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23/09/2016

SSD7500 – Proposed Warehouse and Logistics Hub, 5 and 9 Culverston Road, Minto – Response to Submissions – Flooding and Stormwater

Dear Nathan

In relation to the Environmental Impact Statement (EIS) submitted to Department of Planning and Environment (DPE) for SSD7500, we have reviewed the submissions from DPE, Office of Environment and Heritage (OEH) and Campbelltown City Council (CCC). Our response to the issues raised which relate to flooding and stormwater is summarised in the tables below.

Table 1: Response to Department of Planning and Environment (DPE) Issues

Item	Issue	Response
DPE1	Please provide revised stormwater modelling for the 100 year ARI and PMF flood events in the event Campbelltown City Council's regional flood model is obtained.	Following preparation of Arcadis' Flooding and Stormwater Assessment report, Council's regional flood model was run by Council's consultant to provide a site specific flood assessment. Council's assessment concluded that: • "there is no impact on adjoining property in the 1% AEP event"; and • that it would be "reasonable to expect that there would be little to no effect for rarer events than the 1% AEP event." Refer to Appendix A and Appendix B.
DPE2	If revised modelling requires amendments to the proposed civil works and/or site levels revised civil and bulk earthworks plans should be provided in RTS for assessment.	No amendments to civil works are required (refer to item DPE1)
DPE3	Any Flood Management Plan for the site should be prepared in accordance with the Floodplain Development Manual, April 2015.	Noted

Table 2: Response to Office of Environment and Heritage Issues

Item	Issue	Response
OEH1	OEH understands that Campbelltown City Council has deployed its existing flood model to undertake a site specific assessment of the impacts of the proposal on regional flooding. This assessment has determined that the proposal does not affect existing flood behaviour beyond the site. OEH further understands that the Campbelltown City Council model addresses the impacts of climate change due to the increase in rainfall intensities.	Noted
OEH2	OEH Considers that the evacuation planning methodology as outlined in the Assessment is reasonable. OEH recommends that the concept drainage plan be confirmed at the detailed design stage, along with the evacuation plan.	Noted

Table 3: Response to Campbelltown City Council Issues

Item	Issue	Response
CCC1	Any development of this site will require drainage to be accommodated in accordance with the Campbelltown City Council Engineering Design Guide for Development.	Noted
CCC2	The existing stormwater infrastructure adjacent to the site needs to be assessed for capacity for the future connection of stormwater drainage coming from the site.	Where new connections to existing channels are required to suit the proposed development Council will be consulted regarding new connection details.
CCC3	All drainage software modeling undertaken for the subject subdivision shall be submitted to Council for assessment.	Drainage models will be submitted to Council following completion of detailed design.
CCC4	The proposed site is affected by 1% AEP flood event based on Council's recent flood advice. A stormwater management plan shall be submitted to Council for the proposed development detailing management of major and minor flood events.	The site is proposed to be filled above the 1% AEP flood level and Council has advised this won't have any adverse flood impacts (refer Attachment A and B). A stormwater management plan will be prepared during detailed design and following SSD approval. This will document the proposed pit/pipe network, catchments and overland flow paths within the site.

I trust this meets your requirements. Should you require anything further please do not hesitate to contact me on the details provided below.

Yours sincerely

David Stone
Stormwater and Utilities Team Leader
02 8907 8294

Enc. Appendix A – 'Additional Flood Information',
Campbelltown City Council, 22 June 2016

Appendix B – 'Flood Level Differences',
Campbelltown City Council, 11 July 2016

APPENDIX A
‘ADDITIONAL FLOOD INFORMATION’
CAMPBELLTOWN CITY COUNCIL, 22 JUNE 2016

campbelltown
city council

22 June 2016

Mr Nathan Cairney
TACTICAL
Level 15/124 Walker Street
NORTH SYDNEY NSW 2060

ncairney@tacticalgroup.com.au

Dear Mr Cairney

Additional Flood information - 5 Culverston Road, Minto

Council refers to your email dated 26 May 2016 requesting additional flood information for the above site.

