ARBORICULTURAL STATEMENT

ON

PROPOSED RESIDENTIAL DEVELOPMENT

AT

33 ST JOHN'S ROAD, BUXTON, SK17 6XG

ON BEHALF OF
PARKROY LTD
20 PORTLAND PLACE WEST
LEAMINGTON SPA, CV32 5EU

Author: Emma Hood

Our Ref: CW/7706-AS

Date: 10 December 2015

CONTENTS

- 1. Executive Summary
- 2. Terms of Reference
- 3. Introduction
- 4. The Site
- 5. Statutory Tree Protection
- 6. Survey Methodology
- 7. Evaluation of the Trees
- 8. Conclusions
- 9. Recommendations
- 10. References

APPENDICES

- 1. Tree Survey Schedule
- 2. Tree Constraints Plan
- 3. Guidance Note Retention Values and Visual Prominence
- 4. Guidance Note Statutory Controls
- 5. Glossary of Terms

10 December 2015 Page 2 of 12

EXECUTIVE SUMMARY

- 1.1 Planning permission is sought for demolition of an existing dwelling and construction of two replacement dwellings at 33 St John's Road, Buxton in The Park Conservation Area.
- 1.2 Trees on and adjacent to the site have been assessed and the effects of the development proposal on trees evaluated in accordance with current best practice.
- 1.3 The proposed removal of several low and moderate quality ornamental trees, the majority of which are located to the centre of the site, will have only modest localised impacts on the wider amenity that can be mitigated by the provision of new trees and landscaping.
- 1.4 Retention of the key peripheral boundary trees and groups will maintain the character and appearance of the site as viewed from the public highway to the north and Serpentine Park to the south.
- 1.5 All trees scheduled for retention will be protected during the development in accordance with current best practice and standards. Some works are proposed within root protection areas but are achievable without significant conflicts.
- 1.6 Minor pruning of some of the retained trees will improve the spatial relationship with the new dwellings, without any significant long-term impacts on tree health or visual quality.
- 1.7 Residual arboricultural details can be resolved by planning condition.
- 1.8 The development proposal is sustainable in arboricultural terms.

10 December 2015 Page 3 of 12

2. TERMS OF REFERENCE

2.1 Instruction

- 2.1.1 Cheshire Woodlands is instructed by Parkroy Ltd to:
 - Survey and prepare a schedule of trees to comply with the general requirements of British Standard 5837:2012 Trees in relation to design, demolition and construction – Recommendations (BS5837)
 - Annotate a topographical land survey drawing and produce a Tree Constraints Plan
 - Appraise a development proposal in relation to trees and produce an arboricultural statement
- 2.1.2 The following documents have been considered in our evaluation:
 - Topographical land survey drawing
 - Site layout drawing ref. T209 002A
 - Tree survey plan drawing ref. CW/7706-P-SP
 - Preliminary tree survey schedule CW/7706-SS

2.2 Limitations

- 2.2.1 Trees are surveyed in sufficient detail to gather data for and inform the current project. Assessment of tree stability is of a preliminary nature and sufficient only to inform the project.
- 2.2.2 Trees are assessed from ground level without invasive investigation from within the application site or from areas with public access. Assessment may be restricted where trees are ivy clad, located wholly or partially on neighbouring land or where vegetation obscures lower stems and root collars. The disclosure of hidden defects cannot be expected.

10 December 2015 Page 4 of 12

- 2.2.3 Assessing the potential effects of trees upon load-bearing soils beneath existing and proposed structures is not considered. No soil samples have been taken.
- 2.2.4 This report and associated documents remain the copyright of Cheshire Woodlands and there should be no transfer of rights to any third party without our express written consent.

3. INTRODUCTION

- 3.1 The shaded sections in this report highlight the key issues that are specific to the project.
- 3.2 This assessment evaluates the effects of a development proposal on trees. The comparative values of trees are considered broadly in line with the guidance of BS5837 and their retention, protection and management are informed by this evaluation.
- 3.3 Emma Hood, arboricultural surveyor with Cheshire Woodlands Ltd assessed the trees and the development proposal. The tree survey was carried out on 3 December 2015.
- 3.4 The development proposals comprise demolition of the existing house and the construction of two detached dwellings and associated access and hardstanding as set out on the tree constraints plan at appendix 2.
- 3.5 This report provides sufficient supporting information to demonstrate impacts on trees and enable the local planning authority (LPA) to determine the planning application insofar as it relates to trees. It does not include detailed working specifications for the protection of trees or engineering and design features, which if required can be resolved by planning condition.

10 December 2015 Page 5 of 12



4. THE SITE

- 4.1 The site comprises a two-storey detached residential property on a square shaped plot facing St John's Road (A53) to the north. The site slopes from north to south and is bordered to the south by Serpentine Walks a linear area of public open space, with residential properties to the east and west. The front of the property consists of a hardstanding area with a linear group of trees and mature shrubberies fronting the main road, with a linear group of mature off-site trees to the south.
- 4.2 The British Geological Survey Geology of Britain Viewer identifies 'no data' for superficial deposits on the site, but there is an area of 'Alluvium Clay, Silt, Sand and Gravel' to the south. 'Alluvium' is a highly variable unconsolidated accumulation of river-deposited sediments, typically made up of a variety of materials, including fine particles of silt and clay and larger particles of sand and gravel.

5. STATUTORY TREE PROTECTION

5.1 An internet search of High Peak Borough Council's interactive planning website confirmed that the site is in The Park Conservation Area and that trees on the site are not currently the subjects of a tree preservation order. See appendix 4 for further guidance.

6. SURVEY METHODOLOGY

6.1 The topographical land survey overlaid with the site layout proposal drawing is the base for our tree constraints plan at appendix 2.

10 December 2015 Page 6 of 12

- 6.2 The trees were identified, measured and recorded in the tree survey schedule at appendix 1. Tree stem diameters and canopy spreads were mostly measured using a tape, tree heights using a tape and clinometer.
- 6.3 The trees were assessed for mechanical stability on the basis of the 'visual tree assessment method' (Mattheck and Breloer 1994).
- 6.4 Below ground constraints are represented on the drawing as 'root protection areas' (RPA), calculated and where appropriate, modified in accordance with section 4.6 and table D.1 of BS5837.
- 6.5 All surveyed trees were assessed for 'Visual Prominence' and were categorised as set out in Table 1 below (see appendix 3 for further guidance).
- 6.6 A brief assessment for obvious signs of wildlife habitat in trees and hedges on the site was carried out during our survey. Any wildlife habitats of potential significance identified during our survey will be described in the 'comments' column of the tree survey schedule.

