

Our Ref: PSM4010-008L

8 December 2020

Aliro Group
Level 53, 1 Farrer Place
Sydney NSW 2000
dlousick@aliro.com.au

Attention: David Lousick

G3 56 Delhi Road
North Ryde NSW 2113

P +61-2 9812 5000

F +61-2 9812 5001

E mailbox@psm.com.au

www.psm.com.au

Dear David

**RE: 44 CLUNIES ROSS STREET, PROSPECT
RESPONSE TO COUNCIL QUERIES**

1. Introduction

This letter presents the response / discussion by PSM to both Blacktown Council and Cumberland Council queries received for the proposed development. The queries relate to the influence of the proposed development on groundwater. The work has been undertaken in accordance with the fee proposal PSM4010-007L, dated 20 October 2020 and approved on 6 November 2020 by David Lousick. Please do not hesitate to contact us if separate letters need to be prepared and issued to separate Councils to address the queries.

2. Queries

2.1 Blacktown City Council Item

Blacktown Council raised the following item:

“Geotechnical Investigation report by PSM (dated 11 February) has suggested that Groundwater seepage was encountered at boreholes conducted onsite (boreholes 2020/BH09 and 2020/BH10). Results and recommendations carried out in this report must be considered (i.e. excavation methods, batter slopes and heights above the groundwater table etc) for the civil engineering designs.

Since these boreholes were tested at the location of proposed building pads (i.e. Pad 7), further investigation and possibly long-term groundwater monitoring is required to ensure that the proposed development does not impact the groundwater table and groundwater flows”

PSM response:

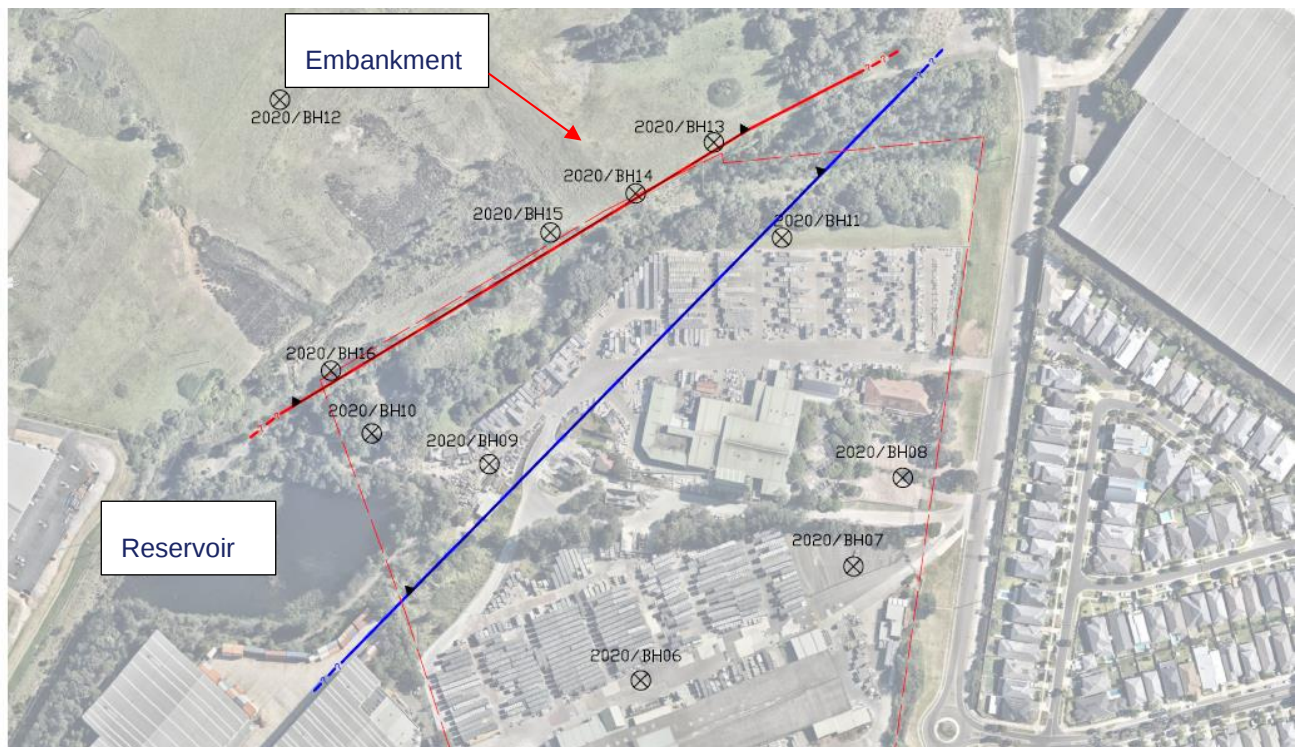
Additional geotechnical investigation has been completed for Pad 7, Inset 1 (ref. PSM4010-010L, 7 December 2020). The investigation presents groundwater observations including:

