ARBORICULTURAL IMPACT REPORT

161 SUSSEX STREET EXPANSION

SUSSEX STREET SYDNEY NSW

PREPARED FOR GL INVESTMENT CO PTY LTD ATF GL NO. 1 TRUST

5 JUNE 2012

Prepared by:
Guy Paroissien
Landscape Matrix Pty Ltd.
ABN 53 110 564 102
T/F. 9943 6510, M. 0425 342 051
40 Timbarra Road St Ives NSW 2075
E-mail: landscapematrix@optusnet.com.au

CONTENTS

EXECUTIVE SUMMARY

Landscape Matrix Pty Ltd has been engaged by GL Investment Co Pty Ltd ATF GL No. 1 Trust to prepare an Arboricultural Impact Report in relation to trees located on or adjacent to DP Lot 1009697 in which the existing structure is located. The site is bounded by Sussex Street to the east, the King Street Connection from the Western Distributor to the north and Market Street to the south and Darling Harbour to the west. The site has been developed in the past and comprises a hotel building and other commercial buildings.

The Report is required in identifying the potential arboricultural impacts of the proposed development.

Of the 41 trees have been assessed for this report the most common species present is *Ficus microcarpa var. hillii (Hill's Weeping Fig)* with 20 specimens. These trees with assessed outcomes are scheduled and plotted on the following pages.

The majority of trees were noted to be mature specimens and in good health. However, only 2 trees were considered to be of long safe useful life expectancy (SULE). While many of these trees would usually be regarded as being of long SULE their SULE was reduced in many instances due to their context (e.g. limited planter areas in close proximity to structures)

Using the nominated assessment methodologies the trees have been categorised according to their retention values with 9 trees identified as high landscape significance. A further 5 trees were identified as being of moderate landscape significance. Tree protection zones are identified in the report for those trees identified as either high or moderate landscape significance.

4 of the trees were identified as recommended for removal regardless of any future development proposals for the site due to their health, structural condition and because they are weed species. 20 trees were identified as not being of sufficient landscape significance to warrant specific consideration in the design process.

None of the trees assessed for the report are listed individually as a threatened species under the NSW *Threatened Species Conservation Act 1995* or the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*.

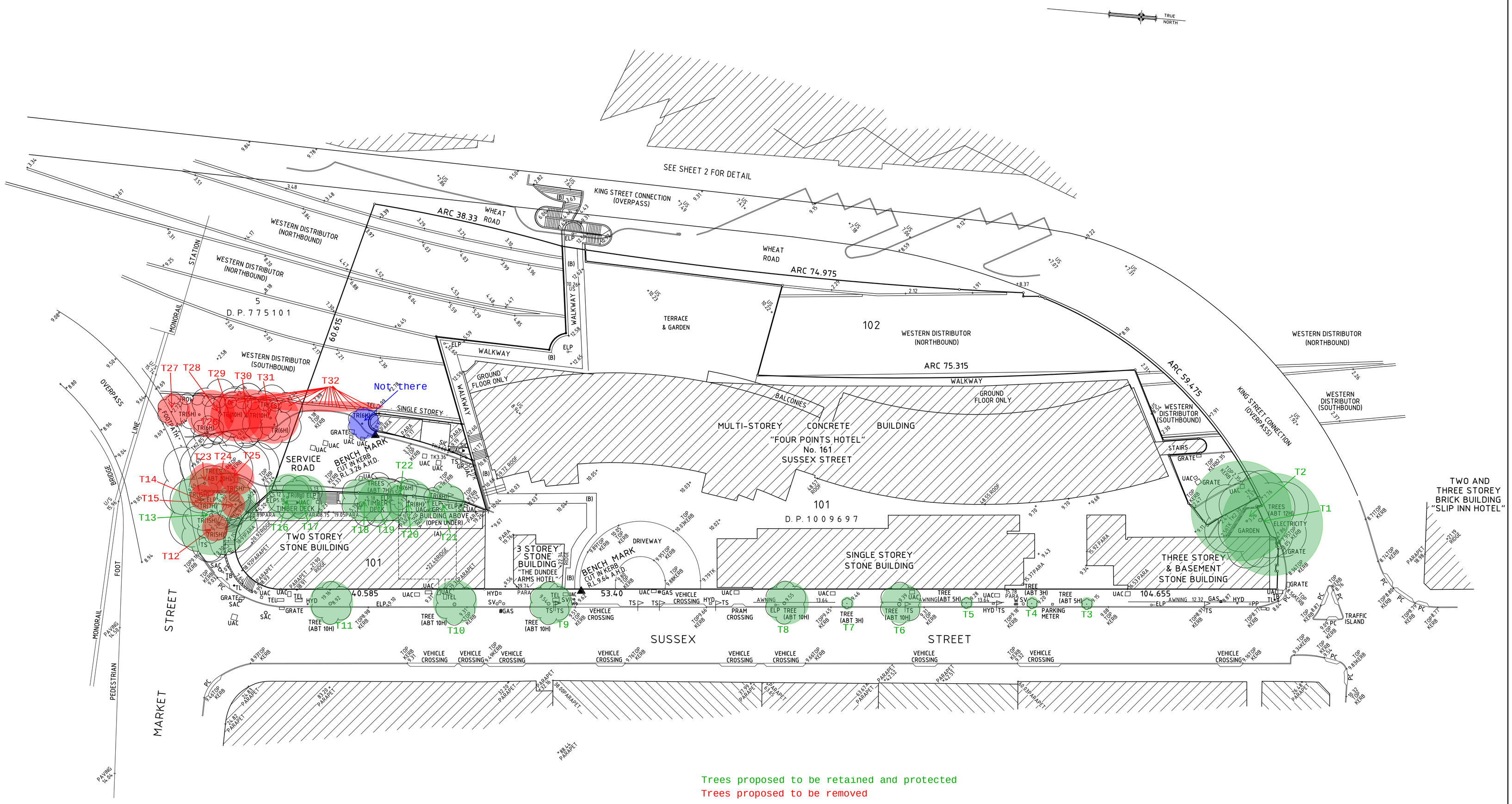
To facilitate construction of the works a total of 22 trees will require removal or are proposed for removal. The proposed retention and removal of trees is summarised in the table on the following page. It should be noted that the 12 trees scheduled for removal in the Slip Lane area are in the zone where augmentation, including new planting, public art, regarding and paving is being scheduled in agreement with the Sydney Harbour Foreshore Authority and City of Sydney.

In addition to the trees proposed for removal there are 3 trees proposed for retention in the vicinity of works that may be potentially impacted by the works. It is concluded these three trees in the vicinity can be sustainably retained along with the other trees at and adjacent to the site and clear of the proposed works.

Generic tree protection measures are identified in the recommendations to provide guidance on likely measures that will be required prior to and during the construction process to minimise risk of damage to trees identified for retention on the site.

SUMMARY OF TREE RETENTION AND REMOVAL

Tree No.	Genus, species and Common Name	Proposed action
1	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	To be retained and protected
2	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	To be retained and protected
3	*Quercus pallustris* (Pin Oak)	To be retained and protected
4	*Quercus pallustris* (Pin Oak)	To be retained and protected
5	*Quercus pallustris* (Pin Oak)	To be retained and protected
6	*Populus nigra 'Italica'* (Lombardy Poplar)	To be retained and protected
7	*Quercus pallustris* (Pin Oak)	To be retained and protected
8	*Populus nigra 'Italica'* (Lombardy Poplar)	To be retained and protected
9	*Populus nigra 'Italica'* (Lombardy Poplar)	To be retained and protected
10	*Populus nigra 'Italica'* (Lombardy Poplar)	To be retained and protected
11	*Populus nigra 'Italica'* (Lombardy Poplar)	To be retained and protected
12	*Celtis sinensis* (Chinese Celtis)	To be removed
13	*Platanus x hybrida* (London Plane Tree)	To be retained and protected
14	*Celtis sinensis* (Chinese Celtis)	To be removed
15	*Celtis sinensis* (Chinese Celtis)	To be removed
16	*Gleditsia triacanthos cv* (Honey Locust - spineless form)	To be retained and protected
17	*Gleditsia triacanthos cv* (Honey Locust - spineless form)	To be retained and protected
18	*Gleditsia triacanthos cv* (Honey Locust - spineless form)	To be retained and protected
19	*Gleditsia triacanthos cv* (Honey Locust - spineless form)	To be retained and protected
20	*Gleditsia triacanthos cv* (Honey Locust - spineless form)	To be retained and protected
21	*Gleditsia triacanthos cv* (Honey Locust - spineless form)	To be retained and protected
22	*Celtis sinensis* (Chinese Celtis)	To be retained and protected
23	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	To be removed
24	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	To be removed
25	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	To be removed
26	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	To be removed
27	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	To be removed
28	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	To be removed
29	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	To be removed
30	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	To be removed
31	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	To be removed
32	*Waterhousea floribunda* (Weeping Lilly Pilly) x 47	To be removed
33	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	To be removed
34	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	To be removed
35	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	To be removed
36	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	To be removed
37	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	To be removed
38	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	To be removed
39	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	To be removed
40	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	To be removed
41	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	To be removed



Trees proposed to be retained and protected

Trees proposed to be removed

Tree numbers 39, 40 and 41 are 3 specimens of Hills Weeping Fig located in the elevated landscape area on the western terrace. The trees will require removal to facilitate construction works and are not suitable for transplanting due to the nature of their root growth arising from the limited landscape planter areas in which they are growing. The trees are not located on the plans as the plans have been generated out of the survey documentation and do not record the elevated decks.

NOTES:

- THE POSITION OF THE KERB BARRIERS AS SHOWN ON PLAN INDICATE THE ACTUAL CARRIAGEWAY WIDTH AND LEVELS RELATE TO THE PAVEMENT SURFACE
- LOT 101 IS A STRATUM LOT SEE SHEET 2 FOR STRATUM LIMITS
- THE PURPOSE OF THIS SURVEY WAS TO OBTAIN TOPOGRAPHICAL DETAIL AS REPRESENTED ON THIS PLAN
- BOUNDARIES HAVE NOT BEEN DEFINED OR MARKED
- BEARINGS, DIMENSIONS & AREAS HAVE BEEN COMPILED FROM PUBLIC RECORDS AND ARE SUBJECT TO SURVEY
- LEVELS SHOWN HEREON ARE RELATED TO AUSTRALIAN HEIGHT DATUM (A.H.D.)

LEGEND:

ELP	ELECTRIC LIGHT POLE	TB	TRAFFIC BOX
GR	GRATE	TK	TOP OF KERB
HYD	HYDRANT	TL	TRAFFIC LIGHT
PARA	PARAPET	TR(6H)	TREE 6 HIGH
PC	PRAM CROSSING	TS	TRAFFIC SIGN
SAC	SEWER ACCESS CHAMBER	UAC	UNIDENTIFIES ACCESS CHAMBER
SIC	SEWER INSPECTION COVER	US	SLAB SOFFIT
SV	STOP VALVE	W	WATER

(A) SUB-STATION PREMISES No.6989 AND RIGHT OF WAY AND EASEMENT FOR ELECTRICITY PURPOSES

(B) RIGHT OF FOOTWAY AND LIMITED IN STRATUM

AMENDMENTS:

13.03.12 ADDITIONAL SURVEY INFORMATION ADDED

DRAWN: T.F.

SURVEYED: J.G.