10 December 2015 Page 7 of 12



7. EVALUATION OF THE TREES

7.1 BS5837 recommends that trees be evaluated and categorised as set out in Table 1, which also provides a summary of the impact of the application proposal on trees.

7.2 Table 1

	To be retained and protected	To be removed for development	To be removed for other reasons
Category A High quality with life expectancy of at least 40 years	Group G9	None	None
Category B Moderate quality with life expectancy of at least 20 years	Trees T2 and T3 and groups G1, G3 and G10	Group G6	None
Category C Low quality with life expectancy of at least 10 years, or small young trees	None	Trees T1, G1/3, G3/3 and G3/4 and groups G2, G4, G5, G7, G8 and G11	None
Category U Cannot be retained in context of current land-use for longer than 10 years	None	None	None
Hedges and Shrubs	Hedge H1 and shrubs S1 and S2	Shrubs S3 to S6	None

7.3 One 'moderate quality' B category group G6, several 'low quality' C category trees T1, G1/3, G3/3 and G3/4, groups G2, G4 to G8 and G11, together with ornamental shrubs S3 to S6 will be removed to accommodate the development. The majority of these trees are located to the centre of the site and are of secondary importance in visual terms to the key boundary trees

10 December 2015 Page 8 of 12

fronting the public highway to the north and bordering Serpentine Park to the south. The loss of these trees to the development will have only modest localised impacts on the wider amenity and in our opinion can be mitigated by the provision of new landscaping.

- 7.4 The 'high quality' group G9, 'moderate quality' B category trees and groups T2, T3, G1, G3 and G10, hedge H1 and shrubs in S1 and S2 will be retained and protected during the development.
- 7.5 There are minor incursions of building works into the RPAs of retained trees T3 and G3/2, occupying less than 15% of the total RPAs. Any significant long-term harm will be mitigated by the likely presence of roots from adjacent trees and mature shrubs (G3/4, G2, G11, S4 and S6) and given that the RPA incursions are outside the crown spreads of both trees, we conclude that any resulting impacts will probably be minor and insignificant and that both trees can be retained.
- 7.6 Detailed guidance for the installation of hard surfaces within RPAs are set out at section 7.4 of BS 5837 and will be implemented in the areas identified with orange dash-hatching and blue cross-hatching on the tree constraints plan, where new hard surfacing and resurfacing over existing hardstanding is proposed within the RPAs of retained trees T3, G1 and G3.
- 7.7 Retained trees T2, T3, G1/1 and G1/2 and groups G1, G9, G10 and G11 will be pruned as detailed in the 'management' column of the tree survey schedule in order to provide working space around the new buildings, improve the spatial relationship with the dwellings and enhance the quality of the outdoor amenity space. The proposed works comply with current best practice as set out in BS3998:2010 and will have no significant long-term impacts on the trees' health or visual qualities.

CW/7706-AS

10 December 2015 Page 9 of 12

7.8 The proposed development layout offers scope for new landscaping, particularly along the eastern and western party boundaries with the neighbouring residential properties. The establishment of new ornamental trees, shrubs and boundary hedges offers significant long-term amenity benefits by mitigating trees lost to the development, restoring and strengthening boundary screening, and enhancing the landscape setting of the site.

8. CONCLUSIONS

- 1.1 Implementing the development proposal will require the removal of several 'low and moderate quality' trees, the majority of which are in the centre of the site and of secondary importance in visual terms to the key boundary vegetation. The loss of these trees to the development will have only modest localised impacts on the character and appearance of the area and can be mitigated with new landscaping.
- 8.2 Retention of the key peripheral mature tree cover along the northern and southern boundaries will maintain the sylvan character of the site as viewed from the public highway to the north and Serpentine Park to the south.
- 8.3 All trees scheduled for retention can be protected during the development in accordance with current best practice standards and guidance.
- 8.4 Some construction works are proposed within the RPAs of retained trees but are achievable without significant conflicts providing appropriate safeguards are implemented during the development.
- 8.5 Proposed pruning of several retained trees accords with current best practice

CW/7706-AS

10 December 2015 Page 10 of 12

and will have no significant impacts on their long-term health or visual qualities.

- 8.6 Residual details for protection of retained trees during the development, construction works within RPAs and landscaping of the site can be resolved by planning condition.
- 8.7 The development proposal is sustainable in arboricultural terms.

9. RECOMMENDATIONS

- 9.1 No tree pruning or removal works should commence on site until necessary consents have been obtained from the local planning authority (LPA), either in respect of the conservation area or as part of a detailed planning permission.
- 9.2 All tree, shrub and hedge pruning and removal works should be implemented in accordance with the tree survey schedule at appendix 1 and in compliance with the requirements of BS3998:2010.
- 9.3 Statutory protection of wildlife should be taken into account in the planning and execution of tree, shrub and hedge pruning and removal. See appendix 4 for further guidance.
- 9.4 All trees, shrubs and hedges identified for retention should be protected during site demolition and construction works in accordance with a tree protection plan and arboricultural method statement to be agreed with the LPA.
- 9.5 New hard surfacing or re-surfacing of existing hardstanding in the areas identified with blue and orange hatching on the tree constraints plan should

10 December 2015 Page 11 of 12

be implemented in accordance with engineer designed specifications and method statements to be agreed with the LPA and in compliance with section 7.4 of BS5837.

- 9.6 Foundation design should take into consideration the juxtaposition of existing and proposed trees and the nature of the load-bearing soils.
- 9.7 Underground services should be installed in accordance with a scheme of works to be agreed with the LPA and in compliance with the requirements of BS5837 and NJUG Volume 4.
- 9.8 Landscaping should be implemented in accordance with a scheme of works to be agreed with the LPA.

10. REFERENCES.

Anon. Geology of Britain Viewer. British Geological Survey, Nottingham. http://www.bgs.ac.uk/ (accessed 10 December 2015)

BS5837:2012. Trees in relation to design, demolition and construction - Recommendations. British Standards Institute, London.

BS3998:2010. Tree work - Recommendations. British Standards Institute, London.

NJUG Volume 4. 2007. NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees. National Joint Utilities Group, Milbank, London. 34pp.

