

Our Ref: PSM2802-509L

5 November 2021

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Attention: Angela Wang

Dear Angela

**RE: EASTERN CREEK QUARTER LOT 3
RESPONSE TO DPIE WATER AND NRAR LETTER**

1. Introduction

This letter has been prepared for Frasers Property Australia to respond to the concept design queries raised under the NSW Department of Planning, Industry and Environment letter “*Eastern Creek retail outlet centre (SSD-10457) - Response to Submissions*” (Document ref. OUT21/11393, dated 25 October 2021). We refer this document as the **DPIE Water and NRAR letter**.

The DPIE Water and NRAR letter sets out a number of recommendations for the developer to consider relating to groundwater at the site.

The site is located on Rooty Hill Road South, Eastern Creek as outlined in Inset 1, below.



Inset 1: Site Location

2. Relevant documents

2.1 Proposed Development

Henry Hymas earthworks drawings for the proposed development (ECQ 3) are as listed below:

- 20224_DA_BE01 Rev02 dated 21 December 2020
- 20224_DA_BE02 Rev01 dated 19 November 2020

They are presented in Appendix A.

From these design drawings, we understand:

- The proposed pads bulk earthworks levels for basement is at RL 40.7 m and building is at RL 44.0 m.
- The proposed basement is located in a maximum cut of 1.5 metres. Majority of the basement area will be constructed in new fill (eg. above the existing natural ground).
- The maximum cut depth on the site is 3.75m located at the western most portion of the site.
- The cut depths described above exclude the site material stockpiles. The drawing shows the locations of the existing stockpiles.

2.2 Existing Groundwater model / interpretation

Frasers Property has provided PSM with the following:

- CDM Smith dwg no. S12388.0-DWG-005 "Groundwater Contour Plan" dated 21 Nov 2012 following the environmental site assessment completed by the consultant in 2012.

Appendix B presents the provided drawing.

The groundwater was shown to be between RL 37 m and RL 38 m across Lot 3.

2.3 PSM Geotechnical Investigation in 2021

PSM undertook a geotechnical investigation at the site in 2021. This is documented in PSM2802-508L dated 19 March 2021. The investigation comprised drilling of 26 boreholes to a depth between 1m and maximum depth of 13.4m. During the investigation, groundwater was observed in 6 of the 26 boreholes.

Please refer to Figure 1 of this letter for a plan showing the depths of the encountered groundwater.

It is noted that the encountered groundwater level from the investigation was significantly deeper below the proposed pad levels.

3. DPIE Water and NRAR recommendations

The relevant DPIE Water and NRAR document recommendations are presented below:

1. Pre-approval Recommendations:

The Proponent should:

- a. Confirm if any groundwater take is predicted, and if so provide an estimate of the water take and any licencing requirements.*

4. PSM Response

Based on our review of the proposed pad levels, existing groundwater model undertaken by other, and our observations during our investigation in 2021, we consider it is unlikely that works will intercept the water table and any groundwater take is required.

The designer of culverts and ponds should consider the recommendations provided in the DPIE Water and NRAR letter for any surface water control device.

We trust this is letter is sufficient to address the item raised in DPIE Water and NRAR letter.

For and on behalf of
PELLS SULLIVAN MEYNINK



JOCK RUSSELL
SENIOR GEOTECHNICAL ENGINEER



AGUSTRIA SALIM
PRINCIPAL

Encl.

Figure 1	Encountered water depths from internal investigation
Appendix A	Henry and Hymas Earthworks Drawings
Appendix B	CDM Smith dwg no. S12388.0-DWG-005 "Groundwater Contour Plan" dated 21 Nov 2012



Legend

Approximate Site Boundary Borehole

- Notes:
1. Image obtained from Nearmap of the site conditions on 24 January 2021.
 2. Borehole RL indicates the level of the top of the borehole collar in mRL.
 3. Groundwater Depths indicate the groundwater levels based on depth from surface.



