

28 October 2016

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**RESPONSE REGARDING OVERSHADOWING OF VEGETATION AT
HANSON SITE: HONEYCOMB DRIVE, EASTERN CREEK**

Dear Andrew,

The purpose of this letter is to present a response to comments provided by Blacktown Council regarding the proposed modification to the Hanson site (Lot 5, DP 1145808) at Honeycomb Drive, Eastern Creek (hereafter referred to as the 'subject site').

As you are aware, Cumberland Ecology previously undertook an Ecological Assessment – 75W Modification for Frasers Property Australia in late 2015 and early 2016 (see **Figure 1.1 Appendix A**). The 75W modification included the relocation and reorientation of the approved onsite offset regeneration area as shown in **Figure 1.2 (Appendix A)**.

This proposed regeneration area is for the rehabilitation of 1.85 ha of Cumberland Plain Woodland (CPW), which is a community listed as a Critically Endangered Ecological Community (CEEC) under both the *Threatened Species Conservation Act 1995* (TSC Act) and the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). This will be undertaken to offset the impact of clearing of 1.5 ha of native vegetation including CPW.

Recently, Blacktown Council raised the following concerns which are reproduced below:

The proposal indicates that all 'walls are greater than 3m in height and will be terraces where they are in public view including along public roads'.

The proposal indicates that the proposed retaining walls on the vicinity of the proposed revegetation area along the western boundary of the subject site are of a substantial height, of up to 6m to the west of the Australand

Purchase Area and the Basin. In most cases the battering is also quite steep.

Concern is raised that the substantial change in levels will result in substantial overshadowing of the proposed revegetation areas and its viability. This will be further exacerbated by the future building forms on the site.

The Proponent is requested to consider the viability of this vegetation if the opportunity for access to sunlight is limited.

The proposed retaining wall is shown in a third figure, the retaining wall layout plan, reproduced in **Appendix A**. The retaining wall in question is retaining wall 2, which would be 6 m high and have a west sloping batter approximately 30 metres wide.

We note that the batter slope of retaining wall 2 will be shaded in the mornings but will have sunshine in the middle of the day and during the afternoons.

In assessing the impacts of shading on proposed CPW plantings, it is important to note that overshadowing can and does occur naturally in CPW. Where large mature trees and/or shrubs are growing close together more than 40% of sunlight can be intercepted by the tree canopy, and more by larger shrubs beneath it. Notwithstanding that, in such circumstances, understorey and ground stratum plant species can still occur.

As CPW trees become established and grow taller, their canopies will eventually exceed 20 metres in height. As such, the trees to be established will substantially overtop the retaining wall in the future and will not be impacted by shading from it when trees mature.

We have also worked on sites where CPW grows on steep slopes comparable to the batter slope, as it does in places such as the nearby Marrong Reserve, Greystanes Estate. Under such circumstances, trees, shrubs, grasses and other herbaceous native plants from CPW are viably established. For this reason, we believe that CPW plantings, as proposed, are likely to be successful provided adequate soil is provided on the batter for the retaining wall.

We also note that the majority of native vegetation to be retained on site along the creek will be well clear of retaining walls and will remain viable in the long term.

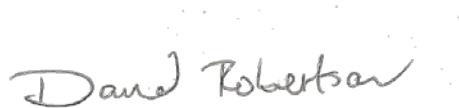
Plant species that could grow along the proposed batter slope for retaining wall 2 would include but are not limited to:

- Trees: *Eucalyptus moluccana* (Coastal Grey Box); *E. tereticornis* (Forest Red Gum) and *E. crebra* (Narrow-leaved Ironbark);
- Shrubs: *Bursaria spinosa* (Blackthorn), *Daviesia ulicifolia* (Gorse Bitter Pea), *Dodonaea viscosa* subsp. *cuneata* (Wedge-leaf Hop-bush), *Indigofera australis* (Australian indigo) and *Dillwynia sieberi*; and
- Ground covers: *Glycine microphylla* (Small-leaf Glycine), *Dichondra repens* (Kidney Weed), *Geranium homeanum* and *Microlaena stipoides* var. *stipoides*.

In summary, we believe that overshadowing will not significantly affect the viability of the proposed revegetation areas. However, we recommend that any plantings are carefully tended and monitored until viably established.

Should you have any questions, please don't hesitate to contact myself on (02) 9868 1933.

