Ref: 13056

12 February 2021

Keiley Hunter Planning
COFFS HARBOUR NSW 2450

de Groot & Benson Pty Ltd

Consulting Engineers & Planners

Dear Keiley

RE: Planning Proposal - Part of Lot 35 DP 1214499
Flood Information

Most recent Flood Studies
The most recent flood studies have been undertaken in the Saltwater precinct for the Malbec development to the south of this. The studies are:

1. Report on Belle O'Conner Street, South West Rocks, Review of Flooding and Stormwater Management – January 2010", prepared by GHD

2. "Additional Flood Modelling for the South West Rocks Development" , 23 March 2010 prepared by BMT WBM.

The second report carried out additional flooding scenarios looking at the effects of climate change and differing berm heights at the Saltwater Creek outlet with the Ocean. The Scenarios were:

Scenario ID	Rainfall Intensity	Ocean Boundary	Inclusion of additional runoff from proposed development site	Berm Height (mAHD)
1	100 year ARI	Neap tide cycle (0.6mAHD)	Yes	2.0
2	100 year ARI	Neap tide cycle (0.6mAHD)	Yes	3.0
3	100 year ARI + 30%	Neap tide cycle (0.6mAHD)	Yes	2.0
4	100 year ARI + 30%	Neap tide cycle (0.6mAHD)	Yes	3.0
5	5 year ARI	100 year storm surge (2.6mAHD)	Yes	3.0
6	5 year ARI	100 year storm surge plus 0.9m (3.5mAHD)	Yes	3.0

The results are summarised below based on the additional modelling. The following maximum flood levels are predicted within the site (in the far north-west corner):

- Scenario 1: 3.1 mAHD;
- Scenario 2: 3.3 mAHD;
- Scenario 3: 3.3 mAHD;
- Scenario 4: 3.5 mAHD;
- Scenario 5: 3.1 mAHD;
- Scenario 6: 3.2 mAHD

Scenario 4 gave the worst results and as we understand it,

Based on the above, we would recommend that the 1% AEP flood level of RL 3.5m AHD be adopted for Planning Proposal Site Area. This would give a minimum floor level for any habitable dwelling of RL 4.1m AHD

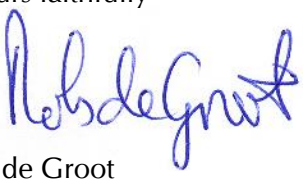
The results of Scenario 4 are shown in Figure 3.5 of the report. It is copied as Annexure A.

Attached is Drawing 13056-PP-01. Flood Impacts in which we have underlain the Scenario 4 plan on the planning proposal site area. The entire area is above the 1% AEP flood level.

Figure 2 is an extract of Drawing 13056-PP-01 focusing in this area:

