

16 October 2017

Hansen Yuncken Pty Ltd
Attention: Mr Tim Ireson
 Building 1, Level 3
 73-85 O’Riordan Street
 ALEXANDRIA NSW 2015

Dear Sir

**Re: SSD-7173 First Estate, Mamre Road, Orchard Hills
 Civil Engineering Modification – Road Cul-De-Sac & Drainage Channel**

We provide this letter relating to a proposed modification to the First Estate project approved under SSD_7173. Specifically this letter covers the civil engineering aspects of the amendment.

The modification is for an amendment to the approved civil engineering items defined in SSD_7173. The main components of the current amendment is for an adjustment to the internal access road cul-de-sac configuration and the estate drainage channel.

A set of civil engineering drawings were completed by Costin Roe Consulting during 2016. The following drawings have now been updated to show the revised cul-de-sac configuration and new estate drainage channel location, enclosed as listed following.

- Co12042.00-C44 [3] Civil Works Plan – Sheet 4
- Co12042.00-C51 [3] Road Alignment, Signage and Line Marking Plan
- Co12042.00-C70 [2] Turning Paths Plan – Sheet 1
- Co12042.00-C100 [A] Drawing List and General Notes
- Co12042.00-C200 [B] Erosion and Sediment Control Plan and Details
- Co12042.00-C400 [D] Channel Re-Alignment Plan
- Co12042.00-C410 [C] Channel Longitudinal Section
- Co12042.00-C440 [A] Channel Cross Sections – Sheet 1
- Co12042.00-C441 [A] Channel Cross Sections – Sheet 2
- Co12042.00-C450 [A] Channel Details

We have also provided a summary of the engineering components of the development which will change from, or remain consistent with, the approved SSD_7173 development.

The summary of design elements are as follows:

1. Road Cul-De-Sac Adjustment:

The configuration of the road cul-de-sac is proposed to be adjusted as shown on drawing **Co12042.00-C44**. The location of the turning bulb is to be relocated to the opposite side of the road than the current approved SSD_7173 location. A 180 degree u-turn by an Austroads standard 25m B-Double vehicle is shown on drawing **Co12042.00-C70**. The Lot boundaries have been adjusted accordingly to suit the turning head location. The overall strategy for road use remains consistent the the approved SSD_7173.

2. Estate Drainage Channel Adjustment:

The proposal is for the Estate Drainage Channel to be relocated from the previously approved location to run parallel to the northern boundary of Lot 2172 in DP 1153854. The drainage easement for the channel is to be set a width of 30m wide as shown on drawing **Co12042.00-C400**. The proposed realignment has been made to improve the utilisation of the farming land which was bisected by the previously approved drainage channel and forms part of a condition of sale between the land owner and applicant.

The proposed channel position will align with the approved and constructed channel at chainage 56.50m, and continue north, before making a left turn and heading towards South Creek adjacent to the existing lot boundary. The drainage channel as constructed as part of the current approval is to be filled to the pre-existing levels and decommissioned. When filled, the existing channel is to have a slight depression acting as an overland flow path. The Stormwater Management Strategy for the site will remain generally consistent with the approved configuration produced by Costin Roe in 2016.

All stormwater runoff will remain being directed to the Estate Drainage Channel and discharge into South Creek as per the approved SSD_7173, with the overall Stormwater Management Strategy maintained.

We trust the above information meets your current needs. Please do not hesitate in contacting the undersigned if any further clarification is required.

Yours faithfully,

COSTIN ROE CONSULTING PTY LTD



MARK WILSON MIEAust CPEng NER
Director