Tree Report

Volkswagen Group Australia site
Muir Rd Chullora

For Site Image Pty Ltd

May 2010

45 Glossop Road, Linden NSW 2778
Ph: 02 4753 1018, Fax: 02 4753 1167, Mobile: 0415 864 669
Email: mail@treescan.com.au Website: www.treescan.com.au

Table of Contents

Tree Report
Volkswagen Group Australia site
DP 1031735 Muir Rd Chullora

For Site Image Pty Ltd

May 2010

Introduction
It is proposed to construct a commercial development on currently vacant land at DP 1031735 Muir Rd Chullora. A row of street trees is located along the Muir Rd site frontage. This report assesses the trees, in particular six individuals which are proposed for removal and makes brief comment regarding the other trees not affected by the proposed development.

The site
The site for the purposes of this report consists of the frontage to the northern side of Muir Rd. Between the boundary fence and the roadway is a grassed 'nature strip', with a row of semimature trees planted near the back of the kerb. Stormwater pipes run under the kerb and gutter units. The land slopes gently down from west to east. The site is within the local government area of Bankstown City Council.

Soils are loams and clay loams over clay subsoils of the Blacktown soil landscape derived from the underlying Wianamatta Shale parent rock (Chapman & Murphy 1989). Site vegetation consists of the subject trees, with an understorey of rough turfgrass.

Present state of the trees
The site trees proposed for removal are assessed in Table 1 below; trees are numbered from east to west along the row, and tree numbers are noted on the plan attached. Trees were inspected from the ground only and no aerial or subterranean inspections were carried out. The trees are the property of Bankstown City Council.

The better trees in the row have achieved approximately 10m in height with trunk diameters of approximately 250mm and are semimature. Several other trees are of lesser height and trunk diameter due to poor growth conditions, poor nursery stock, seedling variation or having been replaced since the initial planting.

Injury has occurred to the trunks and branches of several trees, evidently as the result of vehicle contact. Several of the smaller trees have been partially ringbarked by the use of line trimmers during maintenance operations. Most of the trees are in good health, in spite of the poor growth conditions.

Discussion

Six of the row of 29 trees are proposed for removal, in order to accommodate the two entry/exit driveways. The three trees within the easterly carpark driveway are noted as Trees 1, 2 and 3, and the three trees within the westerly truck driveway are numbered 10, 11 and 12. All the other trees in the row would remain unaffected by the proposed development but some in the vicinity of the driveways would need protection during construction.

Four of the trees proposed for removal are in fair to good health and condition although some have injuries or minor scaffold defects. Tree 2 is stunted has not grown to the same size as its neighbours. Tree 10 is small and has not become properly established.

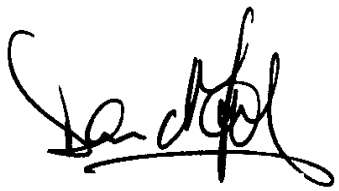
To compensate for the loss of these trees, additional trees of the same species could be planted to fill gaps in the row and possibly to replace poor specimens with better trees.

Trees near the proposed driveway entries would need to be protected during construction.

No trees are present on the site of the proposed development, with the exception of groups of the indigenous shrub species *Acacia pubescens* (Downy Wattle) in the west; this species is listed as vulnerable and these groups are the subject of a report by ecologists.

Conclusions

Trees proposed for removal are generally of reasonable value and part of a prominent row along a busy road. However their loss could be addressed by replanting in suitable locations, both in the road and on the adjacent development site. Trees near the proposed driveways would need to be protected against injury as the result of construction activity.



David Ford, Adv Dip Land Management, Dip Horticulture (Arboriculture),
Cert Horticulture, Cert Bush Regeneration, MAIH

Consulting Arborist

References

Barrell, J. 1993, 'Preplanning Tree Surveys: Safe Useful Life Expectancy (SULE) is the Natural Progression', *Arboricultural Journal* 17:1, February 1993, pp. 33-46.

