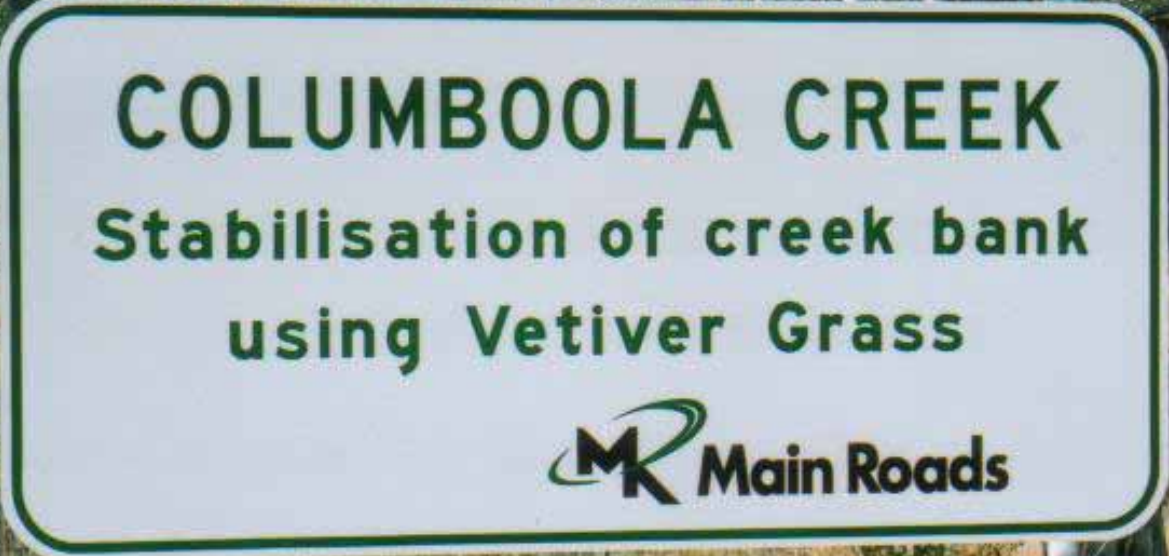


VETIVER SYSTEM FOR BRIDGE ABUTMENT STABILISATION

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COLUMBOOLA CREEK
Stabilisation of creek bank
using Vetiver Grass

 **Main Roads**

Severe erosion on the abutment of the Coolumboola Creek bridge near Miles.





Erosion was caused by the change in flow direction



Eroded area

Flow

Vetiver was planted in contour rows to stabilise the batter and cross rows to reduce flow velocity





Cross rows are most effective when planted right angle to flow direction



One month after planting



Six month after planting



18 months after planting



**18 months after planting, note the bare area between rows
(brown off during winter)**



**There were several big flows during the first summer and no damages were noted.
This abutment is now well protected by these mature vetiver.**



Five years after planting (Summer)







NEW GATTON BYPASS

**SANDY CREEK BRIDGE ABUTMENT
(Under Old Bridge)**

**Flash flood
undercut abutment**



2002 11 22

Planting on 3 Dec 2002



One week after planting





One month after planting



Seven weeks after planting, more than 30cm growth



Three months after planting



One year after planting and through several flash floods



NEW GATTON BYPASS

**SANDY CREEK BRIDGE ABUTMENT
(Under New Bridge)**

Undercut shotcrete and unprotected batter



New abutment under new bridge built parallel to the old bridge





Planting on 24 November 2003







Four months after planting



Four months after planting



One year after planting





Bridge Abutment Coomera Creek,

Brisbane – Robina Rail line

Coomera Creek, Queensland Rail, Brisbane – Robina line



Five months after planting





Mangrove
seedlings

2:49

One year after planting



Opposite side



Five months after planting



Bridge abutment of a tidal creek in north Queensland



Vetiver was planted in both directions between the rocks to to stop them moving



Tingalpa creek, Brisbane



Bridge

Vetiver

T T EWT