Yours sincerely,

A handwritten signature in dark ink that reads "David Robertson". The signature is written in a cursive, flowing style.

David Robertson

Director

david.robertson@cumberlandecology.com.au

Appendix A

Figures



Legend
[Red Outline] Subject Site

Image Source:
Image © 2015 Aerometrex
Image © 2015 Google
(dated 1-1-2014)



Figure 1.1. Location of the Subject Site





Legend




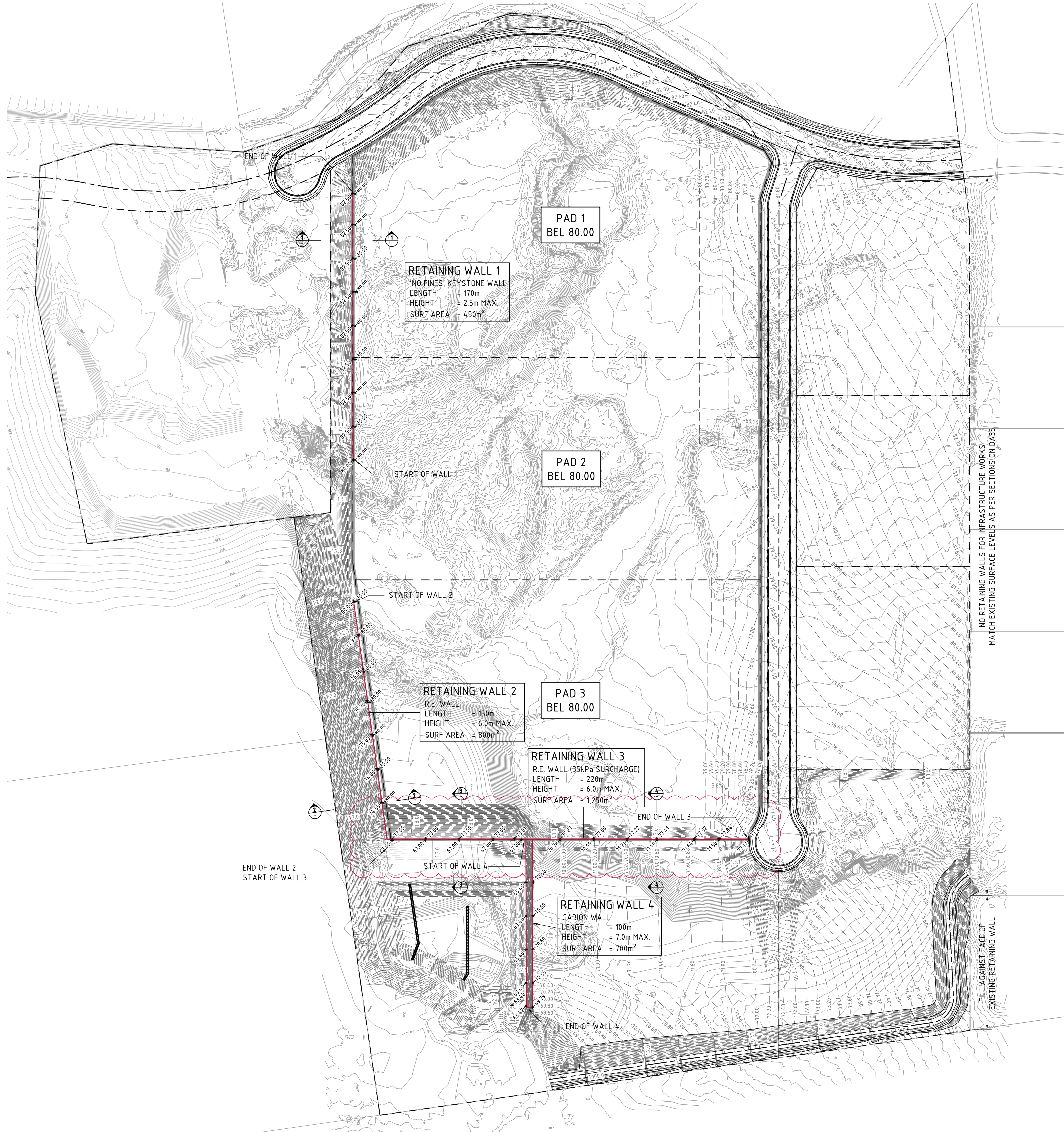
-  Subject Site
-  Proposed Revegetation Area
-  Original Revegetation Area