Barrell, J. 1995, 'Pre-development Tree Assessments', in *Trees & Building Sites, Proceedings of an International Conference Held in the Interest of Developing a Scientific Basis for Managing Trees in Proximity to Buildings*, International Society of Arboriculture, Illinois, USA, pp. 132-142.

Chapman, G.A. & Murphy, C.L. 1989, *Soil Landscapes of the Sydney 1:100 000 Map Sheet*, Soil Conservation Service of NSW, Sydney.

Standards Australia 2009, Australian Standard AS 4970 *Protection of trees on development sites*, Standards Australia, Sydney.

Tree protection during construction

The following measures should be undertaken to reduce the possible effects of construction on the trees.

Excavation for driveways and services within 3m of the trees should be done initially by hand. Any roots encountered <50mm in diameter should be cut cleanly with a hand saw. Any roots encountered >50mm in diameter should retained intact and referred to the site arborist for advice.

Trunks within 10m of the driveways should be armoured with 2m lengths of 50x100mm hardwood timbers spaced at 150mm centres and secured by 8 gauge wires or steel strapping at 300mm spacing. The trunk protection should be maintained intact until the completion of all work on the site.

A site arborist should supervise any activities in the vicinity of trees, including fencing, excavation and root pruning, and make periodic visits and reports to monitor the state of the trees.

Guidelines for tree protection are noted in Australian Standard AS4970-2009 Protection of Trees on Development Sites.

Table 1: Site trees

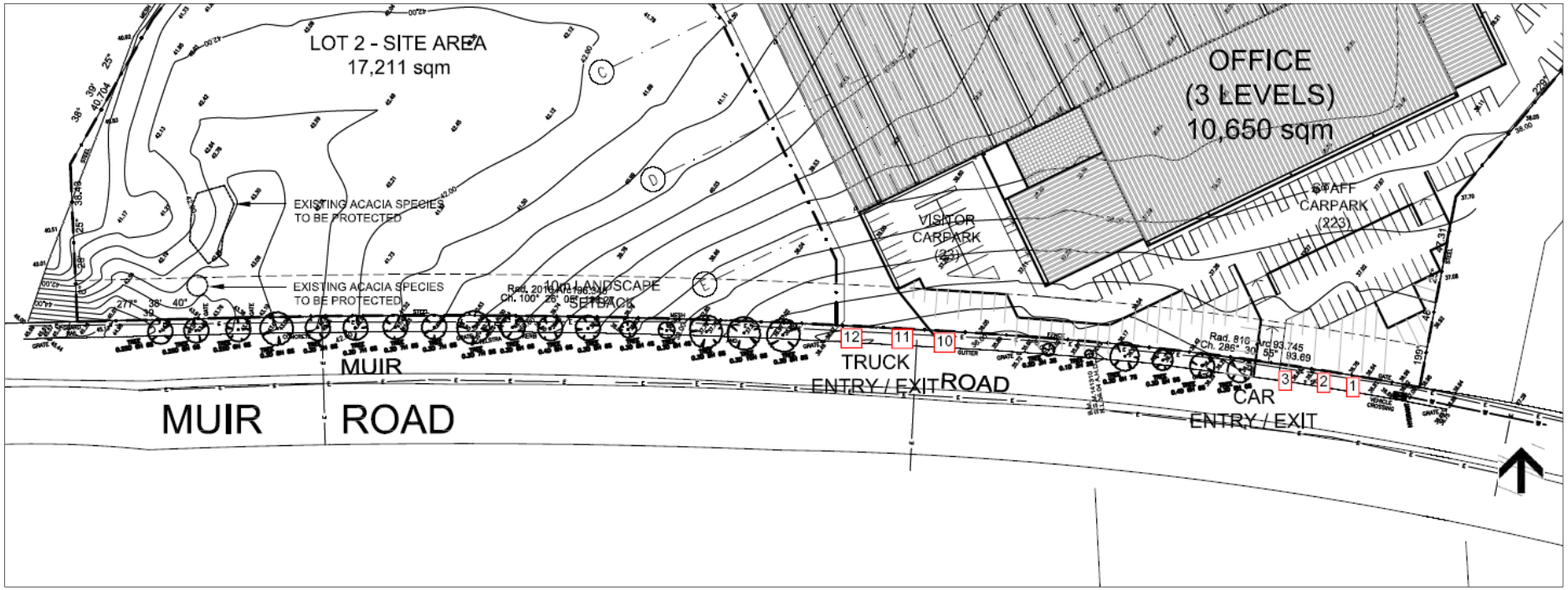
Tree no	Species	Approx trunk dbh mm	Approx height m	Approx crown spread m	Health	Condition	SULE	Comment	Effect of proposed development
1	*Eucalyptus sideroxylon* (Mugga Ironbark)	250	9	5	Good	Good	2D	Branch breakages from vehicle damage	Removal
2	*Eucalyptus sideroxylon* (Mugga Ironbark)	150	5	3	Fair	Fair	2D	Weak junctions in trunk and branches Small specimen	Removal
3	*Eucalyptus sideroxylon* (Mugga Ironbark)	250	10	5	Good	Good	2D	Trunk wound	Removal
10	*Eucalyptus sideroxylon* (Mugga Ironbark)	75	2	2	Good	Poor	3D	Small specimen Loose in ground Poorly established Crown dieback Severe trunk wound at base	Removal
11	*Eucalyptus sideroxylon* (Mugga Ironbark)	250	9	5	Good	Good	2D	Failed codominant junction at 3m height: possible vehicle damage	Removal
12	*Eucalyptus sideroxylon* (Mugga Ironbark)	250	7	5	Good	Fair	2D	Poor form with weak junction in trunk at 3m height	Removal

