cheshire woodlands
arboricultural consultancy

ARBORICULTURAL STATEMENT

ON

PROPOSED RESIDENTIAL DEVELOPMENT ON

LAND AT HOGS YARD, BUXTON ROAD, WHALEY BRIDGE

ON BEHALF OF

HIGH PEAK DEVELOPMENTS

PO BOX 64, LYMM, CHESHIRE WA13 0FX

Author: Glyn Thomas Dip Arb (RFS), MICFor, FArborA, CEnv

Our Ref: CW/7567-AS

Date: 12 November 2014

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APPENDICES

1. EXECUTIVE SUMMARY

1.1 Outline planning permission is sought for a residential development of 23 apartments on an area of vacant, low-lying ground at the southern end of the Hogs Yard site in Whaley Bridge.

1.2 Other than the proposed change from mixed-use to residential, the current proposal is very similar to an extant full planning permission HPK/2013/0268.

1.3 Trees on and adjacent to the site have been re-assessed and the development proposal evaluated in accordance with current best practice guidance. In terms of impacts on trees, the current proposals are the same as for the extant approval.

1.4 Most of the existing tree cover to the central and eastern parts of the site will be removed, with a narrow belt of trees to the western boundary retained alongside the Peak Forest Canal.

1.5 The retained boundary vegetation and the off-site tree cover to the south east and west of the site will maintain the wooded setting and provide a visual screen/buffer as viewed from the canal, the public highway and a neighbouring industrial estate.

1.6 Details for the protection of retained trees during construction and for landscaping of the site can be resolved either by planning condition or at the reserved matter stage.

2. TERMS OF REFERENCE

2.1 Instruction

2.1.1 Cheshire Woodlands is instructed by High Peak Developments to:

- Re-survey and prepare an updated 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:

- Site survey drawing ref. 3435-100
- Proposed site plan drawing ref. 0932-01 Revision A
- Various plans and documents associated with planning permissions ref. HPK/2004/0590, HPK/2008/0360, HPK/2010/0206 and HPK/2013/0268

2.2 Limitations

2.2.1 Assessing the potential effects of trees upon load-bearing soils beneath existing and proposed structures is not considered in this report.

2.2.2 The tree survey is carried out in sufficient detail to gather data for and inform the current project. Our appraisal of the mechanical integrity of trees on the site is of a preliminary nature and sufficient only to inform the project. The assessment of trees is carried out from ground level without

invasive investigation and the disclosure of hidden defects cannot be expected.

2.2.3 Trees were viewed from within the site or from areas with public access. Our assessment was restricted where trees were ivy clad, located wholly or partially on neighbouring land or where basal growth or other vegetation prevented access or obscured lower stems and root collars.

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 This assessment evaluates the effects of the current planning application proposal upon trees. The comparative values of trees are considered broadly in line with the guidance of BS5837 and retention, protection and management of trees are informed by this evaluation.

3.2 Glyn Thomas, senior consultant with Cheshire Woodlands Ltd assessed the trees and the development proposal. The tree survey was originally carried out on 4 June 2004 and subsequently reviewed and updated on 10 November 2014.

3.3 The current proposal comprises an outline application for residential development of 23 apartments with associated works including car parking. Landscaping will be dealt with as a reserved matter. The application has been allocated planning reference HPK/2014/0427 by the local planning authority (LPA).

3.4 This report provides sufficient supporting information to demonstrate impacts on trees and enable the 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.

4. THE SITE

4.1 The application site is located to the north of Whaley Bridge town centre and forms the southern part of a wider area known as Hogs Yard. The site is on low-lying land to the west of the River Goyt and is bounded by an access road serving the Tesco store to the north, the Peak Forest Canal to the west and a narrow strip of mature broadleaf woodland to the south. The site is currently disused and over the years has become colonised by dense vegetation.

4.2 The British Geological Survey - Geology of Britain Viewer identifies the site as lying at an interface of 'Alluvium – Clay, Silt, Sand and Gravel' to the east and 'Till, Devensian – Diamicton' to the west. No soil samples were taken during our survey.

4.3 '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. 'Till' is a general term referring to any kind of sediment deposited directly from glacier ice; typically unstratified and unsorted and sometimes called boulder-clay.

4.4 The site has a long planning history, which includes an outline planning permission (HPK/2004/0590) and reserved matters approval (HPK/2008/0360) for a mixed-use development granted in 2005 and 2008 respectively. These approvals have been extended twice in 2010 (HPK/2010/0206) and 2013 (HPK/2013/0268) and remain extant. The current scheme is very similar to the extant permission in terms of access, layout and scale, but with a residential use for the proposed buildings.