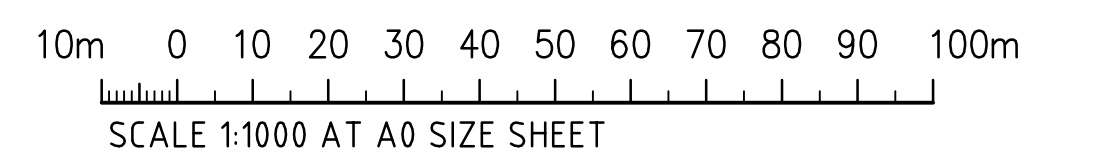
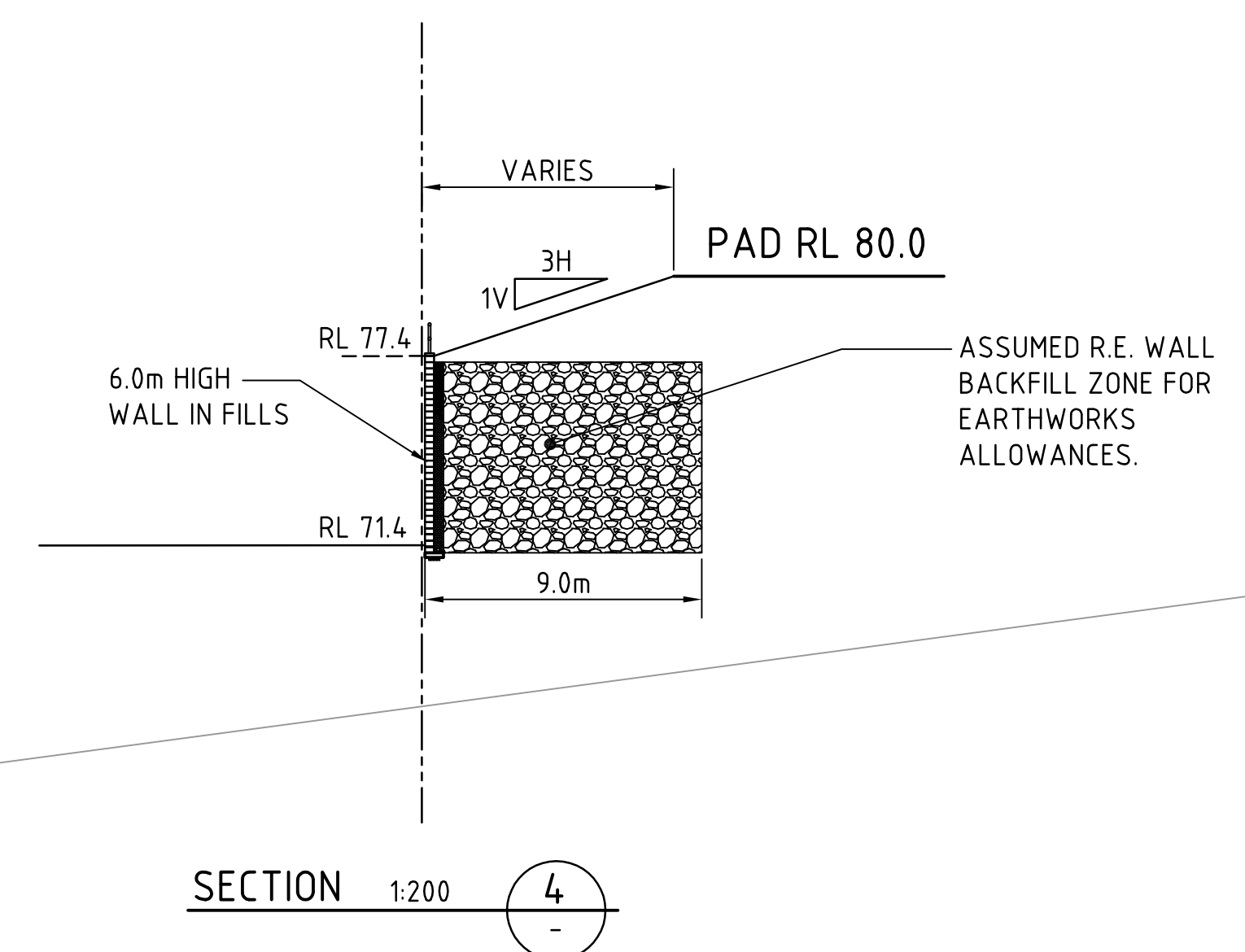
