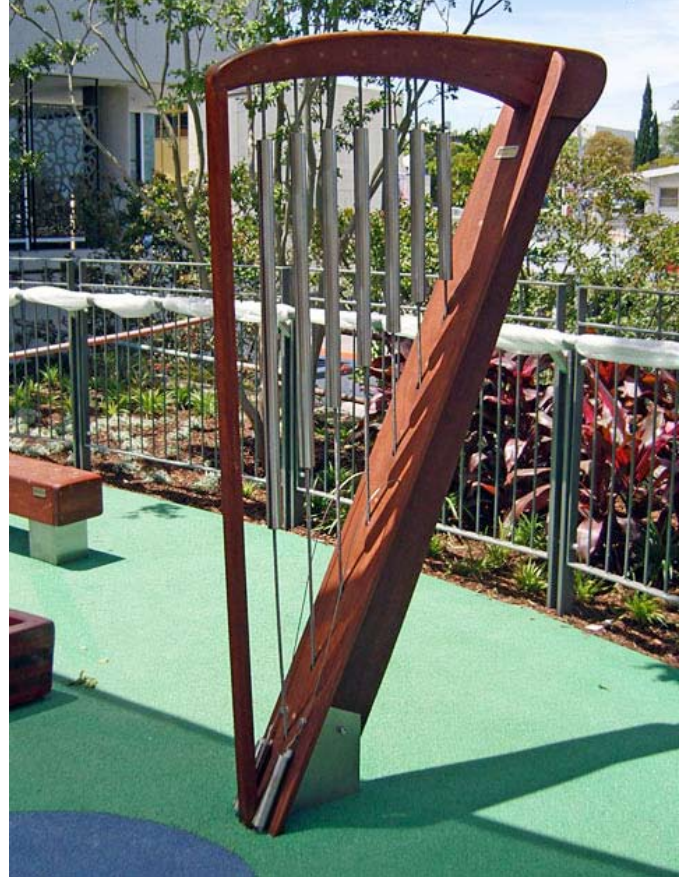
End of handrail

Good Sounding Timber

The creativity of some of our customers never ceases to amaze me. For some years we have been supplying Kim Bowman of Kim Bowman Music in Glenorie NSW 2157 (M 0407 435 794) with ironbark timber for his musical creations. I have been so impressed that I put images of some of his work on our web site. Follow the link for more images of his remarkable work (using of course our remarkable timber). If you have needs out of the ordinary please talk to us. If we do not know the answer we will attempt to find it for you.

Links

<http://www.outdoorstructures.com.au/gallery.php?gid=96&SID=12>



Examples of instruments manufactured using timber supplied by OSA

Bridge Quote Requests

If there is any doubt that OSA make the best kit bridges in the country look at the [Berrinba Wetlands Project](#). Not all bridges are equal. After encountering three bridges in one month that did not meet the Bridge Code I wrote the [May 2010 Newsletter](#). Refer to the May OSA Newsletter when assessing the suitability of quotes.

See our [Steel Bridge Quotation Request Form](#) and our [Timber Bridge Quotation Request Form](#)

Steel Bridge Quotation Request Form

http://www.outdoorstructures.com.au/bridge_request.php?Mode=st

Timber Bridge Quotation Request Form

http://www.outdoorstructures.com.au/bridge_request.php

Regards

Ted Stubbersfield

Director OUTDOOR STRUCTURES AUSTRALIA

Phone 07 5462 4255

OUTDOOR STRUCTURES AUSTRALIA

E-Mail: ted@outdoorstructures.com.au

Web: www.outdoorstructures.com.au

Phone: (07) 5462 4255

Fax (07) 5462 4077

Old College Road Gatton, Australia

PO Box 517

Gatton Q 4343

Australia

ABN 29 713 463 351

