Appendix E

Addendum to the Flora and Fauna Assessment

MEMO

Date:	22/07/2009
To:	Angelique Easton
Copy:	
From:	Lukas Clews
Job no:	2116724B
Subject:	**Field survey for Schofields footbridge modification**

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Dear Angelique,

Please find below a technical memo report of the inspection carried out on the 1 July 2009.

1. Introduction

Parsons Brinckerhoff (PB) undertook a vegetation survey on the western side of Schofields train station along Bridge Street and a section of utility corridor at Quakers Hill (between Quakers Hill Parkway and Manor House Boulevard), as a component of the Rail Clearways Program for the Transport Infrastructure Development Corporation (TIDC). TIDC proposes to duplicate part of the existing Richmond Branch Line by constructing an additional track between Quakers Hill and Vineyard stations ('the Quakers Hill to Vineyard Duplication Project'). The site survey was completed on 1 July 2009.

The purpose of the visit was to identify the tree species within the rail corridor that were located in the development footprint for the proposed pedestrian footbridge at the Schofields railway station. Classification of vegetation condition and an assessment of fauna habitat condition were also made (based on the classification system used on page 104 of the Quakers Hill to Vineyard Duplication Environmental Assessment document). This vegetation would be removed to accommodate the new pedestrian footbridge. A brief survey was also undertaken in the utility corridor at Quakers Hill (between Quakers Hill Parkway and Manor House Boulevard) to confirm that the results of the previous ecological assessment of the area were relevant in regards to an increase in corridor width from three to five metres.

This memo outlines the results of the surveys (tree species identification, vegetation classification, and fauna habitat assessment) and provides recommendations upon removal of the trees.

2. Tree species within the rail corridor to the west of Schofields station

There are 17 trees within the rail corridor to the west of the Schofields station platform that will be removed for construction of the new pedestrian footbridge (refer Photographs 9-1 to 9-8). These species are outlined below in Table 2-1. The trees represent a mix of species that are native to the Cumberland Plain region (remnant trees) and species that are not locally endemic, including those from other areas of New South Wales and Queensland that have been planted on site.

Table 2-1 Tree species within the rail corridor to the west of Schofields station

Tree number (from south)	Scientific name	Common name	Occurrence	Native to the Cumberland Plain
1	*Eucalyptus tereticornis*	Forest Red Gum	Remnant[A]	Yes
2	*Corymbia citriodora*	Lemon-scented Gum	Planted	No
3	*Corymbia citriodora*	Lemon-scented Gum	Planted	No
4	*Corymbia citriodora*	Lemon-scented Gum	Planted	No
5	*Eucalyptus tereticornis*	Forest Red Gum	Remnant[A]	Yes
6	*Eucalyptus tereticornis*	Forest Red Gum	Remnant[A]	Yes
7	*Lophostemon confertus*	Brush Box	Planted	No
8	*Corymbia citriodora*	Lemon-scented Gum	Planted	No
9	*Corymbia citriodora*	Lemon-scented Gum	Planted	No
10	*Brachychiton acerifolius*	Illawarra Flame Tree	Planted	No
11	*Brachychiton acerifolius*	Illawarra Flame Tree	Planted	No
12	*Lophostemon confertus*	Brush Box	Planted	No
13	*Acacia baileyana*	Cootamundra Wattle	Planted	No
14	*Lophostemon confertus*	Brush Box	Planted	No
15	*Acacia baileyana*	Cootamundra Wattle	Planted	No
16	*Angophora costata*	Smooth-barked Apple	Planted	No
17	*Callistemon citrinus*	Crimson Bottlebrush	Planted	No

Notes: A – *Eucalyptus tereticornis* is endemic to the Cumberland Plain region

The previous location of the new pedestrian footbridge would have resulted in the removal of 11 trees. Four of these trees (located along Bridge Street) are large remnant *E. moluccana* and *E. tereticornis*, both species native to the Cumberland Plain (Photographs 9-9 to 9-11). Additionally, on the eastern side of the rail line along Railway Terrace, seven planted trees would have required removal. These trees consist of four large *E. microcorys*, one *E. viminalis*, one *Callistemon citrinus*, and one *C. salignus*.

3. Vegetation community condition

The condition of the vegetation along Bridge Street to the west of Schofields station is regarded as poor. The community has lost most of its species and has had its structure modified significantly by past land use activities, including vegetation clearing, planting of non-indigenous tree species and the invasion of exotic grass species. The vegetation has a discontinuous canopy with very few shrubs. Exotic species including introduced pasture grasses, herbaceous and woody weeds have replaced the indigenous ground cover and shrub layers. The vegetation community does not represent any mapped vegetation communities on the Cumberland Plain structurally or floristically.

4. Vegetation community significance

Based on the conservation significance classifications assigned to vegetation on the Cumberland Plain in the *Final Native Vegetation Mapping of the Cumberland Plain, Western Sydney* (NSW National Parks and Wildlife Service 2002a; 2002b), the conservation significance of the vegetation along Bridge Street to the west of Schofields station is classified as “Other Remnant Vegetation”.

Other Remnant Vegetation is considered to be all native vegetation that does not fall into the conservation significance classes of core habitat, support for core habitat, or urban remnant trees (NSW National Parks and Wildlife Service 2002b). In addition, the vegetation does not comprise an area of 10 ha or more so it does not constitute an area of viable conservation. Furthermore, the vegetation does not provide support for core habitat in the form of increasing the size of a remnant, buffering a remnant from edge effects, or providing a corridor connection between remnants.

A desktop biodiversity assessment revealed that there were two Threatened ecological communities known to be present within the area:

- Cumberland Plain Woodland – listed as Endangered under the NSW *Threatened Species Conservation Act 1995* (TSC Act) and Critically Endangered under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

- River-flat Eucalypt Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and South East Corner Bioregions – listed as Vulnerable under the TSC Act.

