



January 2012 Newsletter

Contents

- **Post Flood Redevelopment at Grantham**
- **OSA Use Fibreglass Decking!!!**
- **Avoid a Dangerous Decking Detail**
- **Quote Request for Steel Bridge**
- **Quote Request for Timber Bridge**



Post Flood Redevelopment at Grantham

In the October 2011 Newsletter I gave an update on the aftermath of Inland tsunami that devastated parts of the Lockyer Valley where I live and OSA is situated. (Refer to the links below).

Just 11 months to the day since our valley was at the epicentre of Queensland's worst ever flooding disaster, an historic housing estate to relocate affected residents was officially opened and the first residents moved in.

The Strengthening Grantham development will relocate flood-devastated residents to a housing estate out of the flood zone.

OSA was chosen to supply a wide range of timber products including;

Standard heavy Duty Bollards at 1.2 and 1.5 m (approx 900)

Custom bollards (approx 30)

Ascot Fencing designed by Cardno Splat (85 m)

Platforms designed by Cardno Splat (5 of)

Modified OSA Disabled barbecue table

Shelter Shed designed by Deicke Richards (8m x 8m)

Pioneer posts used as totems (20 of)



Underneath 8x8m shelter



Pioneer post totems each represents a life lost



Bollards and fencing

Asset Owner	Lockyer Valley Regional Council
Landscape Architect	Cardno Splat
Architect	Deicke Richards
Civil Engineering	Cardno
Landscape Construction	Naturform
Civil Works	Lockyer Valley Regional Council

Three features make this development stand out.

Firstly, new parklands have been located in a prime position overlooking the valley, providing new recreational opportunities for residents who have relocated to the high ground, as well as those who have remained in the township.

Secondly, a public orchard has been planted. Grantham had large orchards in the past and this reflects the community's history. The school has undertaken to care for the trees.

Thirdly, extensive use has been made of the high quality sandstone the valley is renowned for.

More than 70 families took part in the first land-swap ballot with the second ballot to take place early in the new year.

Council is still in the preliminary planning stages for the land it now owns in the flood zone but the most likely uses will include parklands, community market gardens and farming. A new commercial district is planned.

Links

Background to Grantham Development:

http://www.outdoorstructures.com.au/pdf/osa_newsletter_10_11.pdf

Development Plan: <http://www.outdoorstructures.com.au/docs/grantham-master-plan-03-05-11.pdf>

Landscape Plan: <http://www.outdoorstructures.com.au/docs/grantham-park-development-03-10-11.pdf>

More images of the Grantham redevelopment:

<http://www.outdoorstructures.com.au/gallery.php?gid=110&SID=13>



Generous use of Sandstone

Boardwalk in High Moisture Environment



From This...



To This

In 1992 a boardwalk was built in the aviary at Queens Park, Ipswich. We did not supply the timber but processed it as instructed for another company and know it was of high quality. Unfortunately the design and construction practices did not match the material supplied.

Posts set in concrete had decayed severely and there was decay in the decking (probably initially a dressed face) under an anti slip paint. Further an improvised slat handrail did not allow good visibility and slopes were too steep for present disabled access requirements. Nothing of the original boardwalk could be salvaged.



Termination uses iron bark joist

NOTE Caps were *not Installed* when these images were taken.



Standard OSA handrail components

Unfortunately, design and construction practices did not follow our technical publications which were available at the time.

OSA was chosen to design and supply a replacement boardwalk. This is the first time we have used fiberglass decking. Generally we do not believe there is any need for fiberglass if a designer is prepared to specify, detail and *purchase* correctly. The fiberglass is guaranteed for 20 years and Deckwood will last that long normally.

The constant moisture in the aviary prompted us to use it here because of the high grip surface whereas mould growth was a possibility on the timber in this particular application.

When we started the design we quickly found out that, due to their rigidity, the panels were really suited for straight runs and 90 degree bends. We had to deal with curves incorporating a change of angle.

Note: Normal timber construction methods could not be followed. The reason for this is quite complex so call me to discuss the issues. Our consultant has written a brief document *Notes on Fibreglass Mesh Decking* which we will share with you.

The fiberglass decking chosen was Weldlock Micro-mesh which has an 8mm square as opposed to their Minimesh with a 12mm square. We considered this smaller mesh would be important for safety with inappropriate footwear.

Structurally, the boardwalk only needed a 150mm post but we chose to use a 200mm H5 Pine post with the addition of a pole bandage and an alcove band above that. This higher specification post should allow a very long life to be achieved.

Where timber is near to the ground we have used Durability 1 In Ground Joistwood. The handrail, which incorporates a grab rail, is not one of our standard commercial rail systems but is built around standard OSA components. Note the close attention to moisture shedding.

Asset Owner:	Ipswich City Council
Design:	James Pierce and Associates
Boardwalk systems by:	Outdoor Structures Australia
Construction by:	H&G Contractors

Links

Boardwalk design Guide

<http://www.outdoorstructures.com.au/pdf/boardwalk-design-guide-3.pdf>

Commercial Barrier Guide

<http://www.outdoorstructures.com.au/pdf/commercial-barrier-guide-10b.pdf>

Installing Timber Posts in Concrete

<http://www.outdoorstructures.com.au/pdf/boardwalk-design-guide-3.pdf>

Avoid long points on decking

Long pointy ends on decking can be dangerous as they tend to rise up and have the potential of giving a nasty (and very expensive) spearing injury. This detail should be avoided at all costs. OSA achieves this normally by the use of tapered decking. We use our standard tapered Deckwood for changes of direction up to 13 degrees and for sharper angles we use a trimmer as illustrated with extra detailing in the subframe.

Standard tapered Deckwood segments are available. Their length is at least 50mm longer than the nominal width of the Boardwalk. For each 10" change of direction the following number of segments are needed:

Segments per 10 Degrees			
Nominal width	Segments required	Nominal width	Segments required
1.2	8 approx	2.1	13 approx
1.5	9 approx	2.4	15 approx
1.8	11 approx		

Instructions for using tapered Deckwood are as follows: Working from the centre of the angle, place deckers equally each side of the centre. The large end is cut square, place these in such a manner that a neat radius is formed. Fix with two screws at the large end and one screw on each other joist. Trim the narrow end. It may be necessary to adjust the rate of the change in direction by inserting some parallel sided deckers. Lay with a 3mm gap at the small end and touching at the large end.

If detailing an angle with a trimmer and you are specifying OSA Deckwood contact me and I will send you an Autocad block detailing how to do this.



Unrestrained sharp end



Sharp end also note screw position



Sinuous path achieved with tapered Deckwood



Use of a trimmer at sharp angles

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.

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

More information:

If you have timber road/rail/heritage bridge issues, we suggest you talk to:

Mr. Dan Tingley
Senior Engineer
Wood Research and Development
1760 SW 3rd Street,
Corvallis OR 97333

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Regards

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