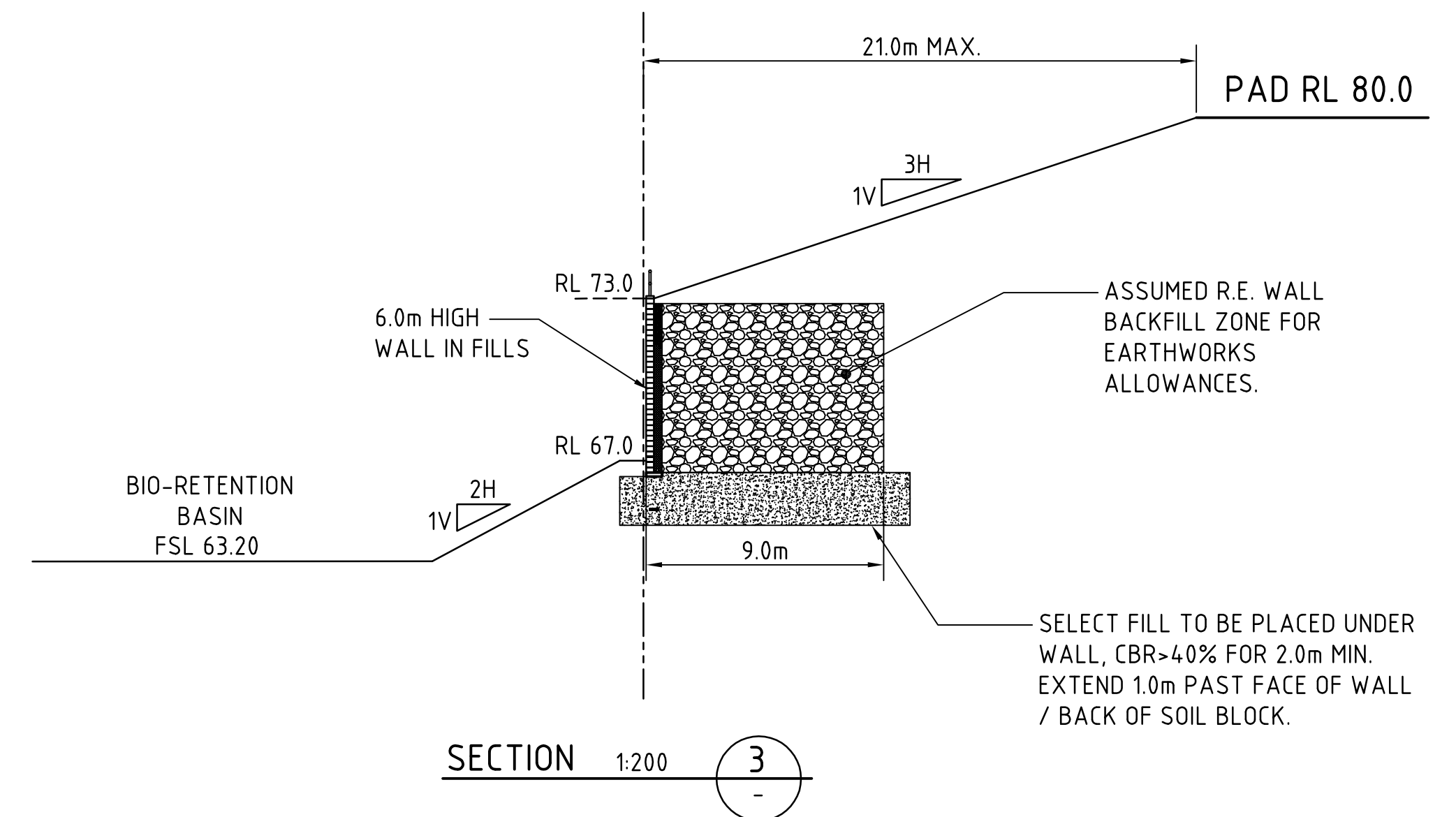
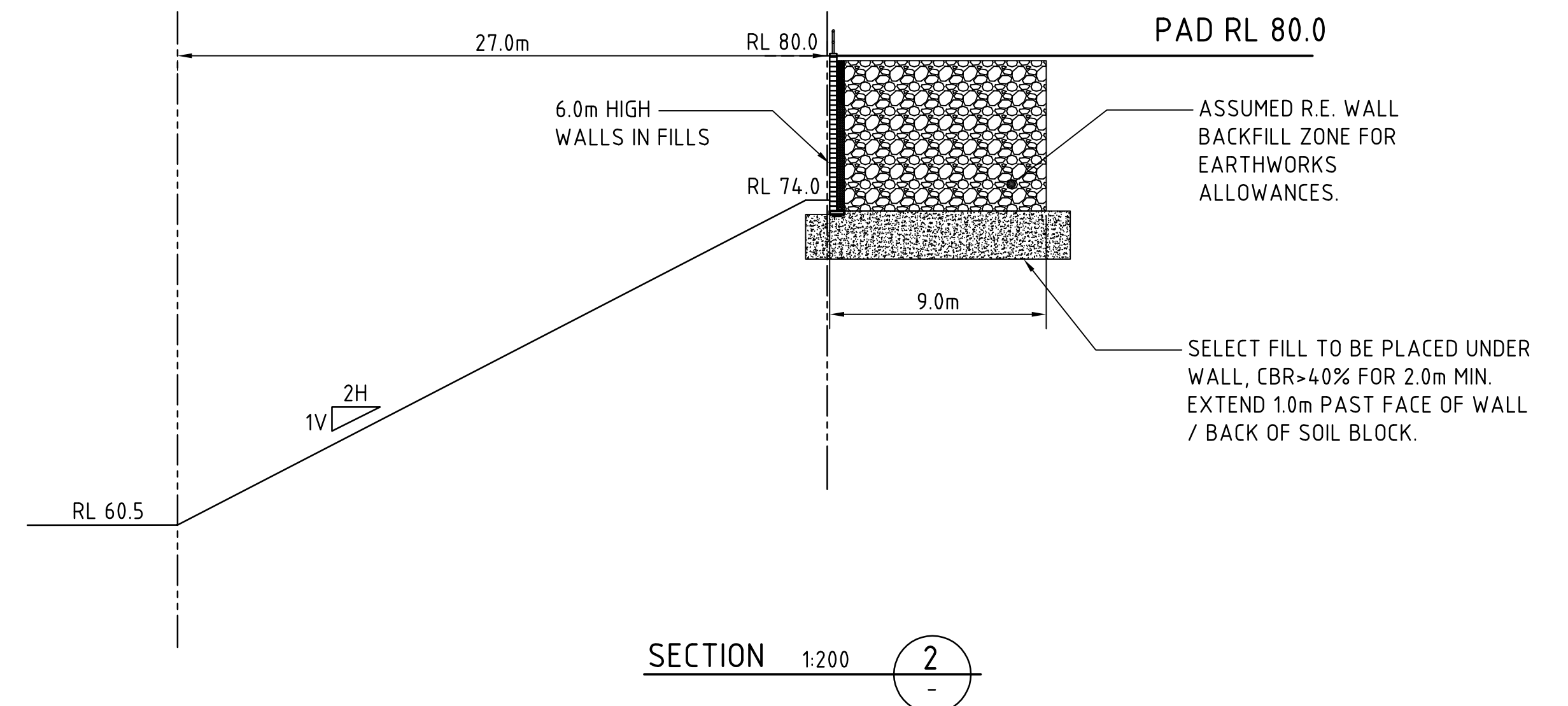