10 December 2015 Page 12 of 12

APPENDIX 1

cheshire woodlands arboricultural consultancy

DATE: 03 DECEMBER 2015

В

B

8.4

SURVEYED BY: E HOOD

PAGF: 1

• Protect during development

branches to obtain a ground

Prune lower sub-lateral

clearance of 8m over

application site

PROJECT: 33 ST JOHN'S ROAD, BUXTON, SK17 6XG

M

20

CLIENT: PARKROY LIMITED REF: CW/7706-SS1

REVISIONS:

Sycamore

(Acer pseudoplatanus)

IVLV	1310113.										
No.	Species	Age Range	Height (m)	Crown Spread (m)		Vitality	Comments Management	Visual	Value	Retention Value Proposed	BS5837 RPA Radius (m)
			1	1	1	1					
T1	Silver birch	SM	8	6	160	N	• Located abutting a breeze block wall atop a • Remove for development	1	C	U	N/A
	(Betula pendula)						bank sloping east to west • Grind stump to a depth of 0.3m				
							Most probably young natural colonisation				
T2	Ash	SM	15	11	350	N	• Twin-stemmed tree with included union at • Retain and protect during	3	В	В	5.5
	(Fraxinus excelsior)				& 300		base with no signs of failure development				
							• Exposed surface roots • Prune to remove low-lateral and				
							• Ground clearance to east side of tree down sub lateral branches to obtain a				
							to 2m, which could be raised to a height of ground clearance of 5m				

5 metres by removal of low lateral and sub

• Off-site tree in grounds of neighbouring

• Stem forks at approximately 1.2m above

ground level with an included bark union

• Ground clearance to east side of tree is at 6m and could be raised to achieve up to

Data in this schedule are time limited and subject to limitations described elsewhere.

14

(EST)

500 &

450

(EST)

HEADINGS & ABBREVIATIONS

Age Range Y = young SM = semi-mature EM = early-mature M = mature PM = post-mature V = veteran

Stem Dia Stem diameter (measured in accordance with Figure C.1 of BS5837: 2012) (MS = multi-stemmed EST = estimated)

lateral branches

property to east

showing no signs of failure

8m clearance if necessary

Crown Spread (EST = estimated)

Vitality A measure of physiological condition. N = normal range R = reduced from the normal range for the species and age, P = poor, MD = moribund,

D = dead

Visual (Visual Prominence) Retention Category Existing Retention Category Proposed BS5837 RPA Radius Broad indication of prominence in the landscape (0 = none 1 = very low up to 5 = very high) (G = contributes to a wider group)
Broadly in accordance with Table 1 of BS5837: 2012 (considers the merits of the tree or group in the context of the existing land-use)
Broadly in accordance with Table 1 of BS5837: 2012 (considers the merits of the tree or group in the context of a development proposal)

Calculated in accordance with Table D.1 of BS5837: 2012

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	arboricultural	consultar

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PAGE: 2 Visual Retention Retention RS5837

No.	Species	Age Range	Height (m)	Crown Spread (m)		Vitality	Comments Management	Visual	Value	Retention Value Proposed	BS5837 RPA Radius (m)
G1	Beech (Fagus sylvatica Whitebeam	SM-M	≤13	15	≤410	N	• Linear group of boundary trees and shrubs fronting highway • Prune to remove low-lateral a sub-lateral branches to obtain 5m ground clearance		B&C	В	≤4.8
	(Sorbus aria) Monkey puzzle (Araucaria araucana) Cherry (Prunus sp.)	• Lowest ground clearance over access to the south west side of tree is down to 1.5m which could be raised to a height of 5m by the removal of lower lateral and sublateral broad adiameter of 30m ground clearance or spread on the souto 2m	 south west side of tree is down to 1.5m which could be raised to a height of 5m by the removal of lower lateral and sublateral growth Prune to remove lower lateral and sub-lateral branches up a diameter of 30mm to obtain ground clearance of 5m Prune to remove lower lateral and sub-lateral branches up a diameter of 30mm to obtain ground clearance of 5m Prune to remove lower lateral and sub-lateral branches up a diameter of 30mm to obtain ground clearance of 5m Prune to remove lower lateral and sub-lateral branches up a diameter of 30mm to obtain ground clearance of 5m Prune to remove lower lateral and sub-lateral branches up a diameter of 30mm to obtain ground clearance of 5m Prune to remove lower lateral and sub-lateral branches up a diameter of 30mm to obtain ground clearance of 5m Prune to remove lower lateral and sub-lateral branches up a diameter of 30mm to obtain ground clearance of 5m Prune to remove lower lateral and sub-lateral branches up a diameter of 30mm to obtain ground clearance of 5m Prune to remove lower lateral and sub-lateral branches up a diameter of 30mm to obtain ground clearance of 5m Prune to remove lower lateral and sub-lateral branches up a diameter of 30mm to obtain ground clearance of 5m Prune to remove lower lateral and sub-lateral branches up a diameter of 30mm to obtain ground clearance of 5m Prune to remove lower lateral and sub-lateral branches up a diameter of 30mm to obtain ground clearance of 5m Prune to remove lower lateral and sub-lateral branches up a diameter of 30mm to obtain ground clearance of 5m Prune to remove lower lateral and sub-lateral branches up a diameter of 30mm to obtain ground clearance of 5m Prune to remove lower lateral and sub-lateral branches up a diameter of 30mm to obtain ground clearance of 5m 	to a	В	В	4.8				
							 Stem trifurcates at 1.5m above ground level Included unions present with no signs of imminent failure Ground clearance to south side of tree down to 2m,which could be raised to a height of 5 metres by removal of low lateral and sub lateral branches Retain and protect during development Prune to remove low-lateral a sub-lateral branches to obtain a ground clearance of 5m 		В	В	3.9
							 Tree has been previously pollarded with a graft union present at 1.2m above ground level One main stem to the south west side of the tree has been removed back to the main stem with little sign of adaptive growth Signs of reduced vitality Remove for development and grind stump to a depth of 0.3 	3 m	С	U	N/A
G2	Lawson's cypress (Chamaecyparis lawsoniana)	SM	≤6	4M	MS≤ 170 100 & 5X60	R	 Closely spaced group Branch failure has occurred to the west side of the stem bases with failure of low lateral branches Reduced vitality Remove for development and grind stumps to a depth of 0.3m 	2	С	U	N/A

