26 September 2011

Mr Shane Fraser
138 Cobaki Road,
Cobaki NSW 2486

N-T1027.00 20110922 JL SF RFI Response

Dear Shane

138 COBAKI ROAD, COBAKI
RESPONSE TO NEIGHBOURS SUBMISSION

With regards to Tweed Shire Councils letter and attached letter from Allan and Jackie Willoughby dated 16 September 2011 and 14th September 2011 respectively we provide the following response.

With regards to the queries raised in the neighbours' letter regarding the flood impact assessment and further hydraulic assessment we wish to provide the following clarification.

For the purposes of this response the "extreme storm surge flow/volume" described as originating from the local creeks that come down the valley will be referred to as "catchment based storm events".

The hydraulic assessment identified the capacity of the current drainage compared to the pre-work drainage. The assessment did not discuss specific catchment based storm events as it was not proposed to redesign the existing drainage network for specific events, only assess whether the conducted works reduced the drainage capacity within the site. By assessing the comparison between the current and pre-work drains the risk to additional flooding was assessed. Where the existing constructed drains do not provide capacity equal to or greater than the pre-work "creek" additional works were proposed to mitigate the likelihood of increased flood levels within the site and the upstream property.

Within regards to the first five numbered points we provide the following reponse:

1. How runoff arrives at the site whether it be via the upstream creeks and road side drains or via overtopping of these drainage structures has no bearing on the capacity of the drainage within Lot 138 and hence the risk of additional flooding within the site.

2. Outlet spillways from the dam are the control for water levels within the dam and the upstream creek. The spillways were recommended to be lowered as part of the drainage works which would return the permanent water level within the dam and immediately upstream to pre-work levels mitigating the risk of additional flooding.

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3. The bypass channel will provide a relief point, which would likely reduce the risk of increased flood levels upstream by discharging flows to Cobaki Creek prior to overtopping onto the flood plain.

4. The constructed fence was not previously assessed however is not likely to pose a high risk of blockage due to the large percentage of unobstructed open area.

5. The onsite regrading within the northern portion of the site will likely reduce the time taken for runoff to reach the low flow drain allowing flows to discharge from the site prior to the flood peak from a catchment based storm event arriving at the site. The conducted regrading as demonstrated in the site cross sections has also lowered the overtopping level of the flood plain in some locations which would further reduce risk of increased flood levels within the site and the adjacent property.

The hydraulic assessment outlines works which are proposed to mitigate impacts from the site as a result of the present situation. The combination of the bypass channel, the proposed drainage works and enlarged culverts at the causeway to the east, will provide greater efficiency for flows to pass through the property during more frequent storm events. With the increased capacity in the constructed drains overtopping of flows onto the floodplain is likely to occur less frequently. Furthermore the combined proposed capacity of these drains is greater than the pre-work "creek" drainage and will likely offset any reduction in flow area within the flood plain.

Both assessments do not proposed additional filling only additional drainage works to improve the current drainage capacity within Lot 138.

We believe an additional study / report to the scale and detail requested is not warranted as it has been demonstrated that the proposed works will provide increased capacity within the proposed site drainage allowing runoff to "escape" the site more efficiently than the pre-work "creek" drainage during catchment based storm events. Furthermore during conversations with Council's Hydraulic Engineer Danny Rose it was agreed that a large scale assessment was not considered necessary. The proposed drainage would likely mitigate the risk of additional flooding due the reduction in flood plain area.

Yours Faithfully,

JON LINDSAY
Civil Engineer

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