DESIGNED:

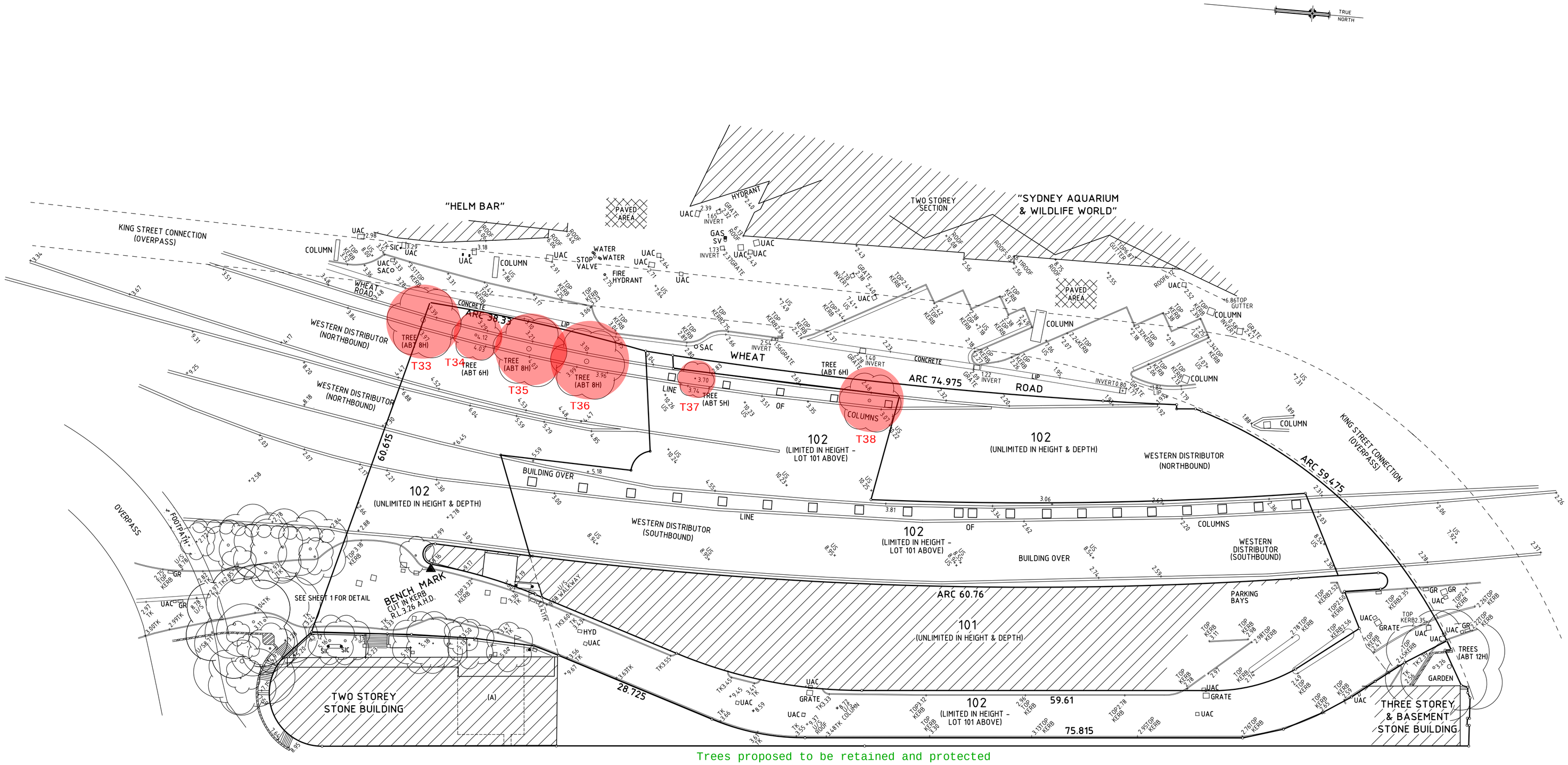
CLIENT: M & L INVESTMENTS c/- COX ARCHITECTURE

TITLE

PLAN OF THE LAND COMPRISED IN CERTIFICATE OF TITLE 101/1009697 AT SYDNEY IN THE LGA OF SYDNEY

DUNLOP THORPE & CO. PTY. LTD.
SURVEYORS
447 KENT STREET
SYDNEY 2000
www.dunlopthorpe.com.au
ABN 74 003 512 150
PHONE 9283 6677
FAX 9283 6633
EMAIL admin@dunlopthorpe.com.au

REDUCTION RATIO	1:400
SIZE	A1
LEVEL DATUM	A.H.D.
DATE	07.09.2011
SHEET	1 OF 2 SHEETS
REFERENCE No.	17488/2



Trees proposed to be retained and protected
Trees proposed to be removed
NB: Refer to sheet 1 for tree numbers 1 to 32 inclusive

Tree numbers 39, 40 and 41 are 3 specimens of Hills Weeping Fig located in the elevated landscape area on the western terrace. The trees will require removal to facilitate constructions works and are not suitable for transplanting due to the nature of their root growth arising from the limited landscape planter areas in which they are growing. The trees are not located on the plans as the plans have been generated out of the survey documentation and do not record the elevated decks.

DETAIL AT SLIP AND WHEAT ROAD LEVEL

NOTES:

- THE POSITION OF THE KERB BARRIERS AS SHOWN ON PLAN INDICATE THE ACTUAL CARRIAGEWAY WIDTH AND LEVELS RELATE TO THE PAVEMENT SURFACE
- PARTS OF LOTS 101 &102 ARE LIMITED IN HEIGHT AND DEPTH AS SHOWN
- EXISTING BUILDING IS WITHIN LOT 101
- COLUMNS SUPPORTING STRUCTURE ARE PART OF LOT 101
- THE PURPOSE OF THIS SURVEY WAS TO OBTAIN TOPOGRAPHICAL DETAIL AS REPRESENTED ON THIS PLAN
- BOUNDARIES HAVE NOT BEEN DEFINED OR MARKED
- BEARINGS, DIMENSIONS & AREAS HAVE BEEN COMPILED FROM PUBLIC RECORDS AND ARE SUBJECT TO SURVEY
- LEVELS SHOWN HEREON ARE RELATED TO AUSTRALIAN HEIGHT DATUM (A.H.D.)

LEGEND:

GR	GRATE
SAC	SEWER ACCESS CHAMBER
SIC	SEWER INSPECTION COVER
SV	STOP VALVE
TK	TOP OF KERB
TR(6H)	TREE 6 HIGH
UAC	UNIDENTIFIED ACCESS CHAMBER
US	SLAB SOFFIT

(A) SUB-STATION PREMISES No.6989 AND RIGHT OF WAY AND EASEMENT FOR ELECTRICITY PURPOSES

AMENDMENTS:
13.03.12 ADDITIONAL SURVEY INFORMATION ADDED

DRAWN: T.F.
SURVEYED: J.G.
DESIGNED:

CLIENT: M & L INVESTMENTS c/- COX ARCHITECTURE

TITLE
PLAN OF THE LAND COMPRISED IN CERTIFICATE OF TITLE 101/1009697
AT SYDNEY
IN THE LGA OF SYDNEY

DUNLOP THORPE & CO. PTY. LTD.
SURVEYORS
447 KENT STREET
SYDNEY 2000
www.dunlopthorpe.com.au
ABN 74 003 512 150
PHONE 9283 6677
FAX 9283 6633
EMAIL admin@dunlopthorpe.com.au

REDUCTION RATIO	1:400
SIZE	A1
LEVEL DATUM	A.H.D.
DATE	07.09.2011
SHEET	2 OF 2 SHEETS
REFERENCE No.	17488/2

1. BACKGROUND

Landscape Matrix Pty Ltd has been engaged by GL Investment Co Pty Ltd ATF GL No. 1 Trust to prepare an Arboricultural Impact Report in relation to trees located on or adjacent to DP Lot 1009697 in which the existing structure is located.

The client is proposing a redevelopment of the existing structure and requires the report to assist in identifying the potential impacts of the proposed development. A project description is attached at Appendix F. Specifically, the client is seeking a report that addresses the following key outcomes:

- Undertake an assessment of the current health, vigour and condition of all trees at and adjoining the site;
- Undertake an assessment of the landscape significance of the trees;
- Identify those trees that are of high landscape significance;
- Identify those trees that are of moderate landscape significance;
- Identify those trees that are recommended for removal regardless of future planning for the site;
- Identify those trees that are not of specific importance in the planning process for future development of the site;
- Identify tree protection zones for those trees identified as being worthy of retention; and
- Identify impacts of the proposed development.

The site is located in Sydney and is bounded by Sussex Street to the east, the King Street Connection from the Western Distributor to the north and Market Street to the south and Darling Harbour to the west. The location of the Site is illustrated in figure 1 as follows:

Figure 1: Location Map: Site location (Source: www.whereis.com)

2. METHODOLOGY

2.1 INTRODUCTION

A site inspection was undertaken on 24 April 2012 to collect data for 41 trees on or adjacent to the site. The data for the trees was then combined and has been used to assess various aspects of the trees in relation to health, vigour, condition, landscape value and retention value. A number of methodologies were used in this process.

The methodologies used in preparation of this report comprised 4 distinct areas. These are:

- Tree health, vigour and condition;
- Landscape value or significance;
- Tree retention values; and
- Tree protection zones.

2.3 TREE HEALTH AND CONDITION

The tree health and condition assessment was based upon a visual inspection of the trees from ground level using aspects of the Visual Tree Assessment (VTA) method described by Mattheck & Breloer (1994). The visual inspection included examination of the trees' dimensions, foliage density and foliage health, form, structure, structural condition, overall health and vigour and landscape significance.

The inspection was limited to visual inspection of the trees without dissection, probing or coring. No aerial inspection of the trees was carried out and the assessment did not include any significant woody tissue testing or root investigation.

The tree heights and canopy spreads were estimated and are expressed in metres and the tree diameters at breast height (DBH) were measured with a with standard metal tape at 1.4 metres above ground level and are expressed in millimetres. DBH were rounded up to the nearest 5mm increment.

2.3 LANDSCAPE VALUE OR SIGNIFICANCE

The landscape value or significance of a tree in the landscape is a critical step in the process of determining the importance that a particular tree may have on a site. However, determining tree significance can be a subjective process unless a consistent basis is established to guide the rating.

A number of rating systems have been developed in the past including, for example, the rating system identified in British Standard 5837-2005 (BSI 2005). Typically, these rating systems consider criteria such as size, form, health, heritage, historical and ecological values to assist in determining a rating for the tree.

The Institute of Australian Consulting Arboriculturists (IACA) has developed a rating system for assessing tree significance. This rating system is attached at appendix D and provides the following rating choices based on a selection of criteria:

- High Significance in the Landscape
- Medium Significance in the Landscape
- Low Significance in the Landscape

Trees need to meet 3 criteria to be selected in that rating in the system developed by IACA. (IACA 2010)

The system developed by IACA has been used as a guide to rate the landscape value or significance of trees asses for this report. However, the following modifications have been made:

- A fourth category (after Low landscape significance) of Environmental or Noxious Weed has been added; and
- 'Medium Landscape Significance' has been changed to 'Moderate Landscape Significance'
- Where considered appropriate, a rating between 2 categories has been allowed - e.g. 'Moderate to High Landscape Significance'.

2.4 RETENTION VALUES

Determining the retention value of trees on a development site requires the synthesis of baseline data and subsequent categorisations of individual trees to provide a relative retention value when compared with other trees on the site. The two principal criteria used in determining the retention value of a tree are its sustainability or projected lifespan in the landscape (e.g. SULE) and the tree's landscape value rating.

A number of table or 'matrix' style methods have been successfully used by various authors to assist in consistently determining the retention values of trees on development sites (e.g. Morton 2010, Couston and Howden 2001).