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PAGF: 3

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No.	Species	Age Range	Height (m)	Crown Spread (m)	Stem Dia. (mm)	Vitality	Comments	Management	Visual	Retention Value Existing	Retention Value Proposed	BS5837 RPA Radius (m)
G3	Holly (Ilex aquifolium) Sycamore Goat willow (Salix caprea) Cherry Lawson's cypress Juniper (Juniperus sp.)	Y-M	≤14	≤11	530	N	 Closely spaced group of boundary trees located adjacent to the road front frontage and around a shrubbery in the north east corner of the site Assessment restricted by vegetation in parts Japanese knotweed to the south of the group along the eastern boundary fence and wall 	Control Japanese knotweed	3	B&C	В	≤6.6
	Laurel (Prunus sp.)						 G3/1 Sycamore Multi-stemmed tree with 25cm diameter basal cavity to the south west side displaying signs of adaptive growth Included stems present with no signs of imminent failure Audible signs of internal hollowing to the central stem 	 Retain and protect during development Monitor included bark unions for signs of failure 	3	В	В	6.6
							 G3/2 Sycamore Multi stemmed tree with included stems at the base which are showing no signs of imminent failure The eastern stem forks at approximately 1.5m above level and there are audible signs of internal hollowing to the eastern stem 	 Retain and protect during development Monitor included bark unions for signs of failure 	3	В	В	6.3
							G3/3 Cherry • Stem trifurcates at 1.4m above ground level, just above the graft union • Signs of previous pruning to maintain clearance over the driveway • Signs of reduced vitality	Remove for development and grind stump to a depth of 0.3m	3	С	U	N/A

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REF: CW/7706-SS

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DATE: 03 DECEMBER2015

PAGE: 4

| Visual | Retention | Retention | BS5837 | Value | RPA

No.	Species	Age Range	Height (m)	Crown Spread (m)		Vitality	Comments	Management	Visual	Retention Value Existing	Retention Value Proposed	BS5837 RPA Radius (m)
							G3/4 Goat willow • Located atop a 0.9m high breeze block retaining wall • Multi-stemmed at stem base and is growing out of the top of the wall • Tree is causing displacement to block wall • Stem biased to the south east	Remove for development and grind stump to a depth of 0.3m	1	С	U	N/A
G4	Lawson's cypress (Chamaecyparis lawsoniana)	Y	≤4.5	≤3	≤220	N	 Two ornamental conifers planted along a stone block wall by an area of gravel hardstanding Trees causing displacement to the block edge to the south of the stem bases 	Remove for development and grind stumps to a depth of 0.3m	1	С	U	N/A
G5	Maple (Maple sp.)	Y	≤4	≤5	≤100	N	Recently planted ornamental maple trees in hardstanding area to south of garage	Remove for development and grub out roots	1	С	U	N/A
G6	2 Lawson's cypress 1 Norway spruce (Picea abies)	EM M	≤17	≤9	≤530		 Linear group of trees located atop a retaining wall which steps down to southern section of garden The two Lawson's cypress have been pruned to maintain access path down to garden resulting in dieback and discolouration of lower lateral branches 	Remove for development and grind stumps to a depth of 0.3m	3	B/C	U	N/A
							 G6/1 Norway spruce Planted atop a small stone retaining brick wall with steps located between the cypress to the eastern side of the group Signs of displacement to the retaining wall to the south and west sides of G6/1 and surface roots present to north and eastern sides of the tree displacing a paving slab path to north of the tree Lowest branch height to the north is 1m above ground level 	Remove for development and grind stumps to a depth of 0.3m	3	В	ŭ	N/A

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CLIENT: PARKROY LIMITED

REF: CW/7706-SS

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DATE: 03 DECEMBER2015

PAGE: 5

| Visual | Retention | Retention | BS5837 |

No.	Species	Age Range	Height (m)	Crown Spread (m)		Vitality	Comments	Management	Visual	Retention Value Existing	Retention Value Proposed	BS5837 RPA Radius (m)
G7	Lawson's cypress	EM-SM	≤12	≤5.5	≤320	N	 A linear group of evergreen trees planted immediately to the south and base of a 0.7m high retaining wall Stems are planted at 0.5m intervals Failure of some lower lateral branches has occurred Plantings are less than 0.6 m to south of wall and causing displacement to the structure to north side of stems 	Remove for development and grind stumps to a depth of 0.3m	3	С	U	N/A
G8	Holly Sycamore Cypress Mountain ash (Sorbus aucuparia) Laurel Goat willow	Y-SM	≤12	≤5	≤350	N	 Closely spaced low quality group of trees located in the south east corner of site Heavily suppressed Lowest branch height is at ground level 	Remove for development and grind stumps to a depth of 0.3m	3	С	U	N/A
G9	Lime (Tilia sp.) Sycamore Beech	EM-M	≤22	≤16	≤950	N	 Linear group of off-site boundary trees in neighbouring park Mature shrubberies located to north side of wall inside site boundary Ground clearance to north side of trees down to 0.8 metres, which could be raised to a height of 5 m by the pruning of lower secondary sub-lateral branches 	 Protect during development Prune lower sub-lateral branches to obtain a ground clearance of 5m over the site 	4	A	A	≤11.1
G10	Norway Maple (Acer platanoides)	SM	≤10	≤10	≤250	N	 Maple planted either side of the stepped access, which runs from north to south to the lower grassed area of the garden Minor deadwood throughout Ground clearance down to 2 m, which could be raised to a height of 4 m by the removal of lower lateral branches with a maximum diameter of 30mm back to the stem 	 Retain and protect during development Prune lower lateral and sublateral branches of up to 30mm diameter to obtain a ground clearance of 4m 	3	В	В	≤5.6

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CLIENT: PARKROY LIMITED

REF: CW/7706-SS

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DATE: 03 DECEMBER2015

PAGE: 6 Visual Retention Retention BS5837

No.	Species	Age Range	Height (m)	Crown Spread (m)	Stem Dia. (mm)	Vitality	Comments	Management	Visual	Retention Value Existing	Value	BS5837 RPA Radius (m)
G11	Lawson's cypress Western red cedar (Thuja plicata)	SM	≤11	≤4 (EST)	≤300 (EST)	N	 Linear group of evergreen trees located along the boundary with the residential property to the west Die back to lower lateral branches due to suppression by adjacent laurel Stems appear to be located alongside a low stone wall between the properties and some displacement has occurred 	Remove for development and grind stumps to a depth of 0.3m	2	С	U	N/A
H1	Privet (Ligustrum ovalifolium)	Y	≤1.8	-	-	-	Recently planted variegated privet hedge running along the front of the property	Retain and protect during development	2	-	-	-
S1	Mixed ornamental shrubs and conifers containing Firethorn (Pyracantha) Spotted laurel (Aucuba Japonica) Juniper Azalea (Rhododendron sp.) Holly Cotoneaster (Cotoneaster sp.)	SM	≤2.5	-	-	-	• Located beneath G1	Retain and protect during development Maintain at current dimensions	1	-	-	-
S2	Mixed ornamental shrubs Snowberry (Symphoricarpos) Spotted laurel	SM	≤1.8	-	-	-	Shrubbery located to the west side of the western access into the property	 Retain and protect during development Maintain at current dimensions 	1	-	-	-
S3	Spotted Laurel Rhododendron Snowberry Beech (regeneration)	SM	≤3	-	-	-	Located inside the boundary wall	Remove for development and grind roots to a depth of 0.2m	1	-	-	-
S4	Laurel Juniper	M	≤4	-	-	-	 Lapsed laurel shrubbery Laurel adjacent to eastern boundary is causing displacement and damage to the boundary fence and wall in places 	Remove for development and grind roots to a depth of 0.2m	1	-	-	-

