



1. Timber pedestrian bridges link community spaces.
2. Heavy duty timber log traffic bridges over culvert
3. Details of traffic bridge
4. Timber fences complete the natural feel of the development.



Slice of natural tranquility

Pelican Waters - residential / golf course development - Caloundra, Qld

"We felt timber was sympathetic to the existing environment. It is a very passive material.

Paul McDonald - Cardno MBK,

"Timber bridges have always been appealing but are becoming more favoured as the performance and durability of timber has improved," he said.

"They are now more marketable and are fairly cost-effective."

Ted Stubbersfield, from Outdoor Structures Australia, said his Pelican Waters brief was for a single, 54-metre foot bridge and five golf buggy bridges.

He said he was impressed by the designs which were supplied to him.

"The quality of timber bridge designs is a very variable thing," he said.

"I think it's mainly because engineers are taught very well in steel and concrete, but timber is just an add-on to their courses."

He said the most common design mistakes he saw were not accounting for the damage which fasteners cause to timber, the location of fasteners, and a lack of knowledge about durability, shrinkage and the effects of weather.

The Pelican Waters footbridge consists of six, 9.5-metre spans, which were prefabricated and lifted into place by crane in just 90 minutes. It consists of pre-oiled 'Deckwood' decking (spotted gum) by Outdoor Structures Australia, affixed to 350 mm-diameter spotted gum girders. It sits on driven Koppers Marine Piles.

The buggy bridges are the same construction, but with 6.5-metre spans using 250 mm-diameter girders.

Ted says the decking, which is exposed to the elements, should last 20 years, but the substructure should outlast several decks during its lifetime. **ATD**

The creators of Pelican Waters are conscious of one of their major assets - the natural environment.

The housing/golf course development is at Caloundra, on the Sunshine Coast north of Brisbane, and should be a drawcard for city-based workers seeking a slice of peace and tranquillity.

Paul McDonald, a Mooloolabah-based director of consulting engineers Cardno MBK, said it was important that structures had a minimal impact.

His firm designed timber pedestrian and golf buggy bridges for the site, handing construction over to Outdoor Structures Australia (formerly Gatton Sawmills).

Why timber, rather than concrete or steel?

"Timber just blended in with the surroundings," he said.

"The development retains the existing, very natural vegetation, especially the wildflowers.

"The client is very happy. It achieved exactly what they had wanted - (visually) low impact structures."

Paul says timber bridges are growing in popularity as more people become conscious of their natural surroundings.