- Groundwater levels vary from RL 48.2 m to RL 51.8 m AHD
- Groundwater is typically shallower in proximity to the reservoir, Inset 1.

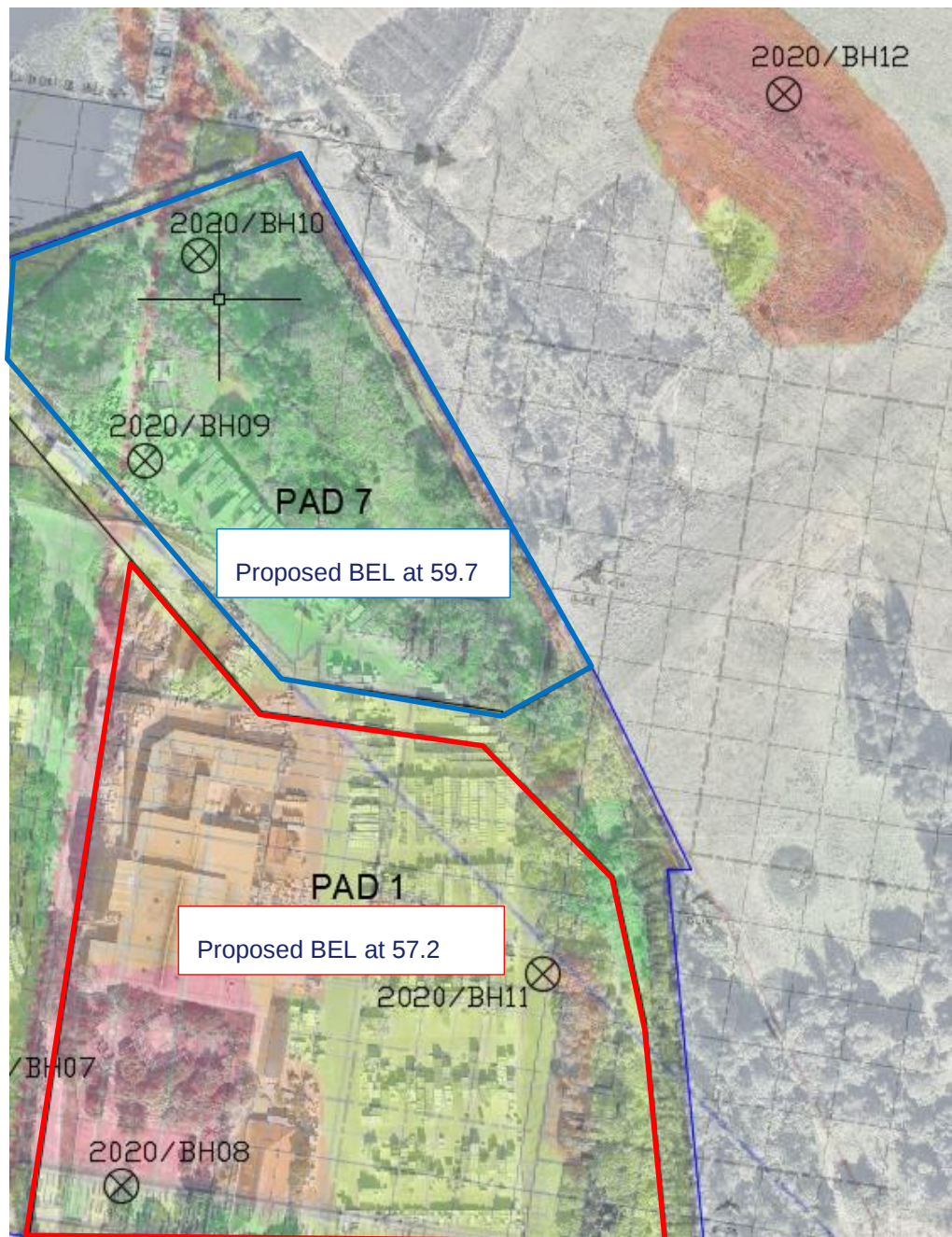
Groundwater monitoring commenced from 13 November 2020. Initial results are presented in PSM4010-010L, 7 December 2020.