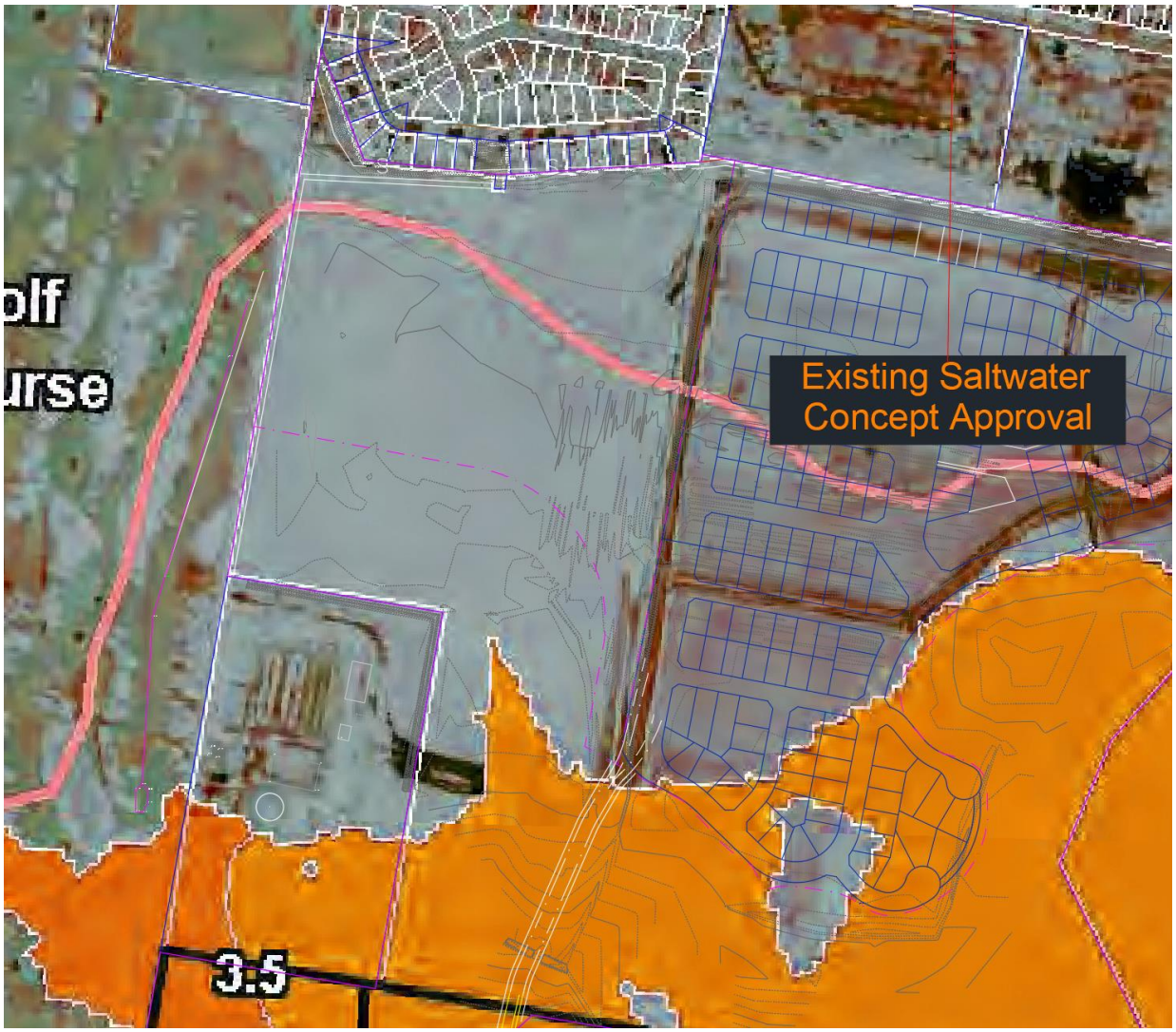
Should you have any further queries, please contact Rob de Groot on 02 6652 1700, or mobile 04 1883 1700 or by email at rob@dgb.com.au.