The Institute of Australian Consulting Arboriculturists (IACA) has developed a draft system for assessing tree retention values. This draft system is referred to as 'Tree Retention Value - Priority Matrix and compares life expectancy with landscape significance to identify the following retention values:

- Priority for retention;
- Consider for retention;
- Consider for removal; and
- Priority for removal

The draft system developed by IACA has been used to guide determination of retention values for this report with the following changes to the methodology:

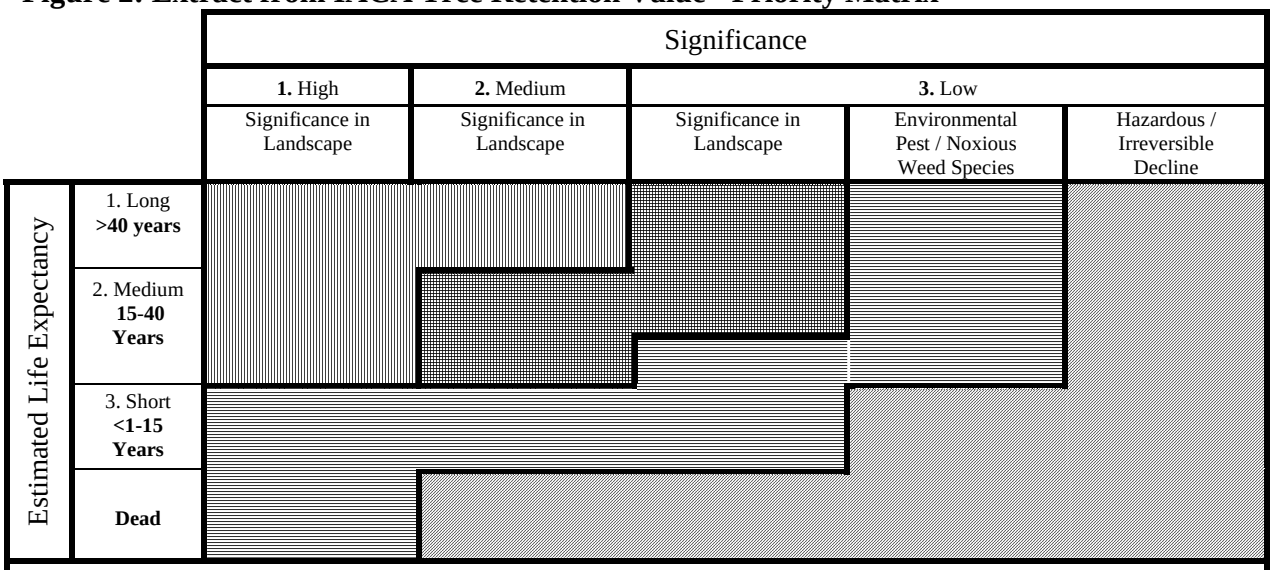
- An additional category has been added - the additional category is for those trees not identified for retention or removal - this provides for those trees that may be of low or low to moderate landscape significance but could be considered for

retention, particularly in the short term, if redevelopment of the site is undertaken and other vegetation is removed.

- Trees of high landscape significance and medium to long SULE identified as the priorities for retention (i.e. trees of moderate landscape significance and long SULE are not identified as a priority for retention due to their moderate significance); and
- Only those trees which are weed species, with a SULE of less than 5 years and/or those trees identified as structurally unstable are recommended for removal.

The following figure is an extract from the IACA Tree Retention Value - Priority Matrix which illustrates the matrix system.

Figure 2: Extract from IACA Tree Retention Value - Priority Matrix



Legend for Matrix Assessment

	Priority for Retention (High) - These trees are considered important for retention and should be retained and protected. Design modification or re-location of building/s should be considered to accommodate the setbacks as prescribed by the Australian Standard AS4970 *Protection of trees on development sites*. Tree sensitive construction measures must be implemented e.g. pier and beam etc if works are to proceed within the Tree Protection Zone.
	Consider for Retention (Medium) - These trees may be retained and protected. These are considered less critical; however their retention should remain priority with removal considered only if adversely affecting the proposed building/works and all other alternatives have been considered and exhausted.
	Consider for Removal (Low) – These trees are not considered important for retention, nor require special works or design modification to be implemented for their retention.
	Priority for Removal – These trees are considered hazardous, or in irreversible decline, or weeds and should be removed irrespective of development.

Source IACA (2010)

2.5 TREE PROTECTION ZONES

A number of methods to determine the likely extent of root zones and appropriate setbacks for tree root protection zones for trees on development sites have been developed in the past. The key criteria used in determining setbacks is the tree's trunk diameter at breast height (DBH) in conjunction with other factors including the sensitivity of the species in question to environmental disturbance/change, the age of the tree and the tree's health and vigour at the time.

Harris et al (2004) provide formulae for calculating tree protection zones based on the above criteria and modified from the 1991 British Standard for protection of trees on construction sites (BS 5837:1991). The 2005 version of the British Standard (BS 5837:2005) recommends a radius of 12 times the tree's DBH. For multi trunked trees BS 5837:2005 recommends a setback of 10 times the basal trunk diameter.

The Australian Standard *AS 4970-2009 Protection of Trees on Construction Sites* also identifies a 'Tree Protection Zone' (TPZ) of 12 times the tree's DBH. AS 4790-2009 also provides a formula for calculating the "Structural Root Zone' of trees on development sites. This is the area required for stability. In regard to palms, other monocots, cycads and tree ferns the Standard identifies the Tree Protection Zone should not be less than 1 metre outside the crown projection. (Australian Standards Association 2009)

The tree protection zones identified in this report have been calculated using *AS 4970 Protection of trees on construction sites* and are the setback from the trees where disturbance (e.g. soil level changes, compaction, excavation etc.) must be minimised to reduce potential impacts on the long term health of the trees. The zones have been rounded to the nearest tenth of a metre.

These zones are illustrated in Appendix E which contains an extract (figure2) from AS4970-2009.

Preferably, no more than 10% of the tree protection zone should be disturbed with compensation made by extension of other areas of the TPZ to compensate for the area(s) disturbed.

Where greater than 10% of the tree protection zone is potentially disturbed the tree's viability needs to be investigated and demonstrated by the project arborist. The structural root zone is the area required for stability and where disturbance of any sort should be avoided.

3. TREE ASSESSMENT RESULTS

3. 1 BRIEF SUMMARY OF TREES ASSESSED FOR THE REPORT

During the site inspection undertaken on 24 April 2012 a total of 41 trees on or adjacent to the site trees were assessed with specific data collected for each tree. This data is summarised in Appendix B – Tree Data Summary.

The 38 trees assessed for the report are summarised in table 1 as follows:

Table 1: Summary of species present, number and height range

SPECIES	COMMON NAME	NUMBER PRESENT	HEIGHT RANGE (metres)
Celtis sinensis	Chinese Celtis	4	5 to 9
Ficus microcarpa var. hillii	Hill's Weeping Fig	20	7 to 16
Gleditsia triacanthos cv	Honey Locust - spineless form	6	9 to 10
Platanus x hybrida	London Plane Tree	1	14
Populus nigra 'Italica'	Lombardy Poplar	5	15 to 18
Quercus pallustris	Pin Oak	4	2 to 5
Waterhousea floribunda x 47	Weeping Lilly Pilly	A row of 47 semi mature specimens	Up to 8
	Total	**41**	**2 to 18 metres**

None of the trees assessed for this report is listed individually as a threatened species under the NSW *Threatened Species Conservation Act 1995* or the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999.*

The tree locations are identified in Figure 3 – Survey Plan prepared by Dunlop Thorpe and Co Pty Ltd, dated 07/09/2011 and identified as reference number 17488/2, sheets 1 and 2.

NB: Tree numbers 39, 40 and 41 are located on the balcony off the existing dining area of the Hotel and are not specifically identified on the survey plans.

3.2 OBSERVATIONS REGARDING THE SITE

The following observations are made in regard to the site:

- The site is located in Sydney and is bounded by Sussex Street to the east, the King Street Connection from the Western Distributor to the north and Market Street to the south and Darling Harbour to the west.
- The site has been developed in the past and comprises a hotel building and other commercial buildings;
- There has been significant past landform changes in all of the site area with no remnant trees or associated vegetation of the original forest vegetation community present on the site;
- The Western Distributor forms part of the site; and
- The trees assessed include a number of self-sown specimens of the environmental weed species known as Chinese Hackberry.

Figure 4: Illustrating the mature specimens of Lombardy Poplar on the southern section of the Sussex Street frontage of the site.

3. 3 OBSERVATIONS REGARDING THE TREES ASSESSED FOR THE REPORT

The following general observations are made in regard to the trees assessed for this report:

- 40 individual trees and one row of semi mature trees have been assessed for this report;
- All of the trees are either planted specimens or considered to be self-sown specimens of the weed species Chinese Hackberry;
- The most common species present is *Ficus microcarpa var. hillii (Hill's Weeping Fig)* - 20 specimens
- The majority of trees are mature specimens (27 trees) with 15 trees being semi mature;
- The majority of the trees are in good health (32 trees) and 9 trees being of moderate health;
- The majority of trees were identified as being of either medium SULE (22 trees) or short SULE (15 trees);
- Only 2 trees were considered to be of long SULE. While many of the trees would usually be regarded as being of long SULE their SULE was reduced in many instances due to their context (limited planter areas in close proximity to structures);
- 9 trees were identified as being of high landscape value and medium to long life expectancy, 5 trees of moderate or moderate to high landscape and medium to long life expectancy;
- 4 of the trees were identified as recommended for removal regardless of any future development proposals for the site because they are weed species (Chinese Hackberry)
- 23 trees were identified as not being of specific design consideration (low landscape significance or short SULE)
- None of the trees assessed for the report are listed individually as a threatened species under the NSW *Threatened Species Conservation Act 1995* or the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*.

4. TREE RETENTION VALUES

4.1 INTRODUCTION AND SUMMARY

Using the methodologies referred to in section 2 of this report the trees can be categorised according to a number of criteria. Of particular interest is the criteria related to:

- Health
- Maturity
- Landscape Significance; and
- Safe Useful Life Expectancy (SULE)

By combining assessment criteria it is possible to identify those trees to which greater consideration should be given in the design process. For example, those trees that are

identified as being of both medium to long SULE and high landscape significance should be the first priority for retention in the design process. In contrast those trees of high landscape significance but short SULE should not be a significant consideration in the design process as they would only be suitable for retention in the short term.

The same principle can be used to identify those trees of moderate or moderate to high landscape significance and medium to long SULE as trees that should be considered for retention if possible in the design process.

In addition, this process can be used to identify trees that should be removed from the site, regardless of any development proposals, due to declining health, structural issues (e.g. risk of failure) or unsuitability to the site (e.g. invasive weed species).

Using this process of categorisation for the tress assessed has identified

- 9 trees are identified as a priority for retention;
- 5 trees were identified for considered for retention;
- 4 trees were identified as recommended for removal regardless of any development proposals; and
- 23 trees were not identified as being of specific design consideration.

The following tables on pages 15 to 23 provide a summary of the trees identified as a priority for retention (Table 2), those identified for consideration for retention (Table 3).

Once trees have been identified for retention it is important to identify the spatial constraints to development that retention of the trees will require. The spatial constraints relate to protection of a minimum area required for the root zone requirements of the tree and protection of the trees' existing/future canopy growth.

The tree protection zones required to provide for the retention of these trees have been derived using the criteria specified in AS4970-2009 and are identified in tables 2 and 3 below.

Generic tree protection measures are identified in the recommendations to provide guidance on likely measures that will be required prior to and during the construction process to minimise risk of damage to trees identified for retention on the site.

4.2 TREES IDENTIFIED AS BEING OF HIGH LANDSCAPE VALUE AND MEDIUM TO LONG LIFE EXPECTANCY

Following assessment of the trees it is considered the following 9 trees are of high landscape value and medium to long SULE.

Further details regarding the trees' health, condition and other factors are provided in the tree data summary (Appendix B).

Table 2: Trees identified as high landscape value and medium to long SULE with identified Tree Protection Zones (TPZ).