Based on the Costin Roe civil drawings CO13251.06-DA10D to F02B, dated 3 June 2020, we note the following:

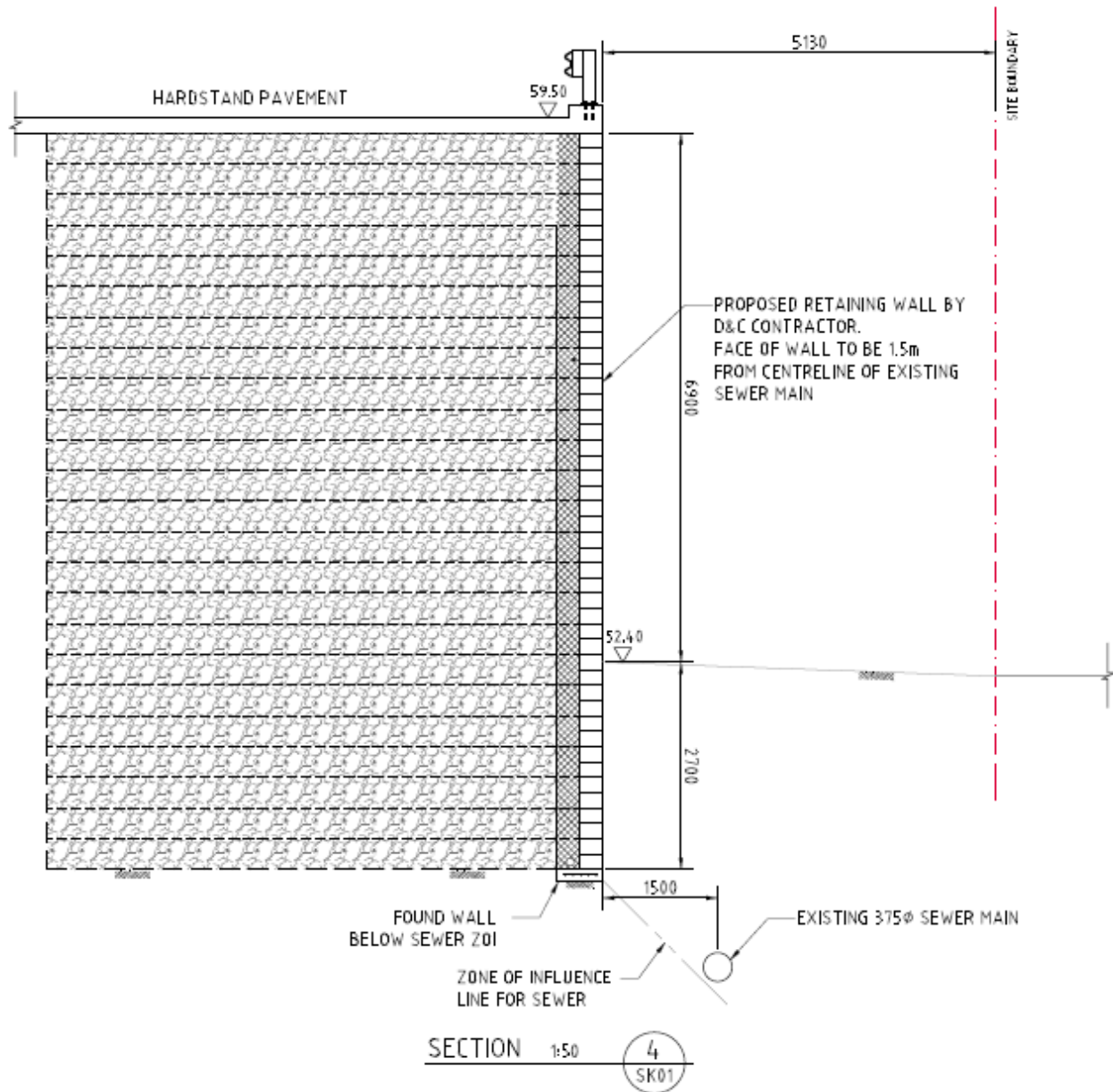
- The majority of the Pad 7 area is proposed to be filled with the exception of the foundations for the proposed retaining walls, the stormwater basin to the north west of site and underground services which will require excavation prior to placement of structural fill, Inset 2 and Inset 3.
The excavations are likely to encounter groundwater during construction and temporary surface and sub-surface groundwater control measures will be required.
- The depth to groundwater may be shallower in proximity to the water storage (reservoir), Inset 1, which at the time of survey / measurement had a water level in the order of RL 54.6 m AHD
- The civil and structural designers shall consider the influence of the Girraween creek and associated stormwater infrastructure on temporary groundwater levels during peak flows. i.e. the embankment crest within Girraween creek is at approximate RL 57 m AHD ,Inset 1
- In the south east of the Council area, Inset 2, the proposed bulk earthworks level for Pad 1 is at RL 57.20 m AHD which is above the observed groundwater levels and that of the water storage. The civil and structural designers shall consider the advice for temporary and permanent control of groundwater provided in the IGDA (PSM4010-004L Rev1, 26 November 2020).
- In areas above the permanent groundwater level, allowance for seepage during periods of wet weather during construction and in design shall be included.