Scale 1:1500

0 10 20 30 40 50 m

Scale (m)

	Created By:	SG	Revision:	0
	Date:	05 Nov 2021	Paper Size:	A3

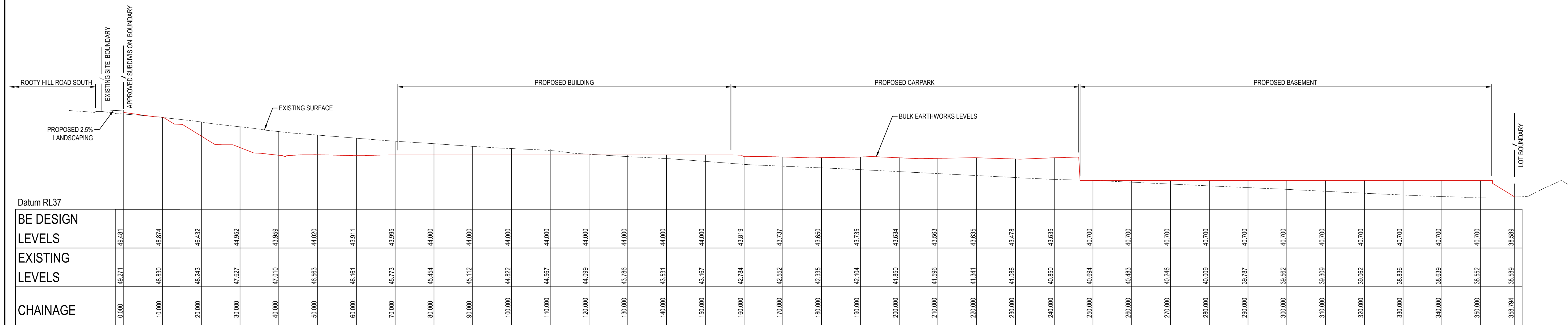
Fraser's Property
Eastern Creek Stage 3 Project
Eastern Creek, NSW

GROUNDWATER OBSERVATIONS DURING
PSM BOREHOLE DRILLING IN FEB 2021

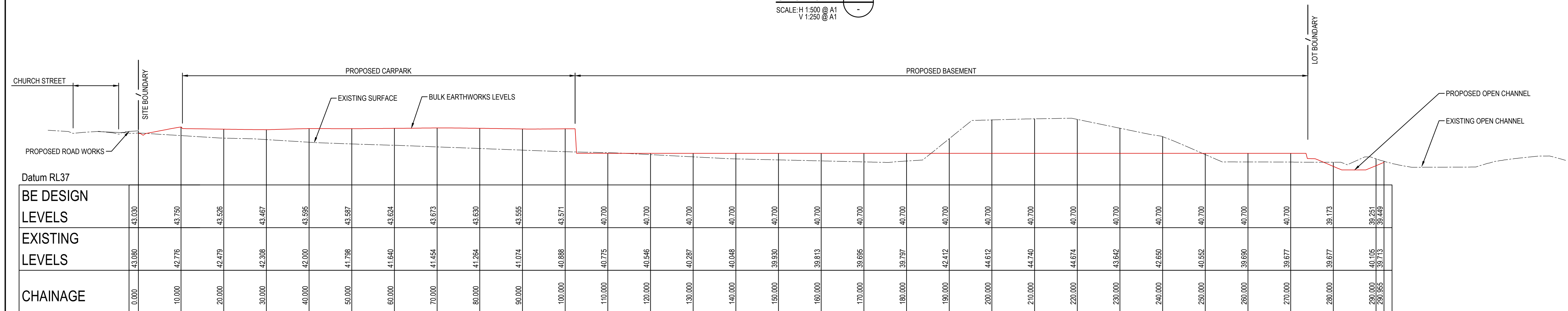
PSM2802-509L	Figure 1
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Appendix A

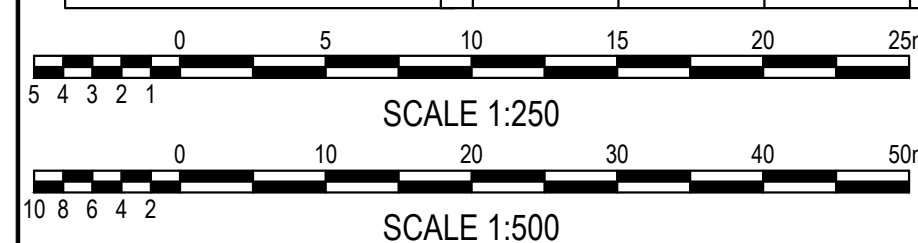
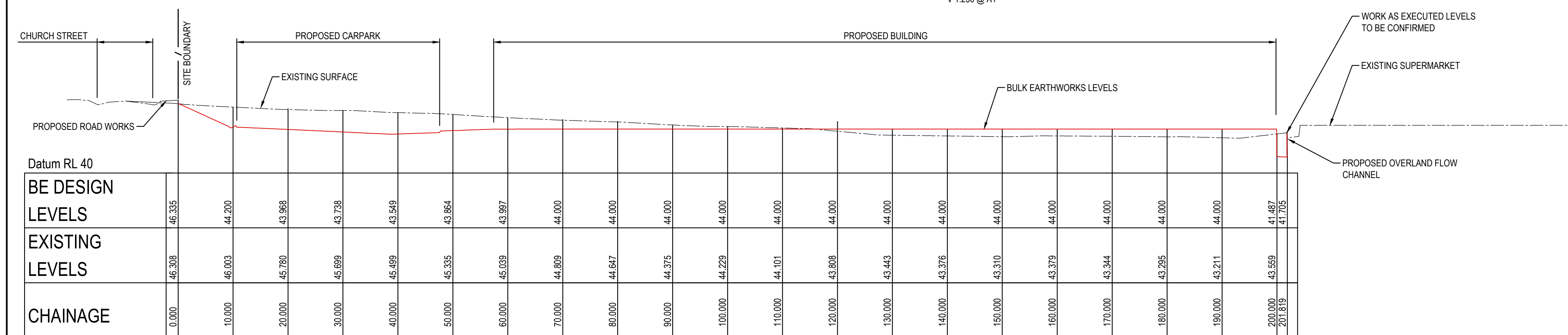
Henry and Hymas Earthworks Drawings