TREE NO.	SCIENTIFIC AND COMMON NAME	TPZ (metres)	SRZ (metres)	COMMENTS
13	*Platanus x hybrida* (London Plane Tree)	6.4 metres	2.6 metres	
25	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	7.2 metres	2.4 metres	The tree's root plate and structural roots are exposed. The tree exhibits fair branch attachment with codominant leaders from 1.2 metres with evidence of poor attachment at the junction - the junction is a weak point in the tree with increased risk of failure.
28	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	4.9 metres	2.4 metres	
29	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	4.6 metres	2.2 metres	
30	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	4.7 metres	2.3 metres	The tree exhibits evidence of past wounding to significant structural roots on the south side of the trunk (past mechanical damage).
31	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	4.8 metres	2.3 metres	The tree exhibits fair branch attachment with codominant leaders from 1.7 metres with some evidence of poor attachment at the junction - while not considered at risk of failure in the short term the junction is a weak point in the tree with increased risk of failure. The tree exhibits evidence of past wounding to exposed woody roots.
33	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	9.2 metres	3 metres	The tree exhibits fair to poor branch attachment with multiple, codominant leaders from 1 metre with evidence of poor attachment at the junction - the junction is a weak point in the tree with increased risk of failure. Located in a very narrow planter area with high potential for conflict with adjacent infrastructure.

35	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	8.9 metres	2.4 metres	The tree exhibits fair to poor branch attachment with multiple, codominant leaders from 0.8 metres with some evidence of poor attachment at the junction - while not considered at risk of failure in the short term the junction is a weak point in the tree with increased risk of failure. Located in a very narrow planter area with high potential for conflict with adjacent infrastructure.
36	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	7.8 metres	2.5 metres	The tree exhibits fair branch attachment with codominant leaders from 1 metre with some evidence of poor attachment at the junction - while not considered at risk of failure in the short term the junction is a weak point in the tree with increased risk of failure. Located in a very narrow planter area with high potential for conflict with adjacent infrastructure.

4.3 TREES IDENTIFIED AS BEING OF MODERATE LANDSCAPE VALUE AND MEDIUM TO LONG LIFE EXPECTANCY

Following assessment of the trees it is considered the following 5 trees are of moderate or moderate to high landscape significance and medium to long SULE and should be considered for protection. Further details regarding the trees' health, condition and other factors are provided in the tree data summary (Appendix B).

Table 3: Trees identified as being of moderate landscape value with identified Tree Protection Zones (TPZ).

TREE NO.	SCIENTIFIC AND COMMON NAME	TPZ (metres)	SRZ (metres)	COMMENTS
1	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	7.7 metres	2.8 metres	The tree exhibits fair branch attachment with codominant leaders from 2.2 metres with evidence of poor attachment at the junction - the junction of leaders is a weak point in the tree with increased risk of failure. Located in a narrow planter area with high potential for future conflict with adjacent infrastructure.
20	*Gleditsia triacanthos cv* (Honey Locust - spineless form)	3.4 metres	2.1 metres	The tree's past canopy development has been suppressed. Growing in a raised planter area at the rear of the building. Deck area to the south of tree. At the time of inspection the tree was of fair vigour as evidenced by low to moderate levels of dieback.

23	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	3.7 metres	2 metres	The tree's past canopy development has been suppressed. The tree's root plate and structural roots are exposed.
32	*Waterhousea floribunda* (Weeping Lilly Pilly) x 47	2.9 metres	1.8 metres	A row planting of approximately 47 semi mature specimens of Weeping Lilly Pilly. Due to their close proximity to each other almost all specimens have significantly suppressed canopy with the majority of canopies on an east x west axis. Individually of low landscape significance, of moderate significance as a group planting.
34	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	4.7 metres	2.2 metres	Located in a very narrow planter area with high potential for conflict with adjacent infrastructure.

TPZ = Tree Protection Zone under AS4970-209; SRZ = Structural Root Zone under AS4970-2009

4.4 TREES IDENTIFIED FOR REMOVAL REGARDLESS OF ANY DEVELOPMENT PROPOSALS

Following assessment of the trees on the site it is considered that 4 of the trees assessed for this report should be considered either for immediate removal and replacement due to declining health, structural issues and/or removal in the longer term due to unsuitability to the site (e.g. weed species).

Table 4: Trees recommended for consideration for removal.

TREE NO.	SCIENTIFIC AND COMMON NAME	REASON
12	*Celtis sinensis* (Chinese Celtis)	The tree's past canopy development has been significantly suppressed. Environmental pest species.
14	*Celtis sinensis* (Chinese Celtis)	The tree's past canopy development has been significantly suppressed. Environmental pest species.
15	*Celtis sinensis* (Chinese Celtis)	The tree's past canopy development has been significantly suppressed. Environmental pest species.
22	*Celtis sinensis* (Chinese Celtis)	The tree's past canopy development has been significantly suppressed. Growing at the base of the sandstone block wall supporting the planter area in which tree numbers 16 to 21 are growing. Environmental pest species.

4.5 TREES NOT IDENTIFIED FOR RETENTION OR REMOVAL

The following 23 trees have not been identified as being of moderate to high landscape value, medium to long SULE and worthy of retention/protection, or as priority for removal due to low landscape value and condition:

- Tree numbers 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 16, 17, 18, 19, 21, 24, 26, 27, 37, 38, 39, 40 and 41.

These trees are currently in moderate health and condition and do perform some landscape function. However, they are not specifically identified for retention because they are either of low landscape significance or of short life expectancy. Their retention on the site would be desirable, particularly in the short term, if redevelopment of the site is undertaken.

However these trees are not considered significant enough to warrant specific design consideration due to either their low landscape significance or short SULE.

5. IMPACT ANALYSIS OF PROPOSED WORKS

The potential impacts of the proposal have been assessed using the following plans:
Proposed Lower Ground Floor Plan prepared by Cox Richardson dated 5/4/2012 and identified as drawing number A-DA-0200, Revision D; and
Proposed Ground Floor Plan prepared by Cox Richardson dated 5/4/2012 and identified as drawing number A-DA-0201, Revision D.

5.1 TREES REQUIRING REMOVAL OR PROPOSED TO BE REMOVED TO FACILITATE THE PROPOSED DEVELOPMENT WORKS

To facilitate construction of the proposed development works the following 22 trees will require removal or are proposed to be removed for the proposed development works.
The trees proposed to be removed are summarised in table 5 as follows:

Table 5: Trees requiring removal or proposed to be removed to facilitate the proposed development works

TREE NO.	SCIENTIFIC AND COMMON NAME	COMMENTS
12	*Celtis sinensis* (Chinese Celtis)	Identified to be removed as part of the works. Environmental weed species.
14	*Celtis sinensis* (Chinese Celtis)	Identified to be removed as part of the works. Environmental weed species.
15	*Celtis sinensis* (Chinese Celtis)	Identified to be removed as part of the works. Environmental weed species.
23	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	Adjacent to the proposed building footprint and identified to be removed as part of the works.
24	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	Adjacent to the proposed building footprint and identified to be removed as part of the works.
25	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	Adjacent to the proposed building footprint and identified to be removed as part of the works.
26	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	Within or adjacent to the footprint of the proposed works and will require removal as part of the works.
27	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	Within or adjacent to the footprint of the proposed works and will require removal as part of the works.
28	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	Within or adjacent to the footprint of the proposed works and will require removal as part of the works.
29	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	Within or adjacent to the footprint of the proposed works and will require removal as part of the works.

30	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	Adjacent to the proposed building footprint and identified to be removed as part of the works.
31	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	Adjacent to the proposed building footprint and identified to be removed as part of the works.
32	*Waterhousea floribunda* (Weeping Lilly Pilly) x 47	This row of 47 semi mature specimens is partially within the footprint of works and will require removal.
33	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	Within the footprint of the proposed works and will require removal as part of the works.
34	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	Within the footprint of the proposed works and will require removal as part of the works.
35	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	Within the footprint of the proposed works and will require removal as part of the works.
36	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	Within the footprint of the proposed works and will require removal as part of the works.
37	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	Within the footprint of the proposed works and will require removal as part of the works.
38	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	Within the footprint of the proposed works and will require removal as part of the works.
39	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	Within the footprint of the existing balcony area and will require removal as part of the works.
40	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	Within the footprint of the existing balcony area and will require removal as part of the works.
41	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	Within the footprint of the existing balcony area and will require removal as part of the works.

3 of the 22 trees proposed to be removed are already identified as recommended for removal, regardless of the proposal, in section 4 (table 4) of this report (tree numbers 12, 14 and 15).

5.2 TREES POTENTIALLY IMPACTED BY THE PROPOSED DEVELOPMENT WORKS

To facilitate construction of the proposed development works 3 trees are proposed for retention in the vicinity of works and may be potentially impacted. These impacts are summarised in table 6 as follows: Where applicable, the extent of impacts to the trees in table 6 has been rated using the following guideline:

0% of TPZ impacted – no impact of significance
0 to 10% of TPZ impacted – low level of impact
10 to 15% of TPZ impacted – low to moderate level of impact
15 to 20% of TPZ impacted – moderate level of impact
20 to 25% of TPZ impacted – moderate to high level of impact
25 to 35% of TPZ impacted – high level of impact
> 35% of TPZ 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®).

Table 6: Trees potentially affected by the proposed development works

TREE No.	SCIENTIFIC AND COMMON NAME	TPZ	SRZ	COMMENTS*
1	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	7.7 metres	2.8 metres	The existing masonry walls and levels are to be retained within the tree's identified tree protection zone and no impact of substance is predicted. Tree will need to be protected during construction works to avoid potential injury/damage from construction access, storage of materials etc.
2	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	4.8 metres	2.4 metres	The existing masonry walls and levels are to be retained within the tree's identified tree protection zone and no impact of substance is predicted. Tree will need to be protected during construction works to avoid potential injury/damage from construction access, storage of materials etc.
13	*Platanus x hybrida* (London Plane Tree)	6.4 metres	2.6 metres	The proposed works are outside the tree's identified tree protection zone and no impact of substance is predicted. Trees will need to be protected during construction works to avoid potential injury/damage from construction access, storage of materials etc.

The impacts of the proposed development works can be summarised as follows:

- The proposed works are outside the identified tree protection zones of tree numbers 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13 and 16 to 21 and no impact of substance is predicted for these trees.

6. CONCLUSIONS

6.1 THE SITE

The site is located in Sydney and is bounded by Sussex Street to the east, the King Street Connection from the Western Distributor to the north and Market Street to the south and Darling Harbour to the west. The site has been developed in the past and comprises a hotel building and other commercial buildings.

6.2 THE TREES

Of the 41 trees have been assessed for this report the most common species present is *Ficus microcarpa var. hillii (Hill's Weeping Fig)* with a total of 20 specimens.

The following observations were noted regarding the trees:

- All of the trees are either planted specimens of considered to be self-sown specimens of the weed species Chinese Hackberry;
- The majority of trees are mature specimens (27 trees) with 15 trees being semi mature;
- The majority of the trees are in good health (32 trees) and 9 trees being of moderate health;
- The majority of trees were identified as being of either medium SULE (22 trees) or short SULE (15 trees);
- Only 2 trees were considered to be of long SULE. While many of the trees would usually be regarded as being of long SULE their SULE was reduced in many instances due to their context (limited planter areas in close proximity to structures);

Using the assessment methodologies referred to in this report the trees have been categorised according to their retention values as follows:

- 9 trees were identified as being of high landscape value and medium to long life expectancy;

- 5 trees of moderate or moderate to high landscape and medium to long life expectancy;

- 4 of the trees were identified as recommended for removal regardless of any future development proposals for the site because they are weed species (Chinese Hackberry); and

- 23 trees were identified as not being of specific consideration in the design process.