Table 2: SULE categories (after Barrell 1995)

	1	2	3	4
	Long: Appeared to be retainable at the time of assessment for over 40 years with an acceptable degree of risk, assuming reasonable maintenance.	Medium: appeared to be retainable at the time of assessment for 15 to 40 years with an acceptable degree of risk, assuming reasonable maintenance.	Short: appeared to be retainable at the time of assessment for 5 to 15 years with an acceptable degree of risk, assuming reasonable maintenance.	Transient: trees which should be removed within the next 5 years.
A	Structurally sound trees located in positions that can accommodate future growth.	Trees which may only live between 15 and 40 years.	Trees which may only live between 5 and 15 years.	Dead, dying, suppressed or declining trees.
B	Trees which could be made suitable for long-term retention by remedial care.	Trees which may live for more than 40 years but would be removed for safety or nuisance reasons.	Trees which may live for more than 15 years but would be removed for safety or nuisance reasons.	Dangerous trees through damage, structural defect, instability or recent loss of adjacent trees. Urgent removal may be required if near assets.
C	Trees of special significance which would warrant extraordinary efforts to secure their long-term retention.	Trees which may live for more than 40 years but would be removed to prevent interference with more suitable individuals or to provide space for new planting.	Trees which may live for more than 15 years but would be removed to prevent interference with more suitable individuals or to provide space for new planting.	Trees which 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.
D		Trees which could be made suitable for retention in the medium term by remedial care.	Trees which require substantial remediation and are only suitable for retention in the short term.	Trees which are damaging or may cause damage to existing structures within the next 5 years.

Tree location plan

Nts



Plates

Plate 1: Trees 1, 2 and 3
Eucalyptus sideroxylon (Mugga Ironbark)

Plate 2: Trees 10, 11 and 12
Eucalyptus sideroxylon (Mugga Ironbark)

Terminology used in the report

Age classes (I) *Immature* refers to a well-established but juvenile tree. (S) *Semimature* refers to a tree at growth stages between immaturity and full size. (M) *Mature* refers to a full sized tree with some capacity for further growth. (O) *Overmature* refers to a tree about to enter decline or already declining.