I advise as follows:

1. Council's consultant has reviewed the flood information for the above site as requested for the following scenarios and summary of the flood levels given on the attached table (page 2). Also attached a location map for your reference (page 3).
   a. Existing topographic and development conditions.
   b. Raise only the development site by 10m above the current levels.
2. It is noted that there is only marginal change in flood levels in the vicinity of this site between above 2 scenarios. The differences in flood levels between the fill and no fill are generally small.
3. Please refer to page Nos. 4 and 5 for the flood maps for the exiting topographic condition and raise only the development site by 10m.

Council trusts the above information is of assistance. Should you have any further queries, please contact Cathy Kinsey on (02) 4645 4635.

Yours sincerely

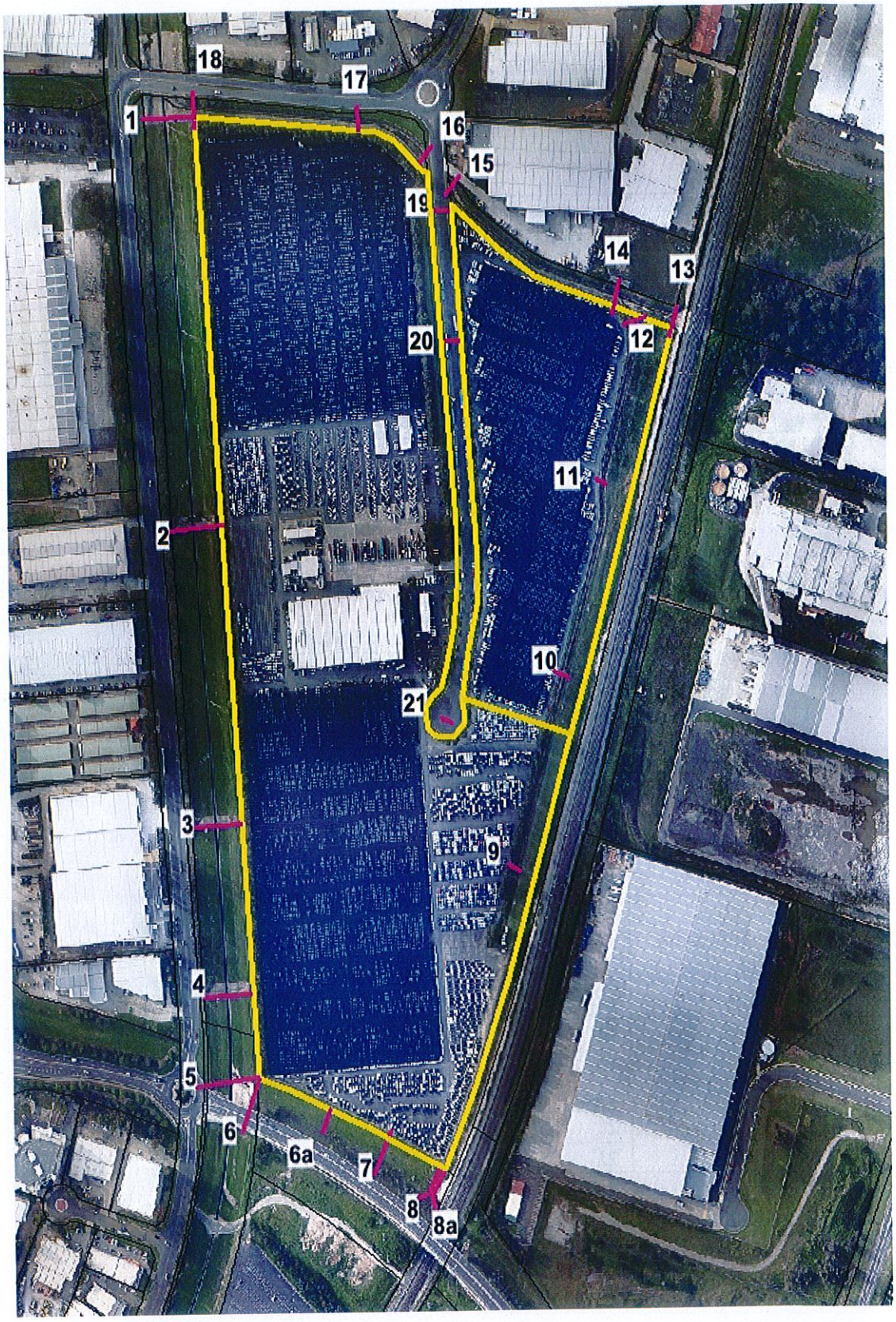
Kevin Lynch
Manager Technical Services

GH

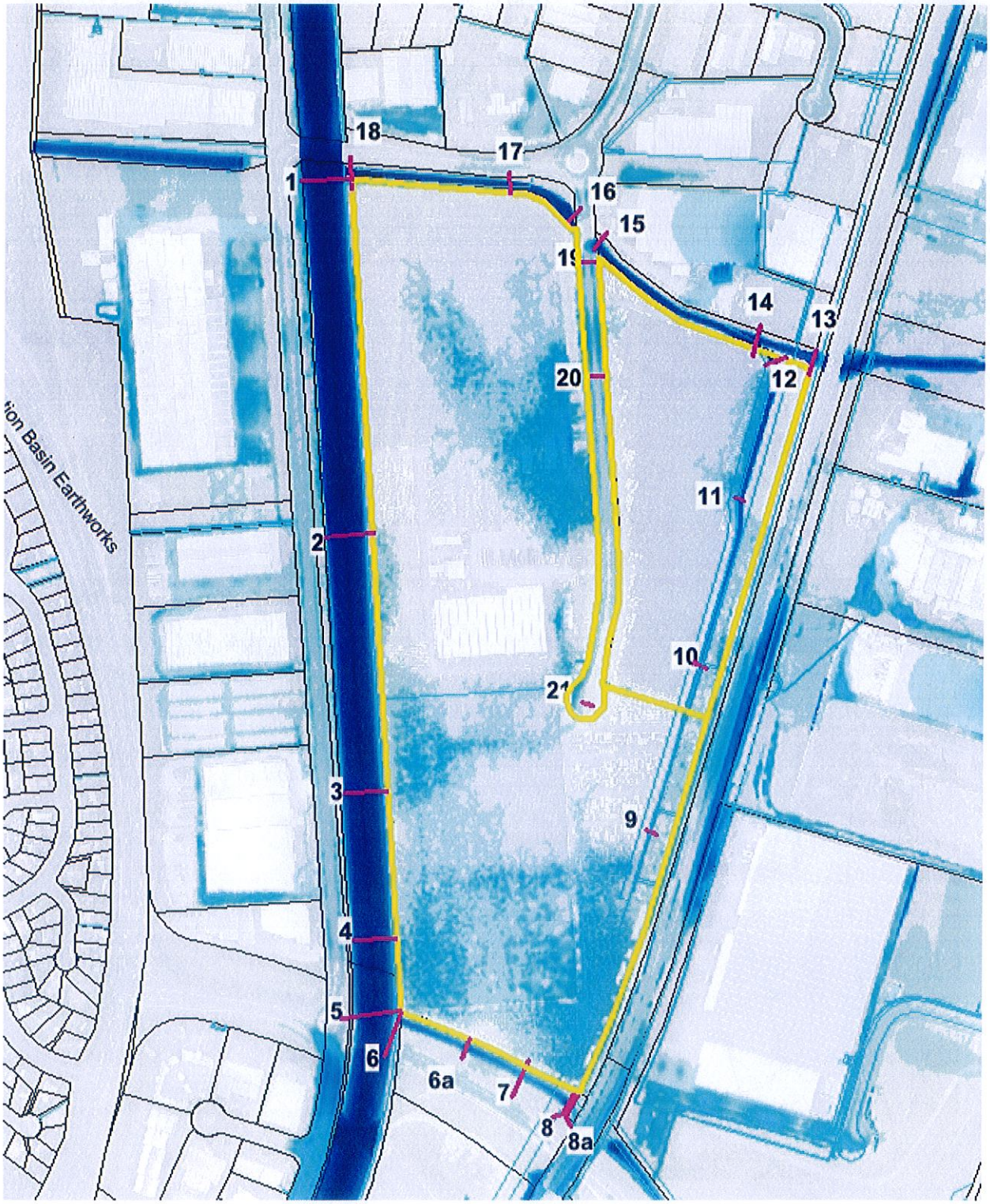
1% AEP flood levels based on the existing topographic condition (Column 1) and raised the site by 10m (column 2)