While *E. tereticornis* is present in the canopy as three individuals, this is not sufficient to classify the vegetation as Cumberland Plain Woodland for the following reasons:

- the understorey is highly disturbed and does not contain any indigenous native species sufficient to re-establish the characteristic native understorey of Cumberland Plain Woodland

- the vegetation does not contain regrowth that is likely to achieve the near natural structure of Cumberland Plain Woodland or is a seral stage towards that structure.

While it is recognised that River-flat Eucalypt Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and South East Corner Bioregions may exist as a fragmented stand of remnant Eucalypt species (e.g. *E. tereticornis*) due to past land use and disturbance, the vegetation along Bridge Street within the rail corridor to the west of Schofields station does not constitute this Endangered Ecological Community for the following reasons:

- the vegetation does not form part of a wildlife corridor that has connective importance at a local or regional scale
- the vegetation (three trees of *E. tereticornis*) is unlikely to provide an important winter food source for arboreal mammals and birds
- the vegetation does not provide any significant habitat components such as hollow bearing trees that are important to the life cycle of migratory, non-migratory, and/or nomadic species
- the vegetation does not contain threatened flora
- the vegetation is unlikely to contain a viable seed bank due to the past land use in the area (i.e. as a rail corridor).

5. Fauna habitat values

The fauna habitat value of the vegetation along Bridge Street to the west of Schofields station is classified as poor. This is due to the absence of essential fauna habitat elements such as old growth trees, fallen timber, a dense continuous tree canopy, a dense understorey of shrub species, or a thick leaf litter layer. Furthermore, the vegetation does not form any habitat links with other remnant vegetation in the landscape, as these links have been severed by extensive vegetation clearing in the past. There are limited fauna habitat features in the rail corridor, as the vegetation has been cleared and/or maintained by mowing or slashing. However, the vegetation is likely to provide foraging habitat and refuge for common reptiles, including Skinks and Blue Tongue Lizards, as well as foraging and nesting habitats for small birds including Fairywrens, Finches and Willie Wagtail. Other generalist species of bird that are ubiquitous in the landscape, including the Australian Magpie, Laughing Kookaburra, Australian Raven, and Noisy Miner are likely to forage in this vegetation. The trees present in the rail corridor are generally young and consequently none were observed to have hollows. *Eucalyptus tereticornis* may have suitable temporary roosting sites for microbats under loose bark.

6. Recommendations of post removal of the trees

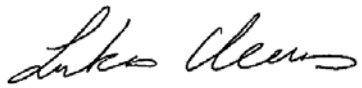
The trees to be removed for construction of the pedestrian footbridge at Schofields station are largely planted and non-indigenous native species, with the exception of three *Eucalyptus tereticornis* that are remnant trees. Consequently, the vegetation community condition is poor and conservation significance is low. Furthermore, fauna habitat value is also poor. Consequently, the removal of the trees is unlikely to cause any significant ecological impacts in the area.

Upon removal of the trees and construction of the pedestrian footbridge, all landscaping in the area should utilise plant species (grown from seed collected locally) that are native to the Cumberland Plain including vegetation communities such as Cumberland Plain Woodland and River-flat Eucalypt Forest.

7. Vegetation in the utility corridor

The inspection of the utility corridor at Quakers Hill (between Quakers Hill Parkway and Manor House Boulevard) confirmed that the results of the previous ecological assessment of the area are still relevant in regards to the increase in corridor width from three to five metres. The communities previously identified within the utility corridor (Alluvial Woodland and Shale Plains Woodland) in the Environmental Assessment are correct (refer Photographs 9-12 to 9-13). The increase in width of the utility corridor will result in the removal of an increased area of these communities.

Yours sincerely



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8. References

NSW National Parks and Wildlife Service 2002a, *Final Native Vegetation Mapping of the Cumberland Plain, Western Sydney*, NSW National Parks and Wildlife Service, Hurstville.

NSW National Parks and Wildlife Service 2002b, *Guidelines for the conservation significance assessment of the native vegetation of the Cumberland Plain, Western Sydney*, NSW National Parks and Wildlife Service, Hurstville.

9. Photographs

Photograph 9-1 **From right to left: Trees 1 (*E. tereticornis*) 2 (*C. citriodora*) and 3 (*C. citriodora*)**

Photograph 9-2 **From right to left: Trees 2 (*C. citriodora*) 3 (*C. citriodora*) 4 (*C. citriodora*) and 5 (*E. tereticornis*)**

Photograph 9-3 **From right to left: Trees 5 (*E. tereticornis*) 6 (*E. tereticornis*) and 7 (*L. confertus*)**

Photograph 9-4 **From right to left: Trees 8 (*C. citriodora*) 9 (*C. citriodora*) and 10 (*B. acerifolius*)**

Photograph 9-5 **From right to left: Trees 11 (*B. acerifolius*) 12 (*L. confertus*) and 13 (*A. baileyana*)**

Photograph 9-6 **From right to left: Trees 14 (*L. confertus*) 15 (*A. baileyana*) and 16 (*A. costata*)**

Photograph 9-7 From right to left: Trees 15 (*A. baileyana*) and 16 (*A. costata*)

Photograph 9-8 From right to left: Tree 17 (*C. citrinus*)

Photograph 9-9 Two *E. tereticornis* to be retained at the former footbridge location

Photograph 9-10 Two *E. moluccana* to be retained at the former footbridge location

Photograph 9-11 Two *E. microcorys*, *E. viminalis* and *C. salignus* to be retained at the former footbridge location

Photograph 9-12 Shale Plains Woodland within the utility corridor

Photograph 9-13 Alluvial Woodland within the utility corridor