SECTION A
SCALE: H 1:500 @ A1
V 1:250 @ A1

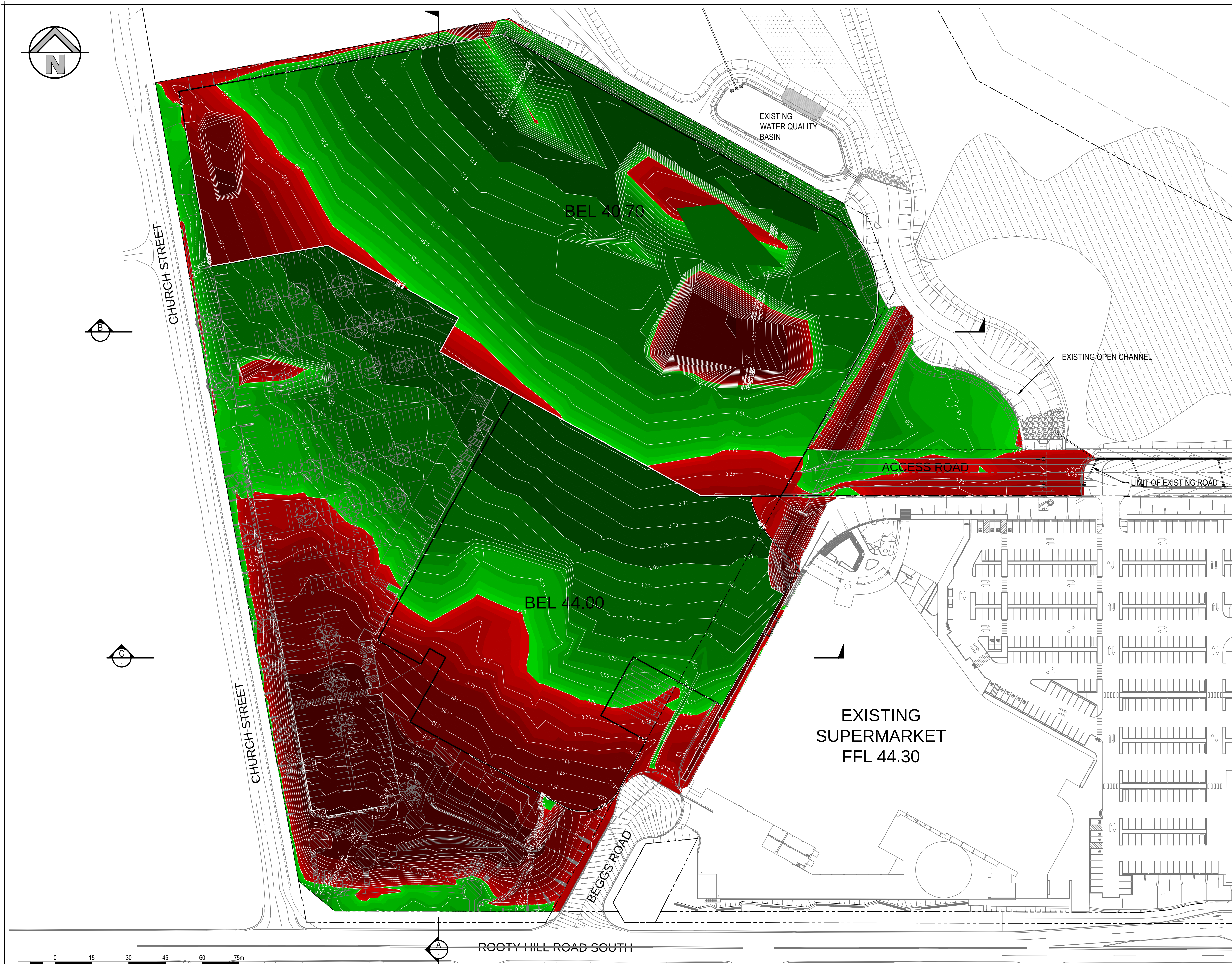


SECTION **(B)**
SCALE: H 1:500 @ A1
V 1:250 @ A1



SECTION C
SCALE: H 1:500 @ A1
V 1:250 @ A1

SURVEY INFORMATION SURVEYED BY DATUM: ORIGIN OF LEVELS:																														Client FRASER PROPERTY AUSTRALIA Architect i2C ARCHITECTS This drawing and design remains the property of Henry & Hymas and may not be copied in whole or in part without the prior written approval of Henry & Hymas.										Level 5, 79 Victoria Avenue Cherrybrook NSW 2085  hch CONSULTING Telephone +61 2 9417 8400 Facsimile +61 2 9417 8337 Email email@hchconsult.com.au Web www.henryandhymas.com.au										 henry hymas										Project PROPOSED STAGE 3 ECQ PRECINCT ROOTY HILL ROAD SOUTH, EASTERN CREEK NSW Checked T.Dempsey Approved A.Francis AS SHOWN @ A1										Drawn L.Caha Designed L.Caha Date MAY 2018									
01 ISSUED FOR INFORMATION										LC TD 19.11.2020																				Title BULK EARTHWORKS SECTIONS										Drawing number 20224_DA_BE02										Revision 01																													
REVISION AMENDMENT										LC TD 19.11.2020																																																																					
REVISION AMENDMENT										LC TD 19.11.2020																																																																					



LEGEND	
	EXISTING BOUNDARY
	DEPTH CONTOUR FOR FILL
	DEPTH CONTOUR FOR CUT

DEPTH RANGE			
Lower_value	Upper_value	Colour	
-6	to	-4	Meters
-4	to	-2	Meters
-2	to	-1	Meters
-1	to	-.8	Meters
-.8	to	-.6	Meters
-.6	to	-.4	Meters
-.4	to	-.2	Meters
-.2	to	-.1	Meters
-.1	to	-.05	Meters
-.05	to	.0	Meters
.0	to	.05	Meters
.05	to	.1	Meters
.1	to	.2	Meters
.2	to	.4	Meters
.4	to	.6	Meters
.6	to	.8	Meters
.8	to	1	Meters
1	to	2	Meters
2	to	4	Meters