Details of the flood way	Location	1% AEP flood level (Min. Floor level) based on the existing topographic condition (metres AHD)	1 % flood levels (raised development site by 10m) (metres AHD)
		1	2
Bow Bowing Channel	1	45.88	45.95
	2	46.85	46.86
	3	48.50	48.55
	4	49.75	49.76
	5	50.05	50.05
Formalised grass channel to the south (Rose Payten Drive side)	6	50.05	50.05
	6a	50.08	50.10
	7	50.20	50.20
	8	50.80	50.85
	8a	51.20	51.20
Formalised fabriform channel within the site	9	48.00	48.16
	10	47.20	47.28
	11	47.08	47.14
	12	47.06	47.13
Fabriform channel to the north	13	48.88	48.88
	14	47.03	47.09
	15	46.04	46.12
	16	45.85	45.86
	17	45.78	45.83
	18	45.78	45.83
Culverston Road	19	46.27	46.26
	20	46.50	46.50
	21	48.00	48.12

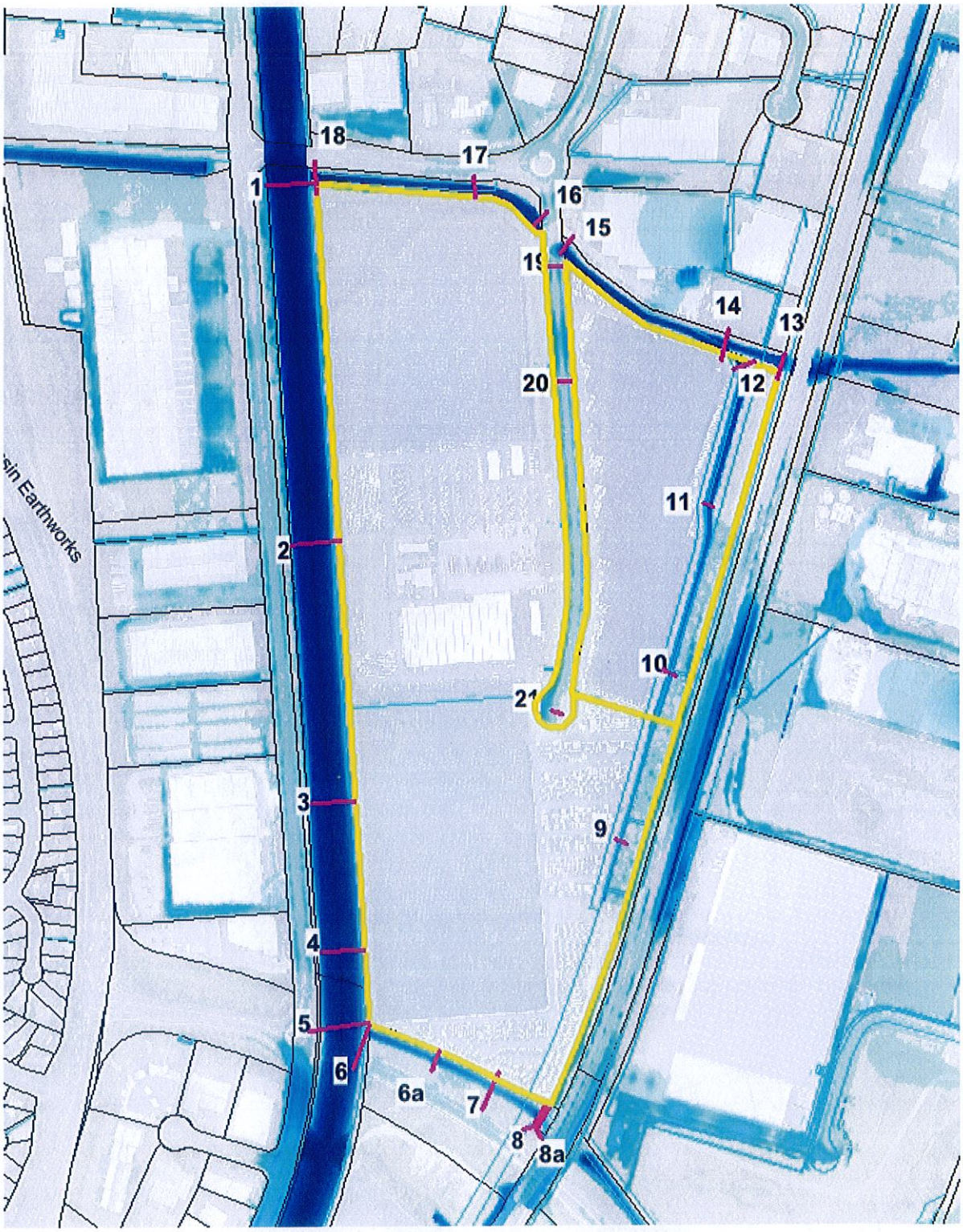
Location Map



Exiting topographic condition



Raise only the develoment site by 10m



APPENDIX B
‘FLOOD LEVEL DIFFERENCES’
CAMPBELLTOWN CITY COUNCIL, 11 JULY 2016

David Stone

From: Nathan Cairney <ncairney@tacticalgroup.com.au>
Sent: Monday, 11 July 2016 1:06 PM
To: David Stone
Cc: Steve Ryan; Bruce Caldwell
Subject: FW: Culverston Road flood level differences when the site is filled up to 10m and existing site condition

Dave,

For your reference in finalising our response to Campbelltown Council with what we are after.

Regards,

NATHAN CAIRNEY
PROJECT MANAGER

TACTICAL GROUP

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Before printing this document, please consider the environment.

From: Cathy Kinsey [mailto:cathy.kinsey@campbelltown.nsw.gov.au]
Sent: Monday, 11 July 2016 12:59 PM
To: Nathan Cairney <ncairney@tacticalgroup.com.au>; Bruce Caldwell (Bruce.Caldwell@arcadis.com) <Bruce.Caldwell@arcadis.com>