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PAGE: 7

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CLIENT: PARKROY LIMITED

REF: CW/7706-SS

No.	Species	Age Range	Height (m)	Crown Spread (m)	Stem Dia. (mm)	Vitality	Comments	Management	Visual	Retention Value Existing	Retention Value Proposed	BS5837 RPA Radius (m)
S 5	Laurel	M	≤4	-	-	-	 Lapsed laurel shrubbery Access restricted by vegetation Laurel to the eastern edge of the group is causing displacement and damage to the boundary fence in places 	Remove for development and grind roots to a depth of 0.2m	2	-	-	-
S6	Laurel	M	≤5	-	≤250		 Lapsed laurel located wrapping around the western elevation of the property and down to the southern boundary of the back garden The laurel is in contact with the property, and obstructing access 	Remove for development and grind roots to a depth of 0.2m	2	-	-	-

APPENDIX 2

TREE CONSTRAINTS PLAN TREE CONSTRAINTS PLAN CHESHIRE WOODLANDS ARBORICULTURAL CONSULTANCY T3₿ ● CLIENT PARKROY LTD G5□ G8□ G10B G9A

APPENDIX 3

Guidance Note - Assessment of Visual Prominence and Assessment of Retention Values

Visual Prominence Values

Determined by assessment of current and potential visual prominence and taking account of location, tree size, growth potential and useful life expectancy. Visual prominence values are classified as follows:

(0) none, (1) very low up to (5) very high

Retention Values

Trees or groups of trees are evaluated twice in order to facilitate consideration of their relative merits. Firstly, the trees are assessed and categorised in the context of the pre-development situation to provide a broad valuation of all of their attributes and the contribution to their environs. Secondly, the trees are similarly assessed and categorised in the context of a development proposal. The evaluations consider current or projected:

- life expectancy (broad categorisation)
- visual prominence (current and potential)
- landscape function
- numbers of other trees and their maturity (continuity for landscape, amenity, habitat)
- wildlife habitats (incl. continuity)
- safety
- conflicts with the built environment or other land-use
- cultural, historical or other special value

Groups of trees are assessed and categorised as a single unit.

Pre-Development Retention Value

Each surveyed tree or group of trees is valued and placed into one of the following categories (A, B, C or U). The valuation considers the benefits and disbenefits of retaining the tree or group of trees in the pre-development context; any specific issues are noted in the tree survey schedule.

(A) Trees the retention of which in the pre-development context is most desirable and that have an estimated remaining life expectancy of at least 40 years (high value category)

Wholly appropriate to the pre-development situation and without significant conflict

(B) Trees the retention of which in the pre-development context is desirable and that have an estimated remaining life expectancy of at least 20 years (moderate value category)

Appropriate to the pre-development situation but not of highest value

(C) Trees that could be retained in the pre-development context and have an estimated remaining life expectancy of at least 10 years (low value category)

Ill-suited to the pre-development situation but could be retained with moderate conflicts

Trees of no particular merit in the pre-development context

(U) Trees unsuitable for retention in the pre-development context

Cannot reasonably be retained within the pre-development situation for longer than 10 years

Post-Development Retention Value

With reference to a development proposal, each of the trees or groups of trees is placed in one of the following categories (A, B, C or U). The valuation considers the benefits and disbenefits of retaining the tree or group of trees in the context of the development proposal; any specific issues are noted in the tree survey schedule.

(A) Trees the retention of which is most desirable (high value category)

Retention wholly appropriate to the proposed situation and without significant conflict

(B) Trees the retention of which is desirable (moderate category)

Retention appropriate to the proposed situation but not of highest value and/or having only minor conflicts

(C) Trees which could be retained (low value category)

Retention ill-suited to the proposed situation but could be retained with moderate conflicts

Trees of no particular merit in the proposed situation

(U) Trees for removal

Cannot reasonably be retained within the proposed situation

APPENDIX 4

GUIDANCE NOTE- STATUTORY CONTROLS

TREES AND HEDGES:

Subject to certain specified exemptions, the Town and Country Planning Act 1990, requires that an application must be made to the local planning authority (LPA), to carry out works upon or remove trees that are subject to a tree preservation order (TPO).

Six weeks' notice must be given to the LPA of intention to carry out works upon or remove trees within a conservation area and not protected by a TPO.

Local planning authority consent may be required to carry out works upon or remove trees, shrubs and hedges that are the subjects of planning conditions.

LPA consent may be required for the removal of hedgerows under the Hedgerow Regulations 1997.

Your Council's planning department will advise whether or not any of the above controls apply to your trees, shrubs and hedges.

Subject to certain exemptions, the Forestry Act (1967 specified) requires that a licence must be obtained for the felling of growing trees

Your nearest Forestry Commission office will advise whether you require a felling licence.

WILDLIFE

The Wildlife and Countryside Act 1981 (together with the amendments of 1985 & 1991, the subsequent variations to the schedule orders, and strengthening amendments made within the Countryside and Rights of Way Act 2000) forms the basis for legislation protecting Britain's flora and fauna.

Nesting birds and all species of bat are afforded statutory protection. It is an offence to:

- · disturb a nesting bird
- disturb a roosting bat or damage, destroy or block access to a bat roost
- intentionally kill, injure or take a bat
- sell, hire, barter or exchange a bat, dead or alive
- be in possession or control of a bat or anything derived from a bat

Your local Wildlife Trust or your Council's Ecologist will provide guidance on statutory controls relating to wildlife.