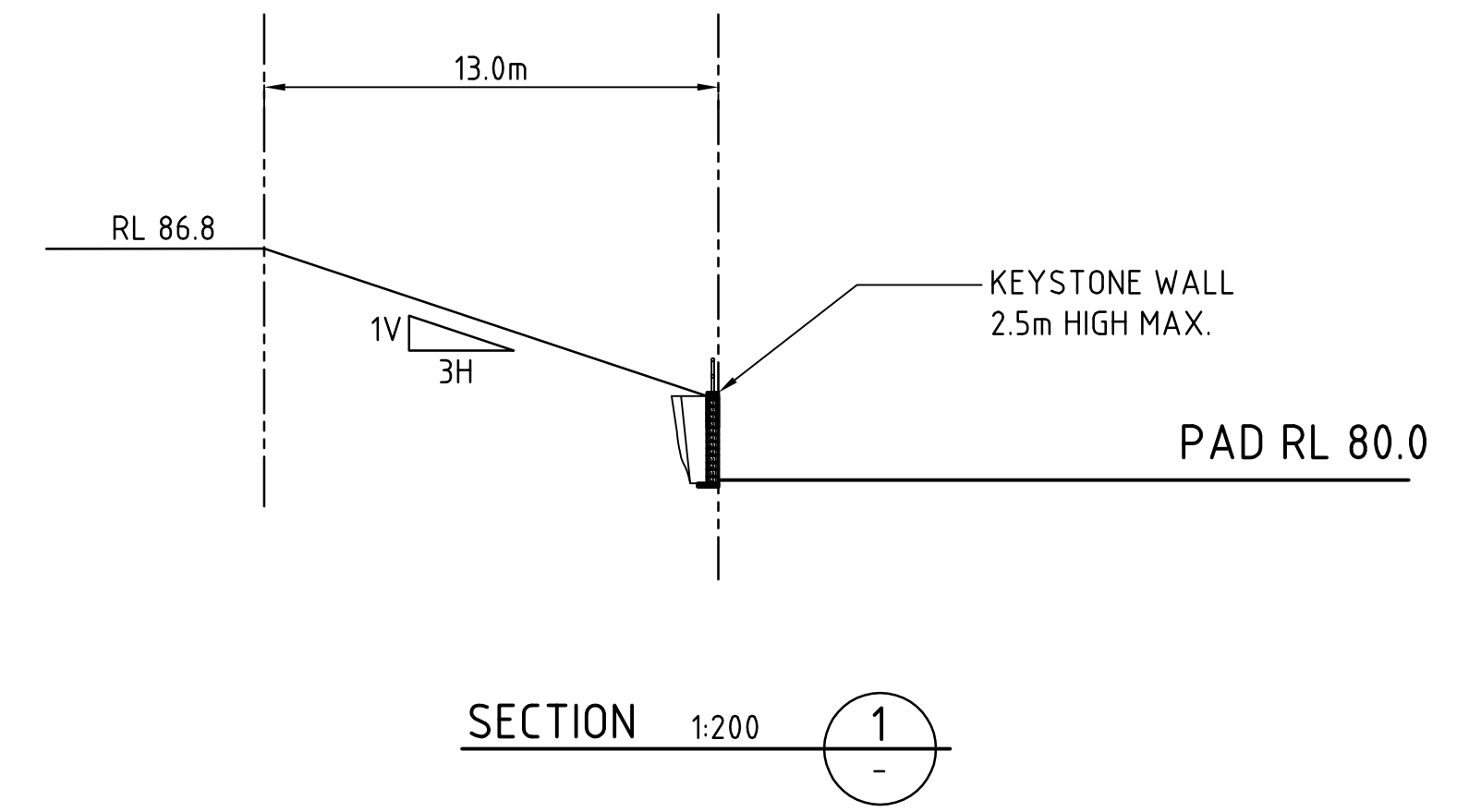
Image Source:
Image © 2015 Aerometrex
(dated 1-1-2014)



