ABN 53 110 564 102
40 Timbarra Road
St Ives NSW 2075
T/F: 02 9943 6510
M: 0425 342 051
E: landscapematrix@optusnet.com.au

30 July 2013

Michael Wylie
Project Manager
John Holland Pty Ltd
PO Box 256
Fyshwick ACT 2609

Dear Mr Wylie,

Re: Sydney University Abercrombie Precinct – Darlington NSW – Various amendments to Tree Retention and Protection Plan

Reference is made to an on-site meeting with staff from John Holland on 17 July 2013 and further meeting at the offices of John Holland on 22 July 2013 to discuss a number of amendments to the Tree Retention and Protection Plan which formed part of the approved development works at Sydney University's Abercrombie Street project.

It is noted the need for these amendments is due to design changes arising from the tender process. These changes include the removal of an additional 2 Water Gum trees and other trees of low to moderate landscape value, the feasibility of transferring a row of Crows Ash Trees and potential impacts of the revised basement access ramp on trees.

As you are aware, Landscape Matrix has previously prepared an Arboricultural Impact Report dated 5 April 2012 in respect to this project. That report remains valid in the context of the project except for the issues discussed in this letter.

These issues are as follows:

Removal of additional 2 Water Gum Trees
The two trees in question are located adjacent to the Abercrombie Street frontage of the site. The location of the trees is identified on the attached '*Tree Retention and Protection Plan*' prepared by 360° which formed part of the original Development Application documentation for the approved project.

It is noted the two Water Gums are depicted on this plan to be retained and protected. However, it is understood that this is contradicted by another plan which forms part of the approved project documents and identifies the trees to be removed.

The 2 trees are mature, multi trunked specimens of *Tristaniopsis laurina* (Water Gum) with heights of 6.5 and 8 metres, canopy spreads of 4 to 7 metres and trunk diameter at breast height (DBH) of up to 280mm. Both trees are of good health, fair

vigour and low to moderate landscape significance. A summary of the trees is provided in Appendix B, tree data summary.

It is apparent from the site inspection and the degree of works in their immediate vicinity that both trees will require removal. Their replacement can be readily achieved in the short term due to their relatively small dimensions and low to moderate landscape significance.

A photograph illustrating the trees is provided in Appendix A.

Feasibility of transplanting the row of Crows Ash trees in Rose Street
In regard to the row of semi mature *Flindersia australis* (Australian Teak, Crows Ash) along Rose Avenue (identified as Tree 2 in my original report) these trees were originally identified in the preliminary report by The Tree School as being suitable for retention or transplanting within the site due to their good health and good form (lack of structural faults such as poorly attached leaders) and the fact they were relatively small and therefore suitable for transplanting.

However, during a site inspection with Project Management staff from the University in June 2013 I was advised there are fibre optic cables immediately underneath these trees – this factor, along with existing constraints (kerb and gutter, building etc.), significantly restrict the available rootball that could be moved with the trees.

The constraints imposed by the proximity of the fibre optic cables and other structures prevent the opportunity to successfully transplant the trees. In light of this it is considered the only achievable solution is to replace them with advanced stock of good health and structure.

A photograph illustrating these trees is provided in Appendix A.

Row of Crows Ash trees in the original report as tree number 29 – removal of 1 specimen
The row of semi mature Crows Ash trees located adjacent to Mandelbaum House and identified in my original report as tree number 29 are to be retained in situ and will no longer need to be transplanted. However, the southernmost tree of this row will require removal to accommodate the construction of the proposed lift at Mandelbaum House.

I confirm my advice that this individual, semi mature tree is of low to moderate landscape value and its removal will not have any impact of substance on the landscape value of the row of trees.

During the site inspection on 17 July 2013 it was noted these trees have been protected during the recent installation of an adjacent, emergency egress footpath.

Semi Mature Broad Leaved Paperbark to north of tree number 20
There is a semi mature Melaleuca quinquenervia (Broad Leaved Paperbark) to north of tree number 20 that will require removal to accommodate the amended access to the site and temporary carparking arrangements.

This tree was not identified in the initial Arboricultural Assessment, my report or the City of Sydney submissions as a tree of interest and specific consideration for retention.