APPENDIX 5

GLOSSARY OF ARBORICULTURAL TERMS

Abscission. The shedding of a leaf or other short-lived part of a woody plant, involving the formation of a corky layer across its base; in some tree species twigs can be shed in this way

Abiotic. Pertaining to non-living agents; e.g. environmental factors

Absorptive roots. Non-woody, short-lived roots, generally having a diameter of less than one millimetre, the primary function of which is uptake of water and nutrients

Access facilitation pruning. One off tree pruning operation, the nature and effects of which are without significant adverse impact on tree physiology or amenity value, which is directly necessary to provide access for operations on site

Adaptive growth. In tree biomechanics, the process whereby the rate of wood formation in the cambial zone, as well as wood quality, responds to gravity and other forces acting on the cambium. This helps to maintain a uniform distribution of mechanical stress

Adaptive roots. The adaptive growth of existing roots; or the production of new roots in response to damage, decay or altered mechanical loading

Adventitious shoots. Shoots that develop other than from apical, axillary or dormant buds; see also 'epicormic'

Anchorage. The system whereby a tree is fixed within the soil, involving cohesion between roots and soil and the development of a branched system of roots which withstands wind and gravitational forces transmitted from the aerial parts of the tree

Arboricultural Method Statement. Methodology for the implementation of any aspect of development that is within the root protection area, or has the potential to result in loss of or damage to a tree to be retained

Arboriculturist. Person who has, through relevant education, training and experience, gained expertise in the field of trees in relation to construction

Architecture. In a tree, a term describing the pattern of branching of the crown or root system $\,$

Axil. The place where a bud is borne between a leaf and its parent shoot

Bacteria. Microscopic single-celled organisms, many species of which break down dead organic matter, and some of which cause diseases in other organisms

Bark. A term usually applied to all the tissues of a woody plant lying outside the vascular cambium, thus including the phloem, cortex and periderm; occasionally applied only to the periderm or the phellem

Basidiomycotina (Basidiomycetes). One of the major taxonomic groups of fungi; their spores are borne on microscopic peg-like structures (basidia), which in many types are in turn borne on or within conspicuous fruit bodies, such as brackets or toadstools. Most of the principal decay fungi in standing trees are basidiomycetes

Bolling. A term sometimes used to describe pollard heads

Bottle-butt. A broadening of the stem base and buttresses of a tree, in excess of normal and sometimes denoting a growth response to weakening in that region, especially due to decay involving selective delignification

Bracing. The use of rods or cables to restrain the movement between parts of a tree

Branch:

- Primary. A first order branch arising from a stem
- Lateral. A second order branch, subordinate to a primary branch or stem and bearing sub-lateral branches.
- Sub-lateral. A third order branch, subordinate to a lateral or primary branch, or stem and usually bearing only twigs

Branch bark ridge. The raised arc of bark tissues that forms within the acute angle between a branch and its parent stem

Branch collar. A visible swelling formed at the base of a branch whose diameter growth has been disproportionately slow compared to that of the parent stem; a term sometimes applied also to the pattern of growth of the cells of the parent stem around the branch base

Brown-rot. A type of wood decay in which cellulose is degraded, while lignin is only modified $\,$

Buckling. An irreversible deformation of a structure subjected to a bending load

Buttress zone. The region at the base of a tree where the major lateral roots join the stem, with buttress-like formations on the upper side of the junctions

Cambium. Layer of dividing cells producing xylem (woody) tissue internally and phloem (bark) tissue externally

Canker. A persistent lesion formed by the death of bark and cambium due to colonisation by fungi or bacteria

Canopy species. Tree species that mature to form a closed woodland canopy

Cleaning out. The removal of dead, crossing, weak, and damaged branches, where this will not damage or spoil the overall appearance of the tree

Compartmentalisation. The confinement of disease, decay or other dysfunction within an anatomically discrete region of plant tissue, due to passive and/or active defences operating at the boundaries of the affected region

Competent person. A person who has training and experience relevant to the matter being addressed and an understanding of the requirements of the particular task being approached.

Compression fork. An acute angled fork that is mechanically optimised for the growth pressure that two or more adjacent stems exert on each other

Compression strength. The ability of a material or structure to resist failure when subjected to compressive loading; measurable in trees with special drilling devices

 $\begin{array}{lll} \mbox{Compressive loading.} & \mbox{Mechanical loading which exerts a positive pressure; the opposite to tensile loading} \end{array}$

Condition. An indication of the physiological condition of the tree. Where the term 'condition' is used in a report, it should not be taken as an indication of the stability of the tree

Construction. Site based operations with the potential to affect existing trees $% \left(1\right) =\left(1\right) \left(1\right) \left$

Construction exclusion zone. Area based on the Root Protection Area from which access is prohibited for the duration of the project

Crown/Canopy. The main foliage bearing section of the tree

Crown lifting. The removal of limbs and small branches to a specified height above ground level

Crown thinning. The removal of a proportion of secondary branch growth throughout the crown to produce an even density of foliage around a well-balanced branch structure

Crown reduction/shaping. A specified reduction in crown size whilst preserving, as far as possible, the natural tree shape

Crown reduction/thinning. Reduction of the canopy volume by thinning to remove dominant branches whilst preserving, as far as possible the natural tree shape

Deadwood. Dead branch wood

Decurrent. In trees, a system of branching in which the crown is borne on a number of major widely-spreading limbs of similar size (cf. excurrent). In fungi with toadstools as fruit bodies, the description of gills which run some distance down the stem, rather than terminating abruptly

Defect. In relation to tree hazards, any feature of a tree which detracts from the uniform distribution of mechanical stress, or which makes the tree mechanically unsuited to its environment

Delamination. The separation of wood layers along their length, visible as longitudinal splitting

Dieback. The death of parts of a woody plant, starting at shoot-tips or root-tips $\ensuremath{\mathsf{o}}$

Disease. A malfunction in or destruction of tissues within a living organism, usually excluding mechanical damage; in trees, usually caused by pathogenic micro-organisms

Distal. In the direction away from the main body of a tree or subject organism (cf. proximal)

Dominance. In trees, the tendency for a leading shoot to grow faster or more vigorously than the lateral shoots; also the tendency of a tree to maintain a taller crown than its neighbours

Dormant bud. An axial bud which does not develop into a shoot until after the formation of two or more annual wood increments; many such buds persist through the life of a tree and develop only if stimulated to do so

Dysfunction. In woody tissues, the loss of physiological function, especially water conduction, in sapwood

DBH (Diameter at Breast Height). Stem diameter measured at a height of 1.5 metres (UK) or the nearest measurable point. Where measurement at a height of 1.5 metres is not possible, another height may be specified

Deadwood. Branch or stem wood bearing no live tissues. Retention of deadwood provides valuable habitat for a wide range of species and seldom represents a threat to the health of the tree. Removal of deadwood can result in the ingress of decay to otherwise sound tissues and climbing operations to access deadwood can cause significant damage to a tree. Removal of deadwood is generally recommended only where it represents an unacceptable level of hazard

Endophytes. Micro-organisms which live inside plant tissues without causing overt disease, but in some cases capable of causing disease if the tissues become physiologically stressed, for example by lack of moisture

Engineer-designed hard surfacing. Hard surfacing constructed within the 'Root protection area' of a tree, which will be designed by a structural or geotechnical; engineer in collaboration with an arboriculturist as set out in clause 7.4 of British Standard BS5837:2012. The purpose being to minimise the effects of the construction on the health of the tree.