Yours faithfully

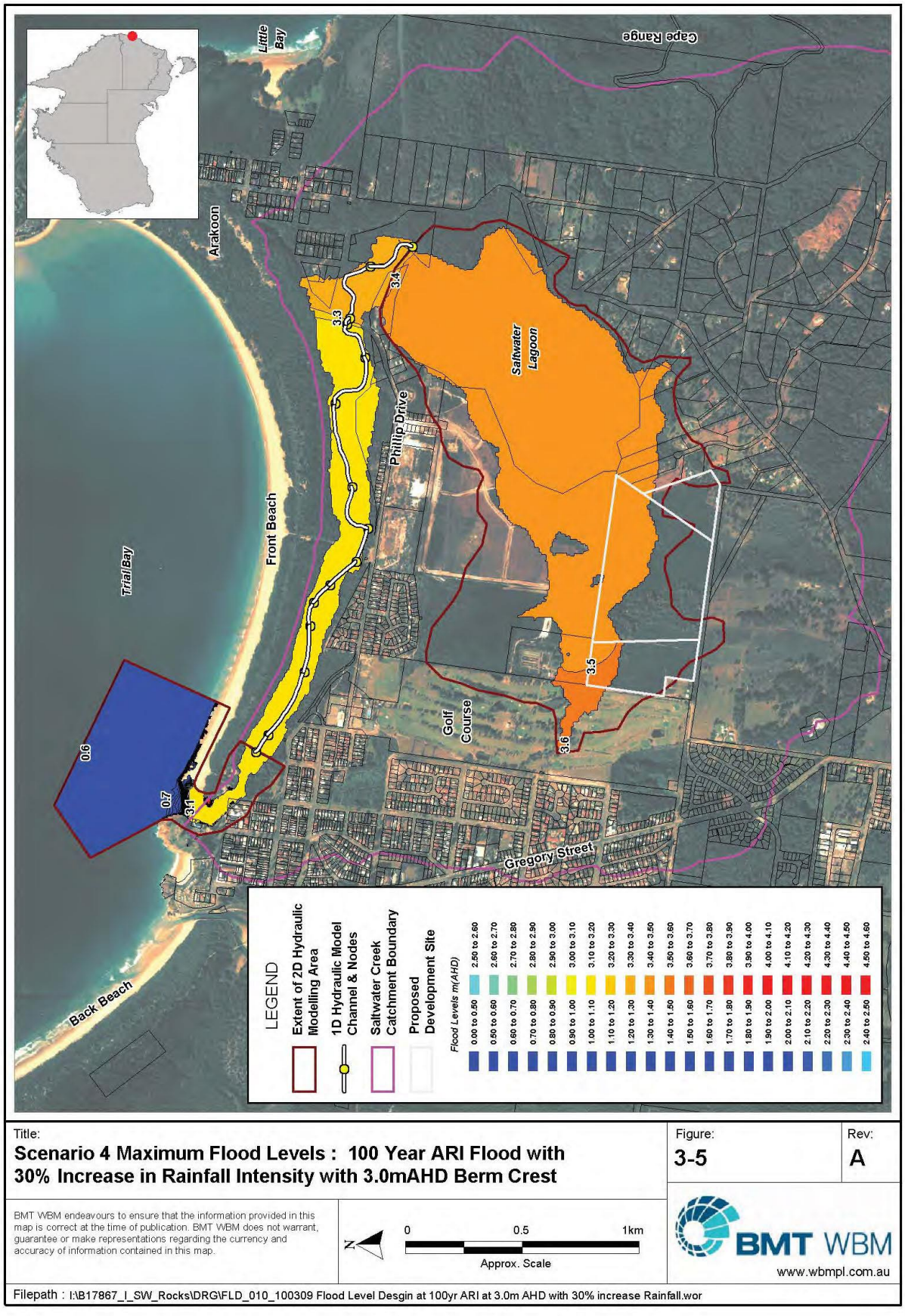


R J de Groot
DIRECTOR

Figure 2: Extract from Drawing 13056-PP-01 – Flood Impacts



Annexure A – Figure 3.5 – Scenario 4 Maximum Flood Levels: 100 Year ARI with 30% Increase in Rainfall Intensity with 3.0M AHD Berm Crest



BACKGROUND IMAGE IS FIGURE 3.5 FROM BMT-WBM FLOOD STUDY - SCENARIO 4 - MAXIMUM FLOOD LEVELS: 100 YEAR ARI FLOOD WITH INCREASE IN RAINFALL INTENSITY AND 3.0mAHD BERM CREST

Golf Course

Phillip D

Existing Saltwater Concept Approval

3.6

3.5

Street

REV.	DATE	REVISION	DR.BY	AP.BY
A	11/02/21	initial issue	APR	RDG

de Groot & Benson

Consulting Engineers & Planners

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Scale	AS SHOWN	Cad File No.	13056_PP_Feb 2021 flooding.dwg		
Surveyed	MR	Datum	AHD		
Drawn	APR	Designed	APR	Approved	RDG
Checked	RDG	Date	2013	No. of dwgs	---

Project: SALTWATER DEVELOPMENT SOUTH WEST ROCKS, NSW

Client: S W R Developments Pty Ltd

Title: FLOOD IMPACTS

Project No. 13056

Drawing No. PP-01

Amendment No. A