

ABSTRACT: P4

AN INNOVATIVE STORMWATER SOLUTION FOR A WORLD HERITAGE AREA

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Abstract

Queensland Roads of Australia is planning for an upgrade to a four-lane surface route on the 14km section of the Kennedy Highway between Cairns and Kuranda (known locally as Kuranda Range Road) in Far North Queensland.

The road links the coastal plains of Cairns to the Northern Tablelands, and part of it goes through the Wet Tropics World Heritage Area. The catchment of the Kuranda Range road runs through drains to the Coral Sea, which is the water body that contains the famous Barrier Reef

Water quality testing in the catchment has shown the streams are in pretty good condition with the exception of a few upland tropical streams which receive runoff from the existing road. As expected these streams are showing signs of heavy metal and PAH contamination

The sensitive and unique tropical environment has required a unique approach to upgrading the road. It is proposed to build the majority of the road on bridges, to provide minimum disturbance of the forest canopy and excavation. The purpose of the bridges is also to allow for connectivity for upland animal species.

The environment and alignment of the road also provides many challenges to implementing stormwater treatment. It is proposed to provide treatment to the bridge structure with an innovative treatment train.

An Enviropod filter, detention system and a StormFilter cartridge have all been located in a small Steel box with dimensions 1.4m long x 0.7m wide x 1.4m deep. It is intended that this treatment train "in a box" be bolted to the side of the bridge structures. This paper examines the performance treatment train in a box in this sensitive environment.

Key Words: Stormwater Treatment, Treatment Train, Highways, Heavy Metals, World Heritage, Wet Tropics.