Figure 1.2. Location of Revegetation Area



RETAINING WALL PLAN
SCALE 1:1000



FOR DEVELOPMENT APPLICATION

REVISED AS CLOUDED FOR WALL 3 ISSUED FOR DEVELOPMENT APPLICATION ISSUED FOR INFORMATION			3.06.16 25.02.16 18.12.15			C B A			AMENDMENTS			DATE			ISSUE			AMENDMENTS			DATE			ISSUE		
AMENDMENTS			DATE			ISSUE			AMENDMENTS			DATE			ISSUE			AMENDMENTS			DATE			ISSUE		

ARCHITECT		CLIENT		PROJECT		DRAWING TITLE	
FRASERS PROPERTY		HANSON LAND EASTERN CREEK		PROPOSED INDUSTRIAL DEVELOPMENT		RETAINING WALL LAYOUT PLAN	
DESIGNED		DRAWN		DATE		CHECKED	
MW		AS SHOWN		A0		A0	
SCALE		SCALE		SCALE		SCALE	
1:1000		1:1000		1:1000		1:1000	
CNO REF:		CNO REF:		CNO REF:		CNO REF:	
C010726.13-DA60		C010726.13-DA60		C010726.13-DA60		C010726.13-DA60	
Costin Roe Consulting Pty Ltd.		Consulting Engineers		Level 1, 8 Windmill Street		Wahbi Bay, Sydney NSW 2000	
Tel: (02) 9551-7699 Fax: (02) 9541-3731		email: mail@costinroe.com.au		Value in Engineering and Management		C010726.13-DA60	