

Ted's News

August 2021

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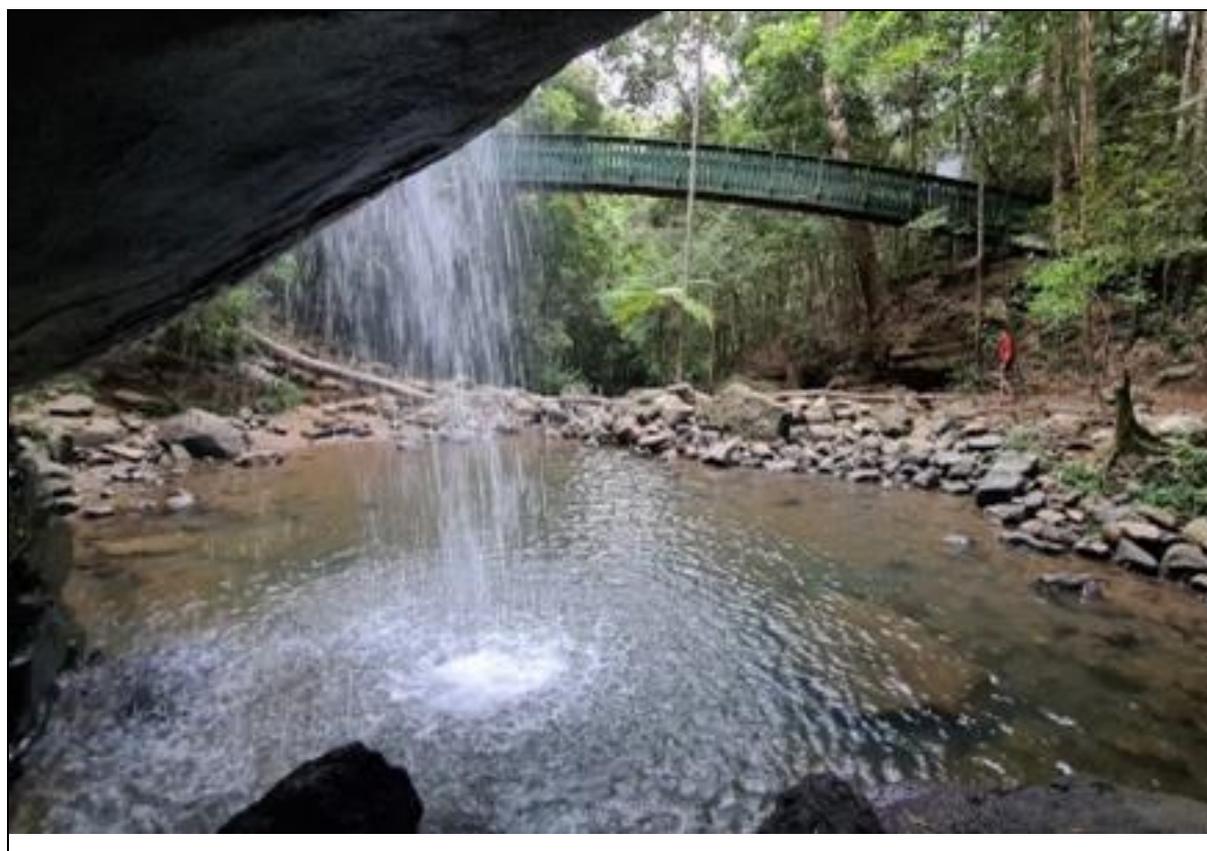
What plans would you rather work to? Something that is only prepared to the minimum standard the certifier will accept so the designer with the lowest price can still make a profit? Or would you rather have something that draws on 40 years experience and where every detail of construction had been thought through. A pretty silly question really if you are used to the latter but how many are?

When operating OSA, I developed a range of very impressive public structure such as park and bus stop shelters as well as toilets. When designs were prepared, almost all had a materials list and full cutting details. My philosophy was that the plans had to be "bullet proof" so I could point a contractor to a pile of material and ask him to prefabricate it and erect it without having to ask a question. They would also be revised after construction to finetune them. You can now have access to these plans, not just as PDF's but also in CAD format that can be modified for your own needs. They incorporate all of my superior detailing that set our product apart from our competitors.