Cc: Gamini Hattotuwa <gamini.hattotuwa@campbelltown.nsw.gov.au>
Subject: RE: Culverston Road flood level differences when the site is filled up to 10m and existing site condition

Hi Nathan

Apologies for my confusion this morning. I had drafted this email last week, but had Gamini confirming something prior to sending.

Please find below the flood map showing “Future runoff conditions and filling of the Culverston Road site” minus “future runoff conditions with existing topography” (i.e., future runoff is present in both scenarios). Accordingly, this map shows differences associated with filling of the Culverston Road site only.

Please also note that some of the areas where the depths are getting significant on Culverston Road would need to be addressed with local swales across your site (with future development) to relieve these trapped low points.

The important point to note is that there is no impact on any adjoining property as a result of filling this site for the 1% AEP event. It is reasonable to expect that this same result would apply for all events more frequent than the 1% AEP event, and if fill is limited to the minimum required to

comply with Council's development standards (fill to the 1% AEP flood level) it is also reasonable to expect that there would be little to no effect for rarer events than the 1% AEP event.

Please let me know if this has not addressed all your concerns.

Regards

Cathy Kinsey
Co-ordinator Stormwater and Structural Design
Campbelltown City Council

P: 02 4645 4635
F: 02 4645 4111

www.campbelltown.nsw.gov.au

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