

Ballina Bypass

Project Overview

Brown Consulting (NSW) Pty Ltd has prepared the Flood Assessment of the impacts of the amended arrangement of the Bruxner Highway and Teven Road interchanges on the Richmond River catchment and its tributaries to the north. The study area covers the Pacific Highway from the existing intersection with the Bruxner Highway to the existing Teven Road intersection. The surrounding area extends from Pimlico Island to the south to Ballina where the Richmond River meets the South Pacific Ocean and also includes the lower reaches of the Richmond River, Maguires, Emigrant, North, Chilcotts and Duck Creeks and associated floodplains.

Scope of Services

The focus of this Flood Assessment is: to estimate the existing flood behaviour throughout the study area, to estimate the impact of the proposed Bruxner Highway and Teven Road interchanges on flood behaviour throughout the study area and to identify flood mitigation measures for the interchanges in order to minimise the impacts on the flood behaviour of the Richmond River, its tributaries and floodplain.

Project Components

SOBEK, an integrated 1D/2D hydraulic model, was developed to assess the changes in flood behaviour as a result of the proposed route extended from the existing Pacific Highway 2km west of the Duck Creek crossing, to approximately 1km north of the Teven Road interchange. The SOBEK modelling has shown that impacts from the proposed interchange are limited to rural land with no impact in developed areas such as Ballina. The flood assessment for the interchange has identified capital works required to mitigate the impact of the upgrade on flooding within the lower Richmond River Floodplain. These works include bridges over the Duck and Emigrant Creeks designed to minimise afflux. Overall flood level impacts by the proposed Bruxner Highway Interchange are limited to 10 mm near the interchange, although for the 100 and 20 year ARI flood level increases of 70mm are experienced within the vicinity of Duck Creek.

Fast Facts

- **Client:** Hyder Consulting & Roads & Traffic Authority (RTA) NSW
- **Location:** The Pacific Hwy section, from the intersection with the Bruxner Hwy to the Teven Rd intersection
- **Local authority:** RTA NSW
- **Date completed:** February 2006
- **Key responsibilities:** Hydraulic modeling for existing and proposed works; presenting modeling results: flood levels, depths, velocities; proposed floodplain capital works