Inset 1: Recent geotechnical investigation completed for Pad 7.



Inset 2: Fill proposed in Pad 7 area where groundwater observations were recorded in January and October 2020.



Inset 3: Proposed excavation for retaining wall foundations extends below observed groundwater levels.

2.2 Cumberland Council Item

Cumberland Council raised the following item:

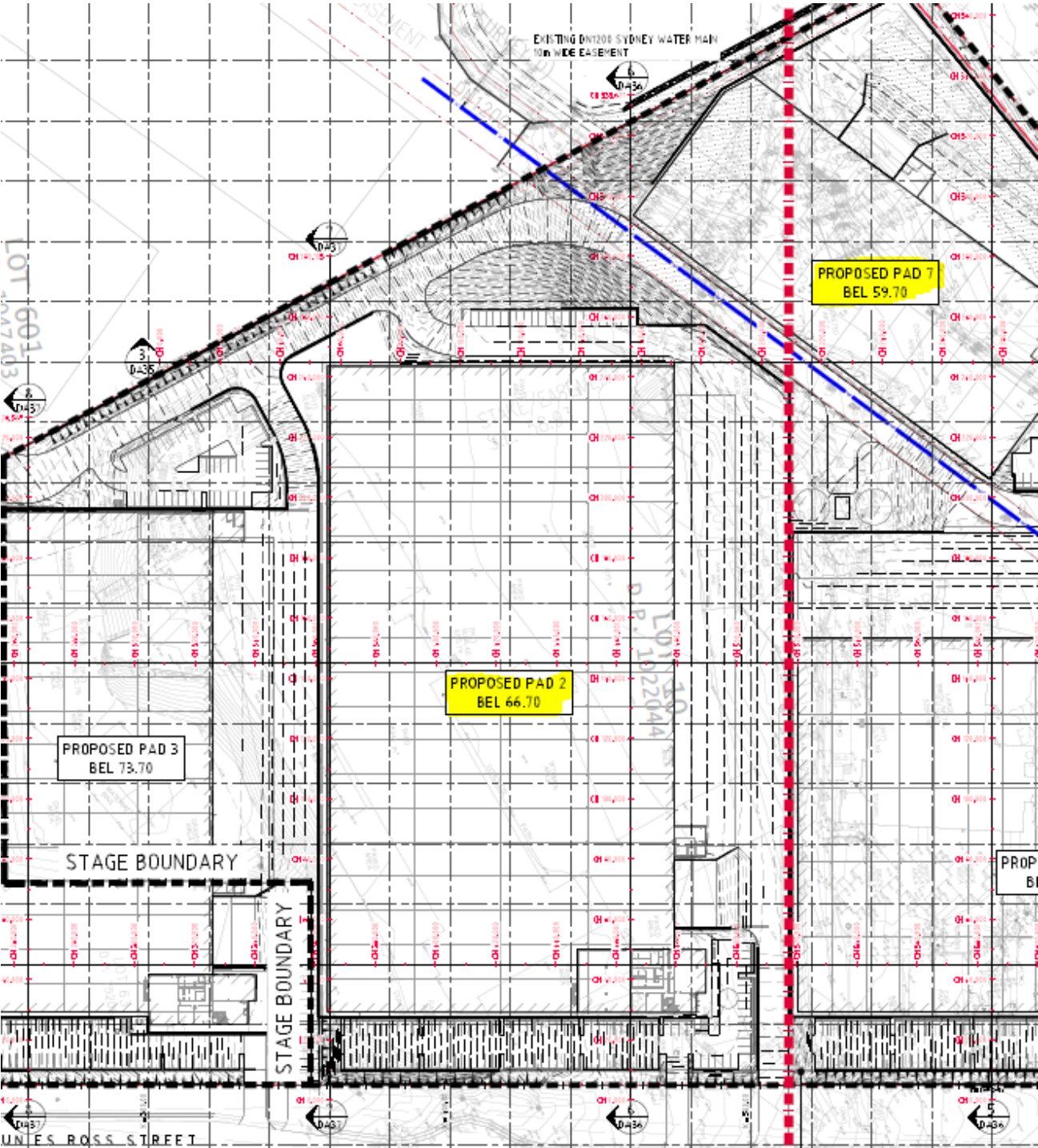
"In accordance with Clause 3.5, Control C12, development shall minimise cut and fill to protect existing drainage patterns and maintain integrity of the groundwater system.

In this regard, the proposed development is designed to require significant bulk earthworks with cut and fill in the order of 8m and 14m respectively, as identified on Page 11 of the Geotechnical Investigation (GI), which is considered excessive."

PSM Response:

In areas of maximum cut, permanent groundwater has not been encountered in a series of investigations completed since October 2017. Furthermore, in the adjacent Blacktown Council land, groundwater was observed between RL 48.2 m to RL 51.8 m AHD. The proposed bulk excavation levels in the Cumberland Council area extend to RL 59.7 m AHD in the south west corner of Pad 7, Inset 4. As such the proposed cuts are unlikely to encounter permanent groundwater.

The civil and structural designers shall consider that in periods of wet weather temporary seepage may be observed in excavations for footing systems and the cut slopes (ref. PSM IGDA PSM4010-004L Rev1, 26 November 2020).



Inset 4: Excerpt from Costin Roe BEL drawings with levels highlighted.

Should there be any queries, please contact the undersigned.

For and on behalf of
PELLS SULLIVAN MEYNINK

A handwritten signature in black ink, appearing to read 'D. Pope', with a stylized, cursive script.

DANE POPE
ASSOCIATE GEOTECHNICAL ENGINEER

A handwritten signature in black ink, appearing to read 'Agustria Salim', with a stylized, cursive script.

AGUSTRIA SALIM
PRINCIPAL