4	to	6	Meters

EARTHWORKS QUANTITIES

- (APPROXIMATE ONLY)
- NOT TO BE USED FOR CONTRACTUAL PURPOSES. TENDERERS TO DETERMINE VOLUMES USING THEIR OWN METHOD OF CALCULATION.
- ASSUMED SLAB AND PAVEMENT THICKNESS OF 300mm USED FOR CALCULATIONS.

- EARTHWORKS QUANTITIES -	
TOTAL AREA (8.1 ha)	
CUT	33910 m²
FILL	62250 m³
EXCESS OF FILL	28340 m³
TOPSOIL STRIPPING "100mm" OF 8100m² NOT INCLUDED IN CALCULATION	
EXCAVATION FOR SERVICE TRENCHES NOT INCLUDED IN CALCULATION	
FUTURE EXCAVATION FOR SERVICES 580m³/Ha *5.1Ha = 2980m³ NOT INCLUDED IN CALCULATION	



CUT AND FILL PLAN
SCALE 1:750

CONCEPT

SURVEY INFORMATION										Client										Project										Drawn										Designed										Date																																																																					
SURVEYED BY										FRASER PROPERTY AUSTRALIA										Suite 2/01, 828 Pacific Highway Gordon NSW 2072										PROPOSED STAGE 3 ECQ PRECINCT ROOTY HILL ROAD SOUTH, EASTERN CREEK NSW										L.Caha										L.Caha										MAY 2018																																																											
DATUM:										i2C ARCHITECTS										 henrydhymas										Checked T.Dempsey										Approved A.Francis										Scale 1:750 @ A1																																																																					
ORIGIN OF LEVELS:										This drawing and design remains the property of Henry & Hymas and may not be copied in whole or in part without the prior written approval of Henry & Hymas.										Title CUT AND FILL PLAN										Drawing number 20224_DA_BE01										Revision 02																																																																															
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Appendix B

CDM Smith dwg no. S12388.0-DWG-005

“Groundwater Contour Plan” dated 21 Nov 2012