- None of the trees assessed for the report are listed individually as a threatened species under the NSW *Threatened Species Conservation Act 1995* or the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999.*

Tree protection zones are identified in the report for those trees identified as either of high or moderate landscape significance. (Tables 2 and 3)

6.3 IMPACTS OF THE PROPOSED DEVELOPMENT WORKS

To facilitate construction of the proposed development works the following 22 trees will require removal for the proposed development works or are proposed to be removed as they are dead or weed species:

12 *Celtis sinensis* (Chinese Celtis)
14 *Celtis sinensis* (Chinese Celtis)
15 *Celtis sinensis* (Chinese Celtis)
23 *Ficus microcarpa var. hillii* (Hill's Weeping Fig)
24 *Ficus microcarpa var. hillii* (Hill's Weeping Fig)
25 *Ficus microcarpa var. hillii* (Hill's Weeping Fig)
26 *Ficus microcarpa var. hillii* (Hill's Weeping Fig)
27 *Ficus microcarpa var. hillii* (Hill's Weeping Fig)
28 *Ficus microcarpa var. hillii* (Hill's Weeping Fig)
29 *Ficus microcarpa var. hillii* (Hill's Weeping Fig)
30 *Ficus microcarpa var. hillii* (Hill's Weeping Fig)
31 *Ficus microcarpa var. hillii* (Hill's Weeping Fig)
32 *Waterhousea floribunda* (Weeping Lilly Pilly) x 47
33 *Ficus microcarpa var. hillii* (Hill's Weeping Fig)
34 *Ficus microcarpa var. hillii* (Hill's Weeping Fig)
35 *Ficus microcarpa var. hillii* (Hill's Weeping Fig)
36 *Ficus microcarpa var. hillii* (Hill's Weeping Fig)
37 *Ficus microcarpa var. hillii* (Hill's Weeping Fig)
38 *Ficus microcarpa var. hillii* (Hill's Weeping Fig)
39 *Ficus microcarpa var. hillii* (Hill's Weeping Fig)
40 *Ficus microcarpa var. hillii* (Hill's Weeping Fig)
41 *Ficus microcarpa var. hillii* (Hill's Weeping Fig)

3 of the 22 trees proposed to be removed are already identified as recommended for removal, regardless of the proposal, in section 4 (table 4) of this report (tree numbers 12, 14 and 15).

To facilitate construction of the proposed development works the following 3 trees are proposed for retention in the vicinity of works and may be potentially impacted.

1 *Ficus microcarpa var. hillii* (Hill's Weeping Fig)
2 *Ficus microcarpa var. hillii* (Hill's Weeping Fig)
13 *Platanus x hybrida* (London Plane Tree)

The impacts of the proposed development works can be summarised as follows:

- The proposed works are outside the identified tree protection zones of tree numbers 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13 and 16 to 21 and no impact of substance is predicted for these trees.

7. RECOMMENDATIONS

7.1 TREE RETENTION AND REMOVAL

It is recommended that:
The trees identified in table 2 of this report be considered as priorities for retention in the design process;
The trees identified in table 3 of this report be considered for retention in the design process; and
The trees identified in table 4 of this report be removed regardless of any development proposals.

7.2 TREE PROTECTION ZONES

It is recommended the tree protection zones identified in tables 2 and 3 be used as the minimum offsets required for tree protection where possible.

7.4 GENERIC TREE PROTECTION MEASURES

The following generic tree protection measures are recommended to assist in minimising potential impacts that may arise during the demolition and construction phases if the precinct is to undergo redevelopment (including the implementation of landscape works on the site).

A. Measures to be implemented prior to the commencement of any works on the site.

1. Tree to be retained are to be clearly identified by signage as protected trees.

2. The tree protection zones of trees to be retained are to be protected by fencing during the entire construction period except for specific areas directly required to achieve construction works.

3. The tree protection fence shall be constructed of galvanised pipe at 2.4 metre spacing and connected by securely attached chain mesh fencing to a minimum height of 1.8 metres and shall be installed prior to work commencing.

4. The tree protection fencing shall be installed as closely as possible to the alignment of the identified tree protection zone and shall be approved and certified by the site arborist prior to commencement of any construction or demolition works on the site.

B. Measures to be implemented and maintained during the life of construction works on the site.

5. Any excavation within the identified root protection zones of trees to be retained shall be carried out by hand to minimize disturbance to tree roots. Roots greater than 25mm are not to be damaged or severed without prior assessment by an arborist to determine likely level of impact and the restorative actions required to minimise the impacts of root damage.

6. Tree roots between 10mm and 25mm diameter, severed during excavation, shall be cut cleanly by hand by an experienced Arborist/Horticulturist with a minimum qualification of the Horticulture Certificate or Tree Surgery Certificate.

7. The following activities/actions are prohibited from the tree protection zones:

- Soil cut or fill including excavation and trenching
- Soil cultivation, disturbance or compaction
- Stockpiling storage or mixing of materials
- The parking, storing, washing and repairing of tools, equipment and machinery
- The disposal of liquids and refueling
- The disposal of building materials
- The sitting of offices or sheds
- Any action leading to the impact on tree health or structure

8. Canopy pruning of trees identified for protection which is necessary to accommodate approved building works shall be undertaken by an experienced Horticulturist/ Arborist, with a minimum qualification of the Horticulture Certificate or Tree Surgery Certificate and in accordance with Australian Standard 4373-2007 'Pruning of Amenity Trees'.

Guy Paroissien, MAIH, MIACA, MISA
M Env. Mgt & Restor., Hort Cert., Tree Care Cert.
Director
Landscape Matrix Pty Ltd
5 June 2012

6. BIBLIOGRAPHY/REFERENCES

Australian Standards Association (2007)

AS 4373- 2007 - *Australian Standard 4373-2007 'Pruning of Amenity Trees'*

Australian Standards Association (2009)

AS 4790- 2009 - *Australian Standard 4790- 2009 'Protection of trees on development sites*'.

Barrell J (1996)

Pre-planning Tree Surveys: SULE is the Natural Progression. Arboricultural Journal 17, 33-46.

Benson and Howell (1990)

Taken For Granted: The Bushland Of Sydney and its Suburbs. Kangaroo Press (in association with the Royal Botanic Gardens Sydney) Kenthurst, New South Wales, Australia.

Cox Richardson (2012)

Proposed Lower Ground Floor Plan prepared by Cox Richardson dated 5/4/2012 and identified as drawing number A-DA-0200, Revision D.

Cox Richardson (2012)

Proposed Ground Floor Plan prepared by Cox Richardson dated 5/4/2012 and identified as drawing number A-DA-0201, Revision D

Couston M and Howden M (2001)

Tree Protection Values Table - Developed by Footprint Green Pty Ltd and authored by Mark Couston and Melanie Howden.

Dunlop Thorpe and Co Pty Ltd (2011)

Survey Plan prepared by Dunlop Thorpe and Co Pty Ltd, dated 07/09/2011 and identified as reference number 17488/2, sheets 1 and 2.

Harris et al (2004). Harris RW, Clark JR, Matheny NP

Arboriculture – Integrated Management of Landscape Trees Shrubs and Vines 4TH Edition. Prentice Hall, New Jersey 07458.

IACA (2010)

Rating System For Tree Significance - a draft rating system developed by the Institute of Australian Consulting Arboriculturists (IACA) for rating tree significance. Available on the IACA website at: www.iaca.org.au

Morton (2010)

Trees and Development - Session 3 - Assessing Tree Retention Values. Notes prepared by Andrew Morton NSW TAFE for Diploma in Arboriculture students.

APPENDIX A: PHOTOGRAPHS

Photograph 1: Tree #s 1 and 2 - Illustrating the location and context of tree numbers 1 and 2.

Photograph 2: Tree # 6 - Illustrating the evidence of conflict between tree's roots and adjacent kerb and footpath paving.

Photograph 3: Tree # 13 - Illustrating the location and context of tree number 13.

Photograph 4: Tree # 16 - Illustrating the Evidence of conflict at ground level between trunk growth and timber decking slats.

Photograph 5: Tree #s 23, 24, 25 - Illustrating the location and context of tree numbers 23, 24 and 25.

Photograph 6: Tree #s 26 to 31 - Illustrating the location and context of tree numbers 26 to 31.

Photograph 7: Tree # 32 - Illustrating the location and context of the row of semi mature Weeping Lilly Pilly identified as tree number32.

Photograph 8: Tree # 33: Illustrating the multiple, codominant leaders from 1 metre with evidence of poor attachment at the junction.

Photograph 9: Tree #s 33 to 36 - Illustrating the location and context of tree numbers 33 to 36.

Photograph 10: Tree # 38 - Illustrating the location and context of tree number 38.

APPENDIX B - TREE DATA SUMMARY - 161 SUSSEX STREET SYDNEY

Tree No.	*Genus, Species (Common Name)*	Height (m)	Canopy (m)	DBH (mm)	DBH for TPZ	DGL for SRZ	Foliage Condition	Age Class	Trunk	Trunk Lean	Crown balance	Past Pruning	Stability	Branch Attachment	Health	Vigour	Dead Wood	Pest or disease	SULE	Landscape Significance	Retention Value*	Comments
1	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	14	8 x 12	640	640	680	Good foliage condition	Mature	Single trunk	Upright trunk	Majority of canopy to the North	Lower limbs pruned to 8 metres in past	Appears stable	Fair branch attachment	Good health	Good vigour	<5%	No evidence of significant pest nor disease	2 Medium (15 to 40 years)	Moderate to high landscape significance	2	The tree exhibits fair branch attachment with codominar leaders from 2.2 metres with evidence of poor attachment at the junction - the junction of leaders is a weak point in the tree with increased risk of failure. Located in a narrow planter area with high potential for future conflict with adjacent infrastructure.
2	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	13	8	400	400	470	Fair foliage condition	Mature	Single trunk	Upright trunk	Balanced canopy area	Lower limbs pruned to 3 metres in past	Appears stable	Sound branch attachment	Good health	Fair vigour	<5%	No evidence of significant pest nor disease	2 Medium (15 to 40 years)	Low to moderate landscape significance	3	The tree's past canopy development has been significantly suppressed. Located in a narrow planter area with high potential for future conflict with adjacent infrastructure. At the time of inspection the tree was of fair vigour and exhibited reduced foliage density.
3	*Quercus pallustris* (Pin Oak)	3.5	2	80	80	110	Good foliage condition	Semi Mature	Single trunk	Upright trunk	Balanced canopy area	Lower limbs pruned to 2 metres in past	Appears stable	Sound branch attachment	Good health	Good vigour	<5%	No evidence of significant pest nor disease	2 Medium (15 to 40 years)	Low landscape significance	3	Recently planted semi mature specimen.
4	*Quercus pallustris* (Pin Oak)	2	2	55	55	90	Good foliage condition	Semi Mature	Single trunk	Upright trunk	Majority of canopy to the West	Lower limbs pruned to 1.7 metres, appears central leader removed / pruned at 2 metres in past	Appears stable	Sound branch attachment	Good health	Good vigour	<5%	No evidence of significant pest nor disease	2 Medium (15 to 40 years)	Low landscape significance	3	Recently planted semi mature specimen.
5	*Quercus pallustris* (Pin Oak)	5	2	80	80	100	Good foliage condition	Semi Mature	Single trunk	Upright trunk	Majority of canopy to the East	Lower limbs pruned to 2 metres, central leader removed at 2.5 metres in past	Appears stable	Sound branch attachment	Good health	Good vigour	<5%	No evidence of significant pest nor disease	2 Medium (15 to 40 years)	Low landscape significance	3	Recently planted semi mature specimen. Canopy imbalance due to past pruning.
6	*Populus nigra 'Italica'* (Lombardy Poplar)	18	7	510 x 610	560	610	Fair foliage condition	Mature	Single trunk	Upright trunk	Balanced canopy area	Lower limbs pruned to 4 metres in past	Appears stable	Fair branch attachment	Moderate health	Fair vigour	5%	Evidence of Poplar rust on foliage	3 Short (5 to 15 years)	Moderate to high landscape significance	3	Evidence of conflict between tree's roots and adjacent kerb and footpath paving. At the time of inspection the tree was of moderate health and fair vigour as evidence by reduced foliage density and low levels of dieback.
7	*Quercus pallustris* (Pin Oak)	2.2	1.5	45	45	85	Good foliage condition	Semi Mature	Single trunk	Upright trunk	Balanced canopy area	Lower limbs pruned to 1.6 metres, central leader removed / pruned at 2 metres in past	Appears stable	Sound branch attachment	Good health	Good vigour	<5%	No evidence of significant pest nor disease	2 Medium (15 to 40 years)	Low landscape significance	3	Recently planted semi mature specimen.
8	*Populus nigra 'Italica'* (Lombardy Poplar)	16	6	430 x 510	470	480	Fair foliage condition	Mature	Single trunk	Upright trunk	Balanced canopy area	Lower limbs pruned to 4 metres in past	Appears stable	Fair branch attachment	Moderate health	Fair vigour	5%	Evidence of Poplar rust on foliage	3 Short (5 to 15 years)	Moderate to high landscape significance	3	At the time of inspection the tree was of moderate healt and fair vigour as evidenced by reduced foliage density and low levels of dieback.
9	*Populus nigra 'Italica'* (Lombardy Poplar)	15	6	440 x 480	460	525	Fair foliage condition	Mature	Single trunk	Upright trunk	Balanced canopy area	Lower limbs pruned to 3 metres in past	Appears stable	Fair branch attachment	Moderate health	Fair vigour	5%	Evidence of Poplar rust on foliage	3 Short (5 to 15 years)	Moderate to high landscape significance	3	At the time of inspection the tree was of moderate healt and fair vigour as evidenced by reduced foliage density and low levels of dieback.
10	*Populus nigra 'Italica'* (Lombardy Poplar)	16	5	310 x 370	340	400	Fair foliage condition	Mature	Single trunk	Upright trunk	Balanced canopy area	Lower limbs pruned to 3 metres in past	Appears stable	Fair branch attachment	Moderate health	Fair vigour	5%	Evidence of Poplar rust on foliage	3 Short (5 to 15 years)	Moderate to high landscape significance	3	At the time of inspection the tree was of moderate healt and fair vigour as evidenced by reduced foliage density and low levels of dieback.
11	*Populus nigra 'Italica'* (Lombardy Poplar)	16	4	290	290	320	Fair foliage condition	Mature	Single trunk	Upright trunk	Balanced canopy area	Lower limbs pruned to 4 metres in past	Appears stable	Fair branch attachment	Moderate health	Fair vigour	5%	Evidence of Poplar rust on foliage	3 Short (5 to 15 years)	Moderate landscape significance	3	At the time of inspection the tree was of moderate healt and fair vigour as evidenced by reduced foliage density and low levels of dieback.
12	*Celtis sinensis* (Chinese Celtis)	6	8	110, 150	200	230	Good foliage condition	Semi Mature	Twin trunked	Distinct trunk lean to SE	Majority of canopy to the East	No evidence of significant past pruning	Appears stable	Sound branch attachment	Good health	Good vigour	<5%	No evidence of significant pest nor disease	1 Long (> 40 years)	Environmental pest species	4	The tree's past canopy development has been significantly suppressed. Environmental pest species.