The tree is a semi mature tree of moderate dimensions and landscape significance – its removal will not have any impact of substance on the landscape character/values of the site in the long term and it will be replaced by landscape plantings

Removal of Tree number 23 – Swamp Oak
This tree is a mature *Casuarina glauca* (Swamp Oak) that was identified in my earlier report as being of moderate to high landscape value and a 'Retention 2' tree. It will require removal to accommodate the amended access to the site and temporary carparking arrangements.

Providing there are replacement plantings for this tree its removal will not have any impact of substance on the landscape character/values of the site in the long term.

There is a further tree (identified as tree number 77 in an earlier report for the site) that will also require removal for the amended site arrangements.

In accordance with our discussions, a revised impact analysis for the trees within Darlington Public School has been undertaken with respect to the amended access ramp to the basement. This analysis is attached in Appendix C.

Don't hesitate to contact me if you wish to discuss any aspect of this advice.

Yours sincerely

Guy Paroissien MAIH, MIACA, MISAAC
M Env. Mgt. & Restor., Dip. Arboriculture, Hort. Cert., Tree Care Cert.
Director
Landscape Matrix Pty Ltd

APPENDIX A – PHOTOGRAPHS

Photograph 1: Illustrating the 2 Water Gums proposed for removal (arrowed) – the other 2 Water Gums are already identified in the approved plans for removal.

Photograph 2: Illustrating the row of Crows As trees in Rose Street that were originally proposed to be transplanted.

APPENDIX C - POTENTIAL IMPACTS ON TREE NUMBERS 20, 21, 22, 24, 25 AND 26

To facilitate construction of the proposed wall for the basement access ramp there are 6 trees in Darlington Public School that may be potentially impacted.

The extent of impacts to the trees in table 1 has been rated using the following guideline:
0% of root zone impacted – no impact of significance
0 to 10% of root zone impacted – low level of impact
10 to 15% of root zone impacted – low to moderate level of impact
15 to 20% of root zone impacted – moderate level of impact
20 to 25% of root zone impacted – moderate to high level of impact
25 to 35% of root zone impacted – high level of impact
>35% of root zone impacted – significant level of impact

The root zone calculations referred to in this report were made using scale drawings of the trees' identified tree protection zones (TPZ) in a CAD program (TurboCAD®) with potentially affected areas added to the drawing. The area of potential impact was converted to a percentage of TPZ using a spreadsheet (Microsoft Excel®).

The impacts are summarised in table 1 as follows:

Table 1: Trees potentially affected by the proposed basement access ramp.

TREE NO.	SCIENTIFIC AND COMMON NAME	TPZ	SRZ	COMMENTS
20	*Eucalyptus saligna* (Sydney Blue Gum)	3.1 metres	2 metres	The proposed access ramp wall is located 4.1 metres from the tree at the closest point and is outside the tree's identified tree protection zone area (TPZ) – no impact of substance.
21	*Eucalyptus saligna* (Sydney Blue Gum)	4.2 metres	2.3 metres	The proposed access ramp wall is located 3.89 metres from the tree at the closest point and is calculated to impact on 0.66m^2 or 1.19% of the tree's identified TPZ area – this is a low level of encroachment and within an acceptable threshold.
22	*Corymbia maculata* (Spotted Gum)	4.3 metres	2.3 metres	The proposed access ramp wall is located 3.8 metres from the tree at the closest point and is calculated to impact on 1.38m^2 or 2.35% of the tree's identified TPZ area – this is a low level of encroachment and within an acceptable threshold.

24	*Corymbia maculata* (Spotted Gum)	8.4 metres	3.2 metres	The proposed access ramp wall is located 4.2 metres from the tree at the closest point and is calculated to impact on 43.13m^2 or 19.47% of the tree's identified TPZ area – this is a moderate level of encroachment and within an acceptable threshold for the tree.
25	*Pinus radiata* (Monterey Pine)	6.5 metres	2.7 metres	The proposed access ramp wall is located 6.9 metres from the tree at the closest point and is outside the tree's identified TPZ – no impact of substance.
26	*Eucalyptus scoparia* (Wallangarra White Gum)	4.6 metres	2.3 metres	The proposed access ramp wall is located 5.5 metres from the tree at the closest point and is outside the tree's identified TPZ – no impact of substance.