Epicormic shoot. A shoot having developed from a dormant or adventitious bud and not having developed from a first year shoot

Excrescence. Any abnormal outgrowth on the surface of tree or other organism

Excurrent. In trees, a system of branching in which there is a well-defined central main stem, bearing branches which are limited in their length, diameter and secondary branching (cf. decurrent)

Fastigiate. Having upright, often clustered branches

Felling licence. In the UK, a permit to fell trees in excess of a stipulated number of stems or volume of timber

Field layer. Herbs, ferns, grasses and sedges

Flush-cut. A pruning cut which removes part of the branch bark ridge and or branch-collar $\,$

Girdling root. A root which circles and constricts the stem or roots possibly causing death of phloem and/or cambial tissue

Ground layer. Mosses, ivy, lichens and fungi

Guying. A form of artificial support with cables for trees with a temporarily inadequate anchorage $\,$

Habit. The overall growth characteristics, shape of the tree and branch structure

Haloing. Removing or pruning trees from around the crown of another (usually mature or post-mature) tree to prevent it becoming supressed

Hazard beam. An upwardly curved part of a tree in which strong internal stresses may occur without being reduced by adaptive growth; prone to longitudinal splitting

Heartwood/false-heartwood/ripewood. The dead central wood that has become dysfunctional as part of the aging processes

Heave. A term mainly applicable to a shrinkable clay soil which expands due to re-wetting after the felling of a tree which was previously extracting moisture from the deeper layers; also the lifting of pavements and other structures by root diameter expansion; also the lifting of one side of a wind-rocked root-plate

High canopy tree species. Tree species having potential to contribute to the closed canopy of a mature woodland or forest

Incipient failure. In wood tissues, a mechanical failure which results only in deformation or cracking, and not in the fall or detachment of the affected part

Included bark (ingrown bark). Bark of adjacent parts of a tree (usually forks, acutely joined branches or basal flutes) which is in face-to-face contact

Increment borer. A hollow auger, which can be used for the extraction of wood cores for counting or measuring wood increments or for inspecting the condition of the wood

Infection. The establishment of a parasitic micro-organism in the tissues of a tree or other organism $\,$

Internode. The part of a stem between two nodes; not to be confused with a length of stem which bear nodes but no branches

Lever arm. A mechanical term denoting the length of the lever represented by a structure that is free to move at one end, such as a tree or an individual branch

Lignin. The hard, cement-like constituent of wood cells; deposition of lignin within the matrix of cellulose microfibrils in the cell wall is termed Lignification

Lions tailing. A term applied to a branch of a tree that has few if any side-branches except at its end, and is thus liable to snap due to end-loading

Loading. A mechanical term describing the force acting on a structure from a particular source; e.g. the weight of the structure itself or wind pressure

Longitudinal. Along the length (of a stem, root or branch)

Lopping. A term often used to describe the removal of large branches from a tree, but also used to describe other forms of cutting

Mature Heights (approximate):

- Low maturing less than 8 metres high
- Moderately high maturing 8 12 metres high
- High maturing greater than 12 metres high

Microdrill. An electronic rotating steel probe, which when inserted into woody tissue provides a measure of tissue density

Minor deadwood. Deadwood of a diameter less than 25mm and or unlikely to cause significant harm or damage upon impact with a target beneath the tree

Mulch. Material laid down over the rooting area of a tree or other plant to help conserve moisture; a mulch may consist of organic matter or a sheet of plastic or other artificial material

Mycelium. The body of a fungus, consisting of branched filaments (hyphae) $\,$

Occluding tissues. A general term for the roll of wood, cambium and bark that forms around a wound on a woody plant (cf. woundwood)

Occlusion. The process whereby a wound is progressively closed by the formation of new wood and bark around it

Pathogen. A micro-organism which causes disease in another organism

Photosynthesis. The process whereby plants use light energy to split hydrogen from water molecules, and combine it with carbon dioxide to form the molecular building blocks for synthesizing carbohydrates and other biochemical products

Phytotoxic. Toxic to plants

Pollarding. The removal of the tree canopy, back to the stem or primary branches, usually to a point just outside that of the previous cutting. Pollarding may involve the removal of the entire canopy in one operation, or may be phased over several years. The period of safe retention of trees having been pollarded varies with species and individuals. It is usually necessary to re-pollard on a regular basis, annually in the case of some species

Primary branch. A major branch, generally having a basal diameter greater than $0.25~\mathrm{x}$ stem diameter

Primary root zone. The soil volume most likely to contain roots that are critical to the health and stability of the tree and normally defined by reference BS5837 (2012) Trees in Relation to design, demolition and construction

Priority. Works may be prioritised, 1. = high, 5. = low

Probability. A statistical measure of the likelihood that a particular event might occur

Proximal. In the direction towards from the main body of a tree or other living organism (cf. distal) $\,$

Pruning. The removal or cutting back of twigs or branches, sometimes applied to twigs or small branches only, but often used to describe most activities involving the cutting of trees or shrubs

Radial. In the plane or direction of the radius of a circular object such as a tree stem

Rams-horn. In connection with wounds on trees, a roll of occluding tissues which has a spiral structure as seen in cross-section

Rays. Strips of radially elongated parenchyma cells within wood and bark. The functions of rays include food storage, radial translocation and contributing to the strength of wood

Reactive Growth/Reaction Wood. Production of woody tissue in response to altered mechanical loading; often in response to internal defect or decay and associated strength loss (cf. adaptive growth)

Removal of dead wood. Unless otherwise specified, this refers to the removal of all accessible dead, dying and diseased branchwood and broken snags

Removal of major dead wood. The removal of, dead, dying and diseased branchwood above a specified size

Respacing. Selective removal of trees from a group or woodland to provide space and resources for the development of retained trees

Residual wall. The wall of non-decayed wood remaining following decay of internal stem, branch or root tissues

Rib. A ridge of wood that has usually developed because of locally increased mechanical loading. Often associated with internal cracking in the wood of the stem, branch or root.