Tree No.	*Genus, Species (Common Name)*	Height (m)	Canopy (m)	DBH (mm)	DBH for TPZ	DGL for SRZ	Foliage Condition	Age Class	Trunk	Trunk Lean	Crown balance	Past Pruning	Stability	Branch Attachment	Health	Vigour	Dead Wood	Pest or disease	SULE	Landscape Significance	Retention Value*	Comments
13	*Platanus x hybrida* (London Plane Tree)	14	14	530	530	570	Fair foliage condition	Mature	Single trunk	Upright trunk	Balanced canopy area	No evidence of significant past pruning	Appears stable	Sound branch attachment	Good health	Good vigour	<5%	Sycamore Lace Bug damage and insects present on foliage	2 Medium (15 to 40 years)	High landscape significance	1	
14	*Celtis sinensis* (Chinese Celtis)	5	5	70	70	110	Good foliage condition	Semi Mature	Single trunk	Upright trunk	Majority of canopy to the West	No evidence of significant past pruning	Appears stable	Sound branch attachment	Good health	Good vigour	<5%	No evidence of significant pest nor disease	2 Medium (15 to 40 years)	Environmental pest species	4	The tree's past canopy development has been significantly suppressed. Environmental pest species.
15	*Celtis sinensis* (Chinese Celtis)	5	4	100, 60	120	180	Good foliage condition	Semi Mature	Twin trunked	Distinct trunk lean to North	All of canopy to the North	No evidence of significant past pruning	Appears stable	Sound branch attachment	Good health	Good vigour	<5%	No evidence of significant pest nor disease	1 Long (> 40 years)	Environmental pest species	4	The tree's past canopy development has been significantly suppressed. Environmental pest species.
16	*Gleditsia triacanthos cv* (Honey Locust - spineless form)	10	9	300	300	340	Fair foliage condition, part deciduous	Mature	Single trunk	Upright trunk	Majority of canopy to the West	Upper branches pruned for building on East in past	Appears stable	Fair branch attachment	Good health	Fair vigour	5%		3 Short (5 to 15 years)	Moderate landscape significance	3	The tree's past canopy development has been supressed by the building to the east. Growing in a raised planter area at the rear of the building. Evidence of conflict at ground level between trunk growth and timber decking slats. At the time of inspection the tree was of fair vigour as evidenced by low to moderate levels of dieback.
17	*Gleditsia triacanthos cv* (Honey Locust - spineless form)	9	8	230	230	270	Fair foliage condition, part deciduous	Mature	Single trunk	Slight trunk lean to NW	Majority of canopy to the NW	Lower limbs pruned to 2 metres, upper branches pruned for building on East in past	Appears stable	Sound branch attachment	Good health	Fair vigour	5%	No evidence of significant pest nor disease	3 Short (5 to 15 years)	Low to moderate landscape significance	3	The tree's past canopy development has been significantly supressed. Growing in a raised planter are at the rear of the building. Evidence of conflict at groun level between trunk growth and timber decking slats. A the time of inspection the tree was of fair vigour as evidenced by low to moderate levels of dieback.
18	*Gleditsia triacanthos cv* (Honey Locust - spineless form)	10	6 x 8	220 x 240	230	240	Fair foliage condition, part deciduous	Mature	Single trunk	Slight trunk lean to SW	Majority of canopy to the SW	Lower limbs pruned to 2 metres, upper branches pruned for building on East in past	Appears stable	Sound branch attachment	Good health	Fair vigour	5%	No evidence of significant pest nor disease	3 Short (5 to 15 years)	Low to moderate landscape significance	3	The tree's past canopy development has been supressed. Growing in a raised planter area at the rear of the building. Evidence of conflict at ground level between trunk growth and timber decking slats. At the time of inspection the tree was of fair vigour as evidenced by low to moderate levels of dieback.
19	*Gleditsia triacanthos cv* (Honey Locust - spineless form)	10	7	200	200	220	Fair foliage condition, part deciduous	Mature	Single trunk	Slight trunk lean to West	Majority of canopy to the West	Lower limbs pruned to 2 metres, upper branches pruned for building on East in past	Appears stable	Sound branch attachment	Good health	Fair vigour	5%	No evidence of significant pest nor disease	3 Short (5 to 15 years)	Low to moderate landscape significance	3	The tree's past canopy development has been supressed. Growing in a raised planter area at the rear of the building. At the time of inspection the tree was of fair vigour as evidenced by low to moderate levels of dieback.
20	*Gleditsia triacanthos cv* (Honey Locust - spineless form)	10	7 x 10	280	280	320	Fair foliage condition, part deciduous	Mature	Single trunk	Slight trunk lean to West	Majority of canopy to the West	Lower limbs pruned to 1.5 metres, upper branches pruned for building on East in past	Appears stable	Sound branch attachment	Good health	Fair vigour	5%	No evidence of significant pest nor disease	2 Medium (15 to 40 years)	Moderate landscape significance	2	The tree's past canopy development has been suppressed. Growing in a raised planter area at the rea of the building. Deck area to the south of tree. At the time of inspection the tree was of fair vigour as evidenced by low to moderate levels of dieback.
21	*Gleditsia triacanthos cv* (Honey Locust - spineless form)	10	9	270	270	320	Fair foliage condition, part deciduous	Mature	Single trunk	Upright trunk	Majority of canopy to the West	Upper branches pruned for building on East in past	Appears stable	Sound branch attachment	Good health	Fair vigour	5%	No evidence of significant pest nor disease	3 Short (5 to 15 years)	Moderate landscape significance	3	
22	*Celtis sinensis* (Chinese Celtis)	9	7	170	170	240	Good foliage condition	Semi Mature	Single trunk	Distinct trunk lean to West	All of canopy to the West	No evidence of significant past pruning	Appears stable	Sound branch attachment	Good health	Good vigour	<5%	No evidence of significant pest nor disease	2 Medium (15 to 40 years)	Environmental pest species	4	The tree's past canopy development has been significantly suppressed. Growing at the base of the sandstone block wall supporting the planter area in which tree numbers 16 to 21 are growing. Environmental pest species.
23	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	10	6	310	310	310	Good foliage condition	Semi Mature	Single trunk	Slight trunk lean to NW	Majority of canopy to the West	Lower limbs pruned to 2 metres, upper branches pruned for elevated road on South in past	Appears stable	Sound branch attachment	Good health	Good vigour	<5%	No evidence of significant pest nor disease	2 Medium (15 to 40 years)	Moderate to high landscape significance	2	The tree's past canopy development has been supressed. The tree's root plate and structural roots are exposed.
24	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	10	4	190 x 250	220	250	Good foliage condition	Semi Mature	Single trunk	Distinct trunk lean to West	All of canopy to the West	Lower limbs pruned to 3 metres in past	Appears stable	Sound branch attachment	Good health	Good vigour	<5%	No evidence of significant pest nor disease	2 Medium (15 to 40 years)	Low to moderate landscape significance	3	The tree's past canopy development has been significantly suppressed.