[Here is the link to my website with more information including purchasing options and prices.](#) More designs will be added over coming months

Poor Timber Design Needed a Fast Repair

(Not a paid Advertisement)





Decomposed leaf litter, moisture and dirt entrapped moisture accelerating decay effects



Recessed steel plate at the joint was decaying

I have known Davide Maggiolo from TRADAC days and now he is the Technical Coordinator of [Timber Restoration Services](#). Davide was telling me about a level 3 inspection done by [Wood Research and Development](#) and subsequent refurbishment by [Timber Restoration Systems](#) on a 26 metre span laminated beam footbridge. I asked David to write an article showing:

- The problems with the original design
- How they were rectified and,
- very importantly, How the bridge could have been designed to avoid these issues.

The lessons that can be learnt from the causes of degrade and the repairs are such that when you grasp what happened you have got a good grip on external timber design. [Here is a link to a detailed article with lots of images](#). In brief, timber is no different to concrete and steel in that there are things that you do at your peril. In this case leaf litter got trapped and in a moist environment it caused the laminated beams to decay and the steel to corrode and, as well, there were joints that retained moisture. It was completely unnecessary as every item that was an issue could have been sorted while the bridge was just lines on paper. [Davide's article will show how just how logical designing for durability is](#). Want to know more, [call or email Davide on 0428 227 175](#). I find kindred spirits with the team at WRD and TRS.

New CPD Course - Handrails



[Did you see last month's newsletter with an interesting handrail from the UK and a dodgy one from Australia.](#) I am adding a new CPD course to my list, Handrails. This was originally developed for landscape architecture students at Queensland University of Technology Ring Stuart Madill on 0403 385 707 to arrange a free session if you are near Brisbane. It covers steel and timber.

How to Calculate the Weight of Timber

I saw this load of sleepers recently. The only way a law abiding person like my friend Graham (the driver) and I could catch him to take this picture was when he hit the Minden Range. So how do you calculate the theoretical weight of timber to know if you are loaded legally. First work out the volume. These are old railway sleepers measuring 225 mm wide, 112 mm high and 2.25 metres long and they are stacked six wide and nine high. So, the maths to calculate the volume is $.225$



$\times .112 \times 2.25 \times 6 \times 9$ which equals 3.06 cubic metres. To convert cubic metres to tonne you need a multiplier and for these dry royal species sleepers it is one for one, i.e., one cubic metre of timber is one tonne of timber. It was all primary school maths when I went to school. The next thing you do is to hire a Bunnings courtesy trailer (rated at two tonne carrying capacity including 500 kg for the trailer) so you don't wreck your own expensive bit of gear. And of course tow it at speed with a vehicle that is not rated to that load. Incidentally, should there be an accident, the person who loaded can be in big trouble.

Here are a few multipliers that I used when converting volumes to weights

Green off saw hardwood x 1.3

Round hardwood x 1.3

Treated pine posts x 1.0

Dry pine x 0.6

Cypress green x 0.84

Cypress dry x 0.7

Footbridge Fundamentals



Here I am delivering the topic *How to avoid problems with footbridges and bikeways* at a footbridge fundamentals course. The course covers the fundamentals of what to look for in the design, why a thorough specification at the tender process is important, what to look for when inspecting the structures and lessons learned from several case studies. Participants go through my design checklist line by line and explain with hundreds of images why each line has to be attended to. Phone me on 0414 770 261 to arrange a session [or email](#). It is presented either a full day or two half days.

Content of bridge fundamentals course

Grading hardwood

How to avoid problems with footbridges and bikeways

Doing the inspection

Case histories

Lessons from London Millennium bridge

Berrinba Wetlands

3 bridges closer to my home

Sundry horror images

Need a Timber Consultant or Expert Witness?

I have over 40 years' experience in the industry and can assist you with many of your timber needs.

Inspection – I can assess timber products on their performance, fitness for purpose or cause of failure. I also examine whether best practice was used in design and construction. I have recently completed inspections on boardwalks, bollards, support beams and external timber furniture.

Grading - Quite literally, I have written the book on the subject. Recent experience has shown that up to 30% of timber supplied may not be to grade.

Design - I can provide detailed technical drawings and advice. I can also review already prepared drawings.

Reports - I have authored many books on timber and can prepare a report providing recommendations and practical instructions on to how to rectify issues.

Please note as I am now employed a Senior Timber Consultant with the firm BCRC all large and complex consultancies and requirements for an expert witness will be handled in conjunction with them. Existing consulting arrangements remain unchanged and I am also available to assist on small projects. For more information see www.bcrc.com.au

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