Ring-barking (girdling). The removal of a ring of bark and phloem around the circumference of a stem or branch, normally resulting in an inability to transport photosynthetic assimilates below the area of damage. Almost inevitably results in the eventual death of the affected stem or branch above the damage

Ripewood. See heartwood

Root-collar. The transitional area between the stem/s and roots Root-collar examination. Excavation of surfacing and soils around the root-collar to assess the structural integrity of roots and/or stem

Root protection area (RPA). Layout design tool indicating a national minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability and where the protection of the roots and soil structure is treated as a priority

Root zone. Area of soils containing absorptive roots of the tree/s described. The Primary root zone is that which we consider of primary importance to the physiological well-being of the tree

Sapwood. Living xylem tissues

Secondary branch. A branch, generally having a basal diameter of less than $0.25\ x$ stem diameter

Selective delignification. A kind of wood decay (white-rot) in which lignin is degraded faster than cellulose $\,$

Service. Any above- or below-ground structure or apparatus required for utility provision e.g. drainage, gas supplies, ground source heat pumps, CCTV and satellite communications

Shedding. In woody plants, the normal abscission, rotting off or sloughing of leaves, floral parts, twigs, fine roots and bark scales

Silviculture. The practice of controlling the establishment, growth, composition, health, and quality of forests to meet diverse needs and values

Silvicultural thinning. Removal of selected trees to favour the development of retained specimens to achieve a management objective

Simultaneous white-rot. A kind of wood decay in which lignin and cellulose are degraded at about the same rate $\,$

Snag. In woody plants, a portion of a cut or broken stem, branch or root which extends beyond any growing-point or dormant bud; a snag usually tends to die back to the nearest growing point

Soft-rot. A kind of wood decay in which a fungus degrades cellulose within the cell walls, without any general degradation of the wall as a whole

Spores. Propagules of fungi and many other life-forms; most spores are microscopic and dispersed in air or water

Shrub species. Woody perennial species forming the lowest level of woody plants in a woodland and not normally considered to be trees

Sporophore. The spore bearing structure of fungi

Sprouts. Adventitious shoot growth erupting from beneath the bark $% \left\{ 1\right\} =\left\{ 1\right\} =$

Stem/s. Principle above-ground structural component(s) of a tree that supports its branches $\,$

Stress. In plant physiology, a condition under which one or more physiological functions are not operating within their optimum range, for example due to lack of water, inadequate nutrition or extremes of temperature

Stress. In mechanics, the application of a force to an object

Stringy white-rot. The kind of wood decay produced by selective delignification

Storm. A layer of tissue which supports the fruit bodies of some types of fungi, mainly ascomycetes

Structural roots. Roots, generally having a diameter greater than ten millimetres, and contributing significantly to the structural support and stability of the tree

Structure. Manufactured object, such as a building, carriageway, path, wall, service run, and built or excavated earthwork

Subsidence. In relation to soil or structures resting in or on soil, a sinking due to shrinkage when certain types of clay soil dry out, sometimes due to extraction of moisture by tree roots

Subsidence. In relation to branches of trees, a term that can be used to describe a progressive downward bending due to increasing weight

Taper. In stems and branches, the degree of change in girth along a given length

 $Target \quad canker. \quad A \quad kind \quad of \quad perennial \quad canker, \quad containing \\ concentric \ rings \ of \ dead \ occluding \ tissues$

Targets. In tree risk assessment (with slight misuse of normal meaning) persons or property or other things of value which might be harmed by mechanical failure of the tree or by objects falling from it

Topping. In arboriculture, the removal of the crown of a tree, or of a major proportion of it $% \left\{ 1\right\} =\left\{ 1$

Torsional stress. Mechanical stress applied by a twisting force

Translocation. In plant physiology, the movement of water and dissolved materials through the body of the plant

Transpiration. The evaporation of moisture from the surface of a plant, especially via the stomata of leaves; it exerts a suction which draws water up from the roots and through the intervening xylem cells

Tree Protection Plan. Scale drawing, informed by descriptive text where necessary, based upon the finalised proposals, showing trees for retention and illustrating the tree and landscape protection measures

Tree Risk Assessment. An assessment and description of the risks and where appropriate the values associated with a tree or trees. The primary risk being considered is that from falling trees. Other risks, such as damage to infrastructure, interruption of service and building subsidence may also be considered

- Walkover A general view of the tree population considered in the context of the adjacent land-use to identify trees that present significantly elevated risks
- Drive-by A general view of the tree population from a moving vehicle and considered in the context of the adjacent land-use to identify trees that present significantly elevated risks
- Individual the assessment of risks from a single tree considered in the context of the adjacent land-use to identify trees that present significantly elevated risks

Understorey. This layer consists of younger individuals of the dominant trees, together with smaller trees and shrubs which are adapted to grow under lower light conditions

Understorey tree species. Tree species not having potential to attain a size at which they can contribute to the closed high canopy of a woodland

Vascular wilt. A type of plant disease in which water-conducting cells become dysfunctional

Vessels. Water-conducting cells in plants, usually wide and long for hydraulic efficiency; generally not present in coniferous trees Veteran tree. Tree that, by recognised criteria, shows features of biological, cultural or aesthetic value that are characteristic of, but not exclusive to, individuals surviving beyond the typical age range for the species concerned. These characteristics might typically include a large girth, signs of crown retrenchment and hollowing of the stem

Vigour. The expression of carbohydrate expenditure to growth (in trees) $\,$

Vitality. A measure of physiological condition. N = within normal range for species and age, R = reduced from the normal range for the species and age, P = poor, MD = moribund, D = dead dead

 $\label{thm:colonisation} Volunteer\ trees.\ \ Trees\ arising\ from\ natural\ colonisation\ rather\ than\ having\ been\ planted$

White-rot. A range of kinds of wood decay in which lignin, usually together with cellulose and other wood constituents, is degraded

Wind exposure. The degree to which a tree or other object is exposed to wind, both in terms of duration and velocity $\,$

Wind pressure. The force exerted by a wind on a particular object

Windthrow. The blowing over of a tree at its roots

Wound dressing. A general term for sealants and other materials used to cover wounds in the hope of protecting them against desiccation and infection; only of proven value against fresh wound parasites

Woundwood. Wood with atypical anatomical features, formed in the vicinity of a wound $% \left(1\right) =\left(1\right) \left(1\right) \left($