Tree No.	*Genus, Species* (*Common Name*)	Height (m)	Canopy (m)	DBH (mm)	DBH for TPZ	DGL for SRZ	Foliage Condition	Age Class	Trunk	Trunk Lean	Crown balance	Past Pruning	Stability	Branch Attachment	Health	Vigour	Dead Wood	Pest or disease	SULE	Landscape Significance	Retention Value*	Comments
25	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	12	12	360, 440	600	470	Good foliage condition	Semi Mature	Twin trunked	Upright trunk	Majority of canopy to the NW		Appears stable	Fair branch attachment	Good health	Good vigour	<5%	No evidence of significant pest nor disease	2 Medium (15 to 40 years)	High landscape significance	1	The tree's root plate and structural roots are exposed. The tree exhibits fair branch attachment with codominar leaders from 1.2 metres with evidence of poor attachment at the junction - the junction is a weak point in the tree with increased risk of failure.
26	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	7	5	140 at 0.8 metres	160	160	Good foliage condition	Semi Mature	Single trunk	Distinct trunk lean to West	All of canopy to the West	Lower limbs pruned to 1.5 metres in past	Appears stable	Sound branch attachment	Good health	Good vigour	<5%	No evidence of significant pest nor disease	2 Medium (15 to 40 years)	Low landscape significance	3	The tree's past canopy development has been significantly suppressed.
27	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	8	6	200 at 1 metre	200	190	Good foliage condition	Semi Mature	Single trunk	Slight trunk lean to South	All of canopy to the South	Lower limbs pruned to 1 metres in past	Appears stable	Sound branch attachment	Good health	Good vigour	<5%	No evidence of significant pest nor disease	2 Medium (15 to 40 years)	Low landscape significance	3	The tree's past canopy development has been significantly suppressed.
28	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	16	14	410	410	460	Good foliage condition	Mature	Single trunk	Upright trunk	Majority of canopy to the SW	No evidence of significant past pruning	Appears stable	Sound branch attachment	Good health	Good vigour	<5%	No evidence of significant pest nor disease	2 Medium (15 to 40 years)	High landscape significance	1	
29	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	16	10	380	380	390	Good foliage condition	Mature	Single trunk	Upright trunk	Balanced canopy area	Lower limbs pruned to 1.6 metres in past	Appears stable	Sound branch attachment	Good health	Good vigour	<5%	No evidence of significant pest nor disease	2 Medium (15 to 40 years)	High landscape significance	1	
30	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	16	7 x 10	360 x 420	390	420	Good foliage condition	Mature	Single trunk	Upright trunk	Majority of canopy on an East x West axis	Lower limbs pruned to 1.6 metres in past	Appears stable	Sound branch attachment	Good health	Good vigour	<5%	No evidence of significant pest nor disease	2 Medium (15 to 40 years)	High landscape significance	1	The tree exhibits evidence of past wounding to significant structural roots on the south side of the trunk (past mechanical damage).
31	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	16	10 x 14	380 x 420	400	440	Good foliage condition	Mature	Single trunk	Upright trunk	Majority of canopy to the North	Lower limbs pruned to 2 metres in past	Appears stable	Fair branch attachment	Good health	Good vigour	<5%	No evidence of significant pest nor disease	2 Medium (15 to 40 years)	High landscape significance	1	The tree exhibits fair branch attachment with codominar leaders from 1.7 metres with some evidence of poor attachment at the junction - while not considered at risk of failure in the short term the junction is a weak point in the tree with increased risk of failure. The tree exhibits evidence of past wounding to exposed woody roots.
32	*Waterhousea floribunda* (Weeping Lilly Pilly) x 47	Up to 8	Up to 6	Up to 180	240	240	Good foliage condition	Semi Mature	Single trunk	Upright trunk	Majority of canopy on an East x West axis due to close planting	No evidence of significant past pruning	Appears stable	Sound branch attachment	Moderate to good health	Fair to good health	<5%	No evidence of significant pest nor disease	2 Medium (15 to 40 years)	Moderate landscape significance as group	2	A row planting of approximately 47 semi mature specimens of Weeping Lilly Pilly. Due to their close proximity to each other almost all specimens have significantly suppressed canopy with the majority of canopies on an east x west axis. Individually of low landscape significance, of moderate significance as a group planting.
33	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	16	16 x 22	Up to 420	770	770	Good foliage condition	Mature	Multi trunked	Upright trunk	Balanced canopy area	Lower limbs pruned to 3 metres in past	Appears stable	Fair to poor branch attachment	Good health	Good vigour	<5%	No evidence of significant pest nor disease	2 Medium (15 to 40 years)	High landscape significance	1	The tree exhibits fair to poor branch attachment with multiple, codominant leaders from 1 metre with evidence of poor attachment at the junction - the junction is a weak point in the tree with increased risk of failure. Located in a very narrow planter area with high potential for conflict with adjacent infrastructure.
34	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	16	8	200, 320	390	380	Good foliage condition	Mature	Twin trunked		Balanced canopy area	Lower limbs pruned to 3 metres, 1 x central leader removed at 1 metres in past	Appears stable	Fair branch attachment	Good health	Good vigour	<5%	No evidence of significant pest nor disease	2 Medium (15 to 40 years)	Moderate landscape significance	2	Located in a very narrow planter area with high potential for conflict with adjacent infrastructure.
35	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	16	16	220, 360, 400	740	480	Good foliage condition	Mature	Multi trunked	Upright trunk	Balanced canopy area	Lower limbs pruned to 6 metres in past	Appears stable	Fair to poor branch attachment	Good health	Good vigour	<5%	No evidence of significant pest nor disease	2 Medium (15 to 40 years)	High landscape significance	1	The tree exhibits fair to poor branch attachment with multiple, codominant leaders from 0.8 metres with some evidence of poor attachment at the junction - while not considered at risk of failure in the short term the junction is a weak point in the tree with increased risk of failure. Located in a very narrow planter area with high potential for conflict with adjacent infrastructure.
36	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	16	13	180, 320, 360	650	520	Good foliage condition	Mature	Multi trunked	Upright trunk	Balanced canopy area	Lower limbs pruned to 5 metres in past	Appears stable	Fair branch attachment	Good health	Good vigour	<5%	No evidence of significant pest nor disease	2 Medium (15 to 40 years)	High landscape significance	1	The tree exhibits fair branch attachment with codominar leaders from 1 metre with some evidence of poor attachment at the junction - while not considered at risk of failure in the short term the junction is a weak point in the tree with increased risk of failure. Located in a very narrow planter area with high potential for conflict with adjacent infrastructure.
37	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	9	8	190	190	230	Good foliage condition	Semi Mature	Single trunk	Distinct trunk lean to West	All of canopy to the West	Lower limbs pruned to 4 metres in past	Appears stable	Fair branch attachment	Good health	Good vigour	<5%	No evidence of significant pest nor disease	3 Short (5 to 15 years)	Low to moderate landscape significance	3	The tree's past canopy development has been significantly suppressed. Located in a very narrow planter area with high potential for conflict with adjacent infrastructure.
38	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	12	17	480	480	480	Good foliage condition	Mature	Single trunk	Upright trunk	Majority of canopy to the East	Lower limbs pruned to 4 metres in past	Appears stable	Fair branch attachment	Good health	Good vigour	<5%	No evidence of significant pest nor disease	3 Short (5 to 15 years)	Moderate landscape significance	3	Located in a very narrow planter area with high potential for conflict with adjacent infrastructure.

Tree No.	*Genus, Species (Common Name)*	Height (m)	Canopy (m)	DBH (mm)	DBH for TPZ	DGL for SRZ	Foliage Condition	Age Class	Trunk	Trunk Lean	Crown balance	Past Pruning	Stability	Branch Attachment	Health	Vigour	Dead Wood	Pest or disease	SULE	Landscape Significance	Retention Value*	Comments
39	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	10	12	up to 350	700	700	Fair foliage condition	Mature	Multi trunked	Upright trunk	Balanced canopy area	Canopy reduction pruned in past	Appears stable	Poor branch attachment	Moderate health	Fair vigour	5%	No evidence of significant pest nor disease	3 Short (5 to 15 years)	Moderate landscape significance	3	The tree exhibits poor branch attachment with multiple leaders from ground level with evidence of poor attachment at the junction - the junction is a weak point in the tree with increased risk of failure. At the time of inspection the tree was of moderate health and fair vigour as evidenced by reduced foliage density and low to moderate levels of dieback.
40	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	11	14	360, 510	655	720	Fair foliage condition	Mature	Twin trunked	Upright trunk	Balanced canopy area	Canopy reduction pruned in past	Appears stable	Poor branch attachment	Moderate health	Fair vigour	5%	No evidence of significant pest nor disease	3 Short (5 to 15 years)	Moderate landscape significance	3	The tree exhibits poor branch attachment with codominant leaders from ground level with evidence of poor attachment at the junction - the junction is a weak point in the tree with increased risk of failure. At the time of inspection the tree was of moderate health and fair vigour as evidenced by reduced foliage density and low to moderate levels of dieback.
41	*Ficus microcarpa var. hillii* (Hill's Weeping Fig)	11	12	up to 310	680	680	Fair foliage condition	Mature	Multi trunked	Upright trunk	Balanced canopy area	Canopy reduction pruned in past	Appears stable	Poor branch attachment	Moderate health	Fair vigour	5%	No evidence of significant pest nor disease	3 Short (5 to 15 years)	Moderate landscape significance	3	The tree exhibits poor branch attachment with multiple leaders from ground level with evidence of poor attachment at the junction - the junction is a weak point in the tree with increased risk of failure. At the time of inspection the tree was of moderate health and fair vigour as evidenced by reduced foliage density and low to moderate levels of dieback.
ca = approximate diameter at breast height (DBH) estimated from nearest property boundary or fence where trees were located on adjoining properties																						
* Retention Values: 1 - High (Priority for retention); 2 - Moderate (Consider for retention); 3 - Low or short Sule (Not warranting specific design consideration) and 4 - Remove (very short SULE, structurally unsound, weed species etc.)																						

APPENDIX C: SULE CATEGORIES

SULE CATEGORIES AND SUB-CATEGORIES

	1	2	3	4	5
	Long SULE:	**Medium SULE:**	**Short SULE:**	**Remove:**	**Small, Young or regularly clipped:**
	Trees that appeared to be retainable at the time of assessment for more than 40 years with and acceptable level of risk	Trees that appeared to be retainable at the time of assessment for 15 to 40 years with and acceptable level of risk	Trees that appeared to be retainable at the time of assessment for 5 to 15 years with and acceptable level of risk	Trees that should be removed within the next 5 years	Trees that can be reliably transplanted or replaced
A	Structurally sound trees located in positions that can accommodate future growth	Trees that may only live for between 15 and 40 more years	Trees that may only live for between 5 and 15 more years	Dead, dying, supressed or declining trees through disease or inhospitable conditions	Small trees less than 5 metres in height
B	Trees that could be made suitable for retention in the long term by remedial Care	Trees that may live for more than 40 years, but would need to be removed for safety or nuisance reasons	Trees that may live for more than 15 years, but would need to be removed for safety or nuisance reasons	Dangerous trees through instability or recent losss of adjacent trees	Young trees less than 15 years old but over 5 metres in height
C	Trees of special significance for historical, commemorative or rarity reasons that would warrant extraordinary efforts to secure their long term retention	Trees that may live for more than 40 years, but should be removed to prevent interference with more suitable individuals or to provide space for new planting	Trees that may live for more than 15 years, but should be removed to prevent interference with more suitable individuals or to provide space for new planting	Dangerous trees through structural defects including cavities, decay, included bark, wounds or poor form	Trees that have been regularly pruned to arteficially control growth
D		Trees that could be made suitable for retention in the medium term by remedial Care	Trees that require substantial remedial care and are only suitable for retention in the short term	Damaged trees that are clearly not safe to retain	
E				Trees that may live for more than 5 years, but should be removed to prevent interference with more suitable individuals or to provide space for new planting	
F				Trees that may cause damage to existing structures within 5 years	
G				Trees that will become dangerous after removal of other trees for reasons given in 1A-1F	

Ref: Barrell, Jeremy (1996)
Pre-development Tree Assessment
Proceedings of the International Conference on Trees and Building Sites (Chicago)
International Society of arboriculture, Illinois, USA

APPENDIX D: IACA RATING SYSTEM FOR TREE SIGNIFICANCE

Rating System for Tree Significance

The landscape significance of a tree is an essential criterion to establish the importance that a particular tree may have on a site. However, rating tree significance becomes subjective and difficult to ascertain in a consistent and repetitive fashion due to assessor bias. It is therefore necessary to have a rating system utilising structured qualitative criteria to assist in determining the retention value for a tree. This rating system will assist in the planning processes for proposed works, above and below ground where trees are to be retained on or adjacent a development site.

Once the landscape significance of an individual tree has been defined, the retention value can then be determined.

The terms used in the Assessment Criteria and Tree Retention Value - Priority Matrix, are taken from the IACA Dictionary for Managing Trees in Urban Environments 2009.

Tree Significance - Assessment Criteria

1. High Significance in landscape

- The tree is in good condition and good vigour;
- The tree has a form typical for the species;
- The tree is a remnant or is a planted locally indigenous specimen and/or is rare or uncommon in the local area or of botanical interest or of significant age;
- The tree is listed as a Heritage Item, Threatened Species or part an Endangered ecological community or listed on Councils significant Tree Register;
- The tree is visually prominent and visible from a considerable distance when viewed from most directions within the landscape due to its size and scale and makes a positive contribution to the local amenity;
- The tree supports social and cultural sentiments or spiritual associations, reflected by the broader population or community group or has commemorative values;
- The growing environment supports the tree to its full dimensions above and below ground without conflict or constraint.