Health refers to the tree's vigour as exhibited by the crown density, leaf colour, presence of epicormic shoots, ability to withstand disease invasion and the degree of dieback.

Condition refers to the tree's form and growth habit, as modified by its environment (aspect, suppression by other trees, soils), and the state of the scaffold (ie trunk and major branches), including structural defects such as cavities, crooked trunks or weak trunk/branch junctions. These are not directly connected with health and it is possible for a tree to be healthy but in poor condition.

Health	
Good	In good vigour with full leaf coverage of the crown; deadwood if present is internal and a normal feature of the species
Fair	Generally vigorous but shows symptoms of stress or decline, leaf coverage thinner than normal for the species; deadwood of smaller diameter may be present
Poor	Shows symptoms of advanced stress or decline including sparse crown with twig and branch dieback, lack of response to pests or disease
Structural condition	
Good	Has well-spaced branches and strong branch collars; form and habit typical of the species; good example of the species with low probability of significant failure
Fair	Has structural defects of moderate severity with low propensity for failure which could be remediated by pruning or modification of its environment
Poor	Has structural defects which have already failed and/or have a high propensity for failing in the future

Safe Useful Life Expectancy (SULE). In a planning context, the time a tree can expect to be usefully retained is the most important long-term consideration. SULE is a system designed to classify trees into a number of defined categories so that information regarding tree retention can be concisely communicated in a non-technical manner. SULE categories are easily verifiable by experienced personnel without great disparity. A tree's SULE category is the life expectancy of the tree modified first by its age, health, condition, safety and location (to give safe life expectancy), then by economics (ie cost of maintenance; retaining trees at an excessive management cost is not normally acceptable), effects on better trees, and sustained amenity (ie establishing a range of age classes in a local population). SULE assessments are not static but may be modified as dictated by changes in tree health and environment. Trees with short SULE may at present be making a contribution to the landscape but their value to the local amenity will decrease rapidly towards the end of this period, prior to their being removed for safety or aesthetic reasons. For details of SULE categories see Table 2, adapted from Barrell (1993 and 1995).

Weak junctions are points of possible failure in the scaffold. They are usually caused by the trunk or branch bark being squeezed within the junction so that the necessary interlocking of the wood fibres does not occur and the junction is forced open by the annual increments in growth. This is often a genetic problem.

Wounds are areas where the bark has been damaged by branch breakage, impact or insect attack. Some wounds decay and cause structural defects or weakness. Healthy trees are able to resist and contain infection by walling off areas within the wood. Tree wounds are often eventually covered over by new bark but the walled off or infected areas still remain internally and may lead to weakness of the heartwood.

Disclaimer

All care has been taken to assess potential hazard but trees are always inherently dangerous. This assessment was carried out from the ground, and covers what was reasonably able to be assessed and available to the assessor at the time of inspection. No aerial or subterranean inspections were carried out and structural weakness may exist within roots, trunk or branches.

Any protection or preservation methods recommended are not a guarantee of tree survival or safety but are designed to improve vigour and reduce risk. Timely inspections and reports are necessary to monitor the trees' condition. No responsibility is accepted for damage or injury caused by the trees and no responsibility is accepted if the recommendations in this report are not followed.

Limitations on the use of this report

This report is to be utilised in its entirety only. Any written or verbal submission, report or presentation that includes statements taken from the findings, discussions, conclusions or recommendations made in this report, may only be used where the whole of the original report (or a copy) is referenced in, and directly attached to that submission, report or presentation.

Assumptions

Care has been taken to obtain information from reliable resources. All data have been verified insofar as possible; however, Treescan Urban Forest Management can neither guarantee nor be responsible for the accuracy of information provided by others.

Unless stated otherwise:

Information contained in this report covers only the trees that were examined and reflects the condition of the trees at the time of inspection: and

The inspection was limited to visual examination of the subject trees without dissection, excavation, probing or coring. There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the subject trees may not arise in the future.