These comments are in respect to proposed earthworks at Riverlink, for a medium density residential development located at North Street North Ipswich, on the banks of the Bremer River. Ref Ipswich City Council application No. 3262 in 2010.
In support of the application for the development a flood report (23 July 2008 Job No. 3502/84-2) was prepared by Cardno and lodged with the application. Council has verbally advised that there was not any third party audit of the report. At this point in time I am unaware of what scrutiny was applied to the report by Council Engineering staff as a second party audit.
My comments are in respect to the report as a stand alone document.
The flood investigation was modeled using the software MIKE11. Given the location and extent of earthworks which are on the banks of the Bremer River is MIKE11 the most appropriate software to use for a flood analysis?
From the cross sections in the report it is questionable if the cross sections have the level of detail required for this type of analysis. The original of the MIKE11 model was supplied by Council but it is not apparent what level of survey was completed for the original model. It may be that the original model was not intended to be used as a detailed model tool for these purposes. It may be that the original model was used as a more 'broad based' planning tool and not for a lot to lot specific investigation.
The report does not fully explain what mannings values were used along the cross sections in the pre-development and post-development scenarios. It does make mention of an adopted mannings value of 0.08 in the "proposed development which was less than the 'existing case' roughness value in the area". Considering that the values adopted for the cross sections are critical to flow analysis this should be fully explained.

The report makes mention of compensatory earthworks for the construction of the building pad, but from the copy of the report that Council has supplied it is not apparent of the connection between the modeling in the report and the bulk earthworks plans. The concept of compensatory earthworks is where the cross sectional fill in the flow area is balanced by the cross sectional cut. Thereby maintaining a balance to the flow regime. It is not apparent from the copy of the report supplied what is the pre-development or post-development cross sections.

It was not possible for me to download the earthworks plans from PDonline (ICC wbsite).