2. Medium Significance in landscape

- The tree is in fair-good condition and good or low vigour;
- The tree has form typical or atypical of the species;
- The tree is a planted locally indigenous or a common species with its taxa commonly planted in the local area
- The tree is visible from surrounding properties, although not visually prominent as partially obstructed by other vegetation or buildings when viewed from the street,
- The tree provides a fair contribution to the visual character and amenity of the area,
- The tree is moderately constrained by above or below ground influences of the built environment to reach full dimensions.

3. Low Significance in landscape

- The tree is in fair-poor condition and good or low vigour;
- The tree has form atypical of the species;
- The tree is not visible or is partly visible from surrounding properties as obstructed by other vegetation or buildings,
- The tree provides a minor contribution or has a negative impact on the visual character and amenity of the area,
- The tree is a young specimen which may or may not have reached dimension to be protected by local Tree Preservation orders or similar protection mechanisms and can easily be replaced with a suitable specimen,
- The tree is severely constrained by above or below ground influences of the built or natural environment and therefore will not reach full dimensions - tree is inappropriate to the site conditions,
- The tree is listed as exempt under the provisions of the local Council Tree Preservation Order or similar protection mechanisms,
- The tree has a wound or defect that has potential to become structurally unsound.

Environmental Pest / Noxious Weed Species

- The tree is an Environmental Pest Species due to its invasiveness or poisonous/ allergenic properties,
- The tree is a declared noxious weed by legislation.

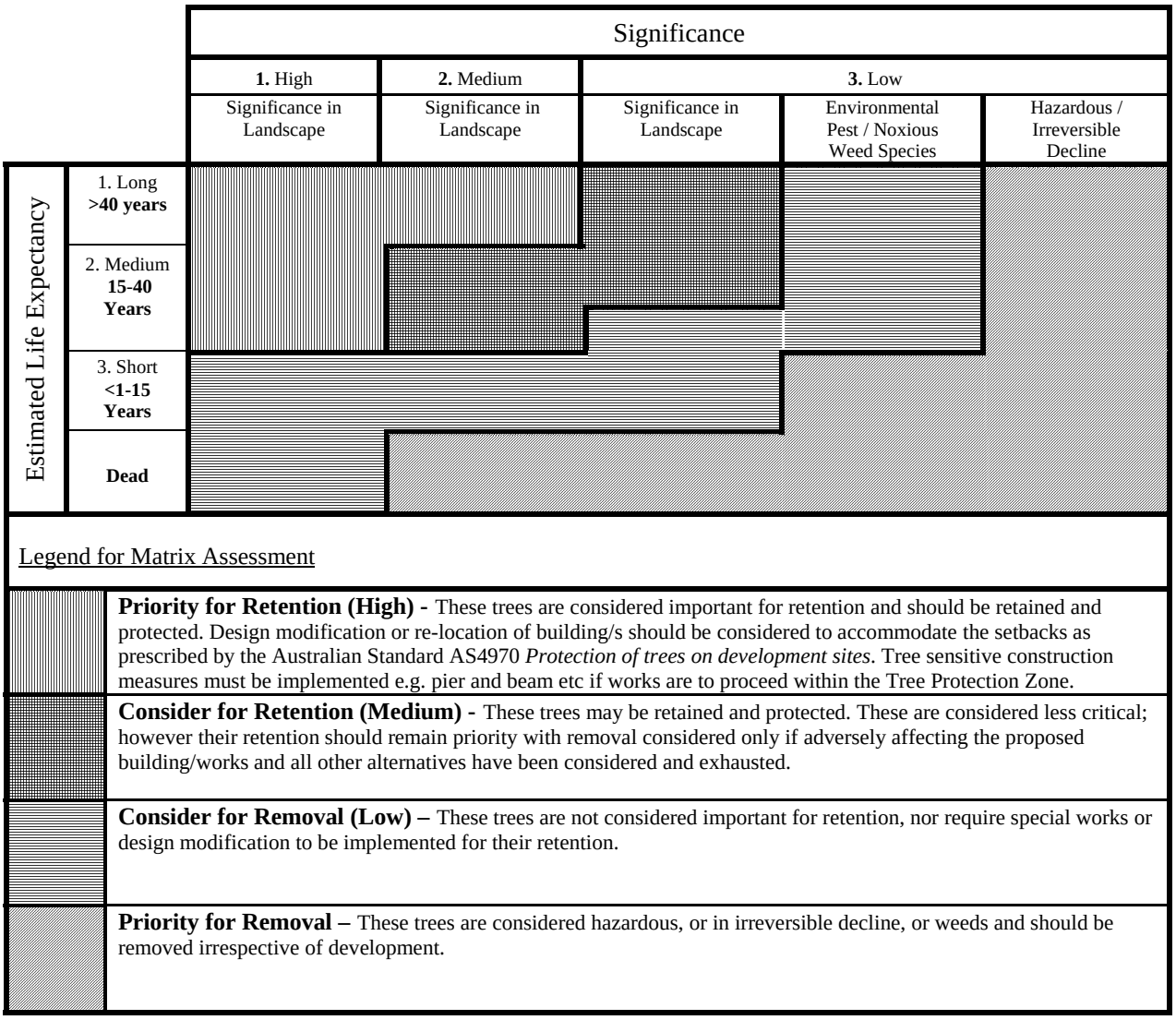
Hazardous/Irreversible Decline

- The tree is structurally unsound and/or unstable and is considered potentially dangerous,
- The tree is dead, or is in irreversible decline, or has the potential to fail or collapse in full or part in the immediate to short term.

The tree is to have a minimum of three (3) criteria in a category to be classified in that group.

Note: The assessment criteria are for individual trees only, however it can be applied to a monocultural stand in its entirety e.g. hedge.

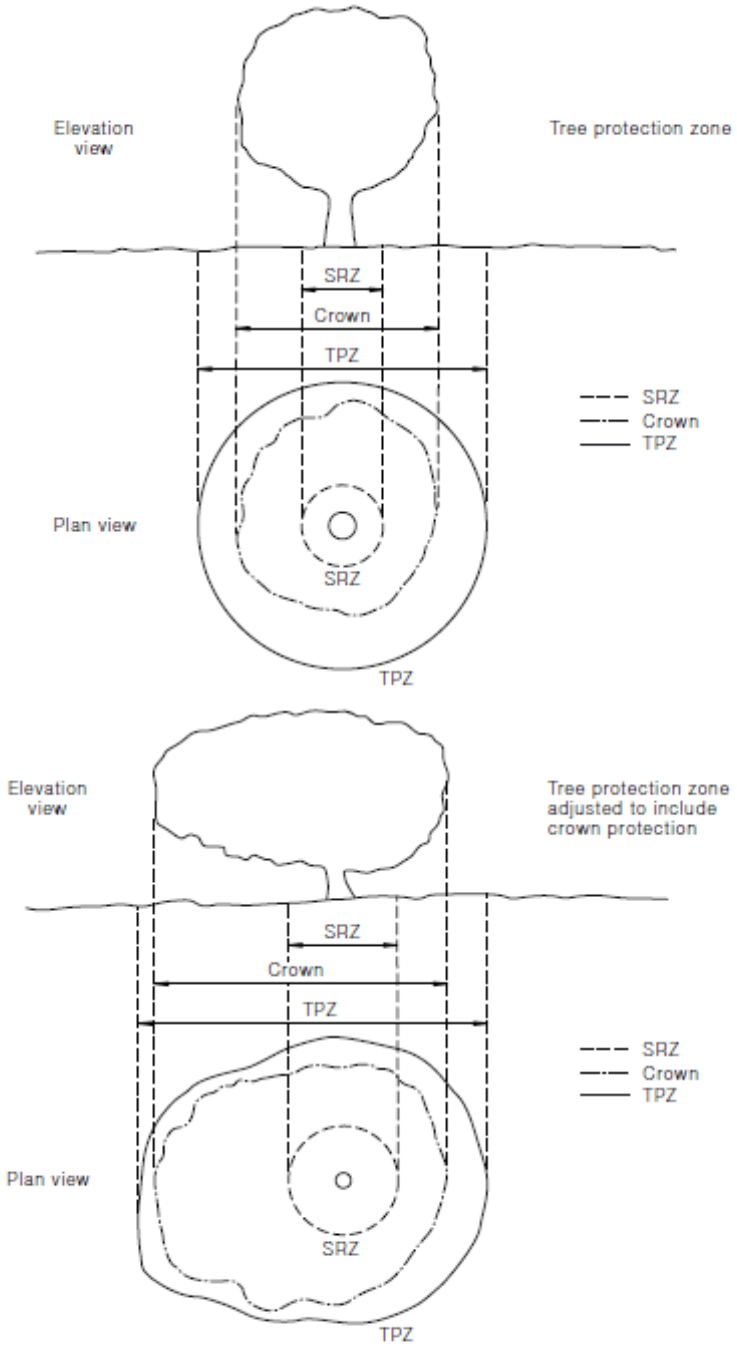
Table 1.0 Tree Retention Value - Priority Matrix.



Legend for Matrix Assessment

	Priority for Retention (High) - These trees are considered important for retention and should be retained and protected. Design modification or re-location of building/s should be considered to accommodate the setbacks as prescribed by the Australian Standard AS4970 *Protection of trees on development sites*. Tree sensitive construction measures must be implemented e.g. pier and beam etc if works are to proceed within the Tree Protection Zone.
	Consider for Retention (Medium) - These trees may be retained and protected. These are considered less critical; however their retention should remain priority with removal considered only if adversely affecting the proposed building/works and all other alternatives have been considered and exhausted.
	Consider for Removal (Low) – These trees are not considered important for retention, nor require special works or design modification to be implemented for their retention.
	Priority for Removal – These trees are considered hazardous, or in irreversible decline, or weeds and should be removed irrespective of development.

APPENDIX E: TREE PROTECTION ZONE ILLUSTRATION AS PER AS4970-2009



NOTE: Refer to Clause 3.2 for calculation of TPZ.

FIGURE 2 INDICATIVE TREE PROTECTION ZONE

Source: Australian Standards (2009)

APPENDIX F – PROJECT DESCRIPTION

This design report describes the architectural design intent of the M & L Office Investments proposal for The Four Points Sheraton Hotel Expansion project.

The Hotel is within the Darling Harbour precinct, which is identified as a State Significant Site. As the proposed development will have a capital investment value of more than $10 million it is declared to be a State Significant Development.

The Architectural Design Statement will form part of the EIS and supports the architectural design to the Director General's Requirement of Built Form and Urban Design.

The overall design and functional intention of the Four Points Sheraton Hotel Expansion Project is to:

- Increase the quantum of hotel accommodation in Darling Harbour;
- Significantly improve convention facilities;
- Remedy the current functionality of the hotel (both front and back of house areas);
- Improve the experience of the hotel and convention facilities for patrons; and
- Augment the hotel/convention facilities with new commercial office tenancies on the site

The Four Points Sheraton Hotel Expansion project will provide the following outcomes:

- Twenty five (25) Storey Tower – consisting of :
- 231 new Hotel Rooms and Suites in the lower 14 levels;
- Commercial Office Space for the 7 levels above the Hotel levels;
- Convention space with associated Pre Function Areas;
- New / Upgrade Back of House areas to serve these new convention / ballroom venues;
- New Meeting Rooms, acting as breakout venues serving the Convention/ Ballroom Functions;

- An activated Slip Street and re-activated Corn Exchange Building;
- A heritage interpretation strategy to re-inforce the historical fabric of the site (trade and maritime uses);
- A direct, safe through site link to Darling Harbour; and
- New breakout areas and dining venues to accommodate the increase hotel accommodation