4.5 For the purposes of this assessment, we have assumed that our arboricultural assessment (CW/4605-AA), tree protection plan (CW/4605-P3) and tree survey schedule (CW/4605-SS2), together with the Margaret Twigg landscape scheme 270.01 are 'approved' for planning purposes.

5. STATUTORY TREE PROTECTION

5.1 An email enquiry to High Peak Borough Council confirmed that the site is not in a 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 existing site plan drawing overlaid with the proposed site layout is the base for our tree constraints plan at appendix 2.

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 on the basis of the 'visual tree assessment method' (Mattheck and Breloer 1994).

6.4 Below ground constraints are represented as 'root protection areas' (RPA), calculated in accordance with section 4.6 and table D.1 of BS5837. The RPA is a layout design tool indicating an area of ground around a tree containing sufficient roots and rooting volume to maintain tree viability.

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. A detailed ecological assessment of the site has been carried out by the project ecologist and is submitted with the planning application.

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.

	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	Area A1	None	None
Category B Moderate quality with life expectancy of at least 20 years	Trees T1, T2, T9, T10 and T13, groups G2, G3, G6, G10, G11 and G12, and the western sections of G8 and G9	Trees T5, T7, T8 and T14, groups G1, G4, G5 and G7 and the eastern sections of G8 and G9	None
Category C Low quality with life expectancy of at least 10 years, or small young trees	Trees T4, T11 and T12	Area A2	None
Category U Cannot be retained in context of current land-use for longer than 10 years	None	Tree T6	Tree T3
Hedges and Shrubs	Hedge H1	None	None

Table 1

7.2 The proposed development layout and the resulting impacts on trees are very similar to the extant planning permission and the change of use from mixed to residential presents no significant additional impacts. Most of the trees to the central and eastern parts of the site will be removed to the edge of the river, with a narrow belt of trees retained along the western boundary alongside the canal. The wooded riverbank to the east of the site, the retained vegetation along the western boundary and the belt of trees to the west between Buxton Road and the canal, will maintain a wooded setting for the development and provide visual screening/buffering of the site as viewed from the canal, the public highway and the Bingswood Industrial Estate.

7.3 Details for the protection of retained trees during construction can be resolved either by planning condition or at the reserved matters stage.

7.4 As with the previously approved scheme, the northern and western boundaries can be strengthened with management and new trees and landscaping, the details of which can be resolved at the reserved matters stage.

8. CONCLUSIONS

8.1 The current development proposal is very similar in terms of impacts on trees to an extant full planning permission previously granted under planning reference HPK/2013/0268.

8.2 Most of the existing tree cover to the central and eastern parts of the site will be removed to accommodate the development, with a narrow belt of vegetation along the western boundary retained as a visual screen/buffer between the site and the Peak Forest Canal. Off-site tree cover to the east, west and south of the site will maintain the wooded character of the site as viewed from the public highway and an a neighbouring industrial site.

8.3 The retained vegetation to the western boundary will be managed and strengthened with new landscaping, with details to be resolved at the reserved matters stage. Details for the protection of retained trees during construction can be dealt with either by planning condition or as part of a reserved matters application.

9. RECOMMENDATIONS

9.1 No tree removal works should commence on site prior to grant of full planning permission.

9.2 All tree 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 pruning and removal. See appendix 4 for further guidance.

9.4 All trees, shrubs and hedges agreed for retention should be protected during site construction in accordance with a scheme of work to be agreed with the LPA.

9.5 Foundation design should take into consideration the juxtaposition of existing and proposed trees and the nature of the load-bearing soils.

9.6 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.

9.7 Landscaping of the site 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 12 November 2014)

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

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

Mattheck. M, and Breloer. H,. 1994. The Body Language of Trees A handbook for failure analysis. Research for Amenity Trees No. 4.

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.

APPENDIX 1

TREE SURVEY SCHEDULE

PROJECT: HOGS YARD, BUXTON ROAD, WHALEY BRIDGE
CLIENT: HIGH PEAK DEVELOPMENTS
REF: CW/7567-SS1

SURVEYED BY: G THOMAS
CHESHIRE WOODLANDS LIMITED

DATE: 4 JUNE 2004 UPDATED 10 NOVEMBER 2014

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)
T1	Alder *(Alnus glutinosa)*	EM	16	10	320 300 250 410 300	G	• Off-site tree to north western river bank • Multi-stem from ground level • Included-bark unions of co-dominant stems with no signs of failure	• Protect during development	2	B	B	8.7
T2	Alder	EM	16	10	300 320 360 340	G	• Off-site tree to north west river bank • Multi-stem from ground level • Included-bark unions of co-dominant stems with no signs of failure	• Protect during development	2	B	B	7.8
T3	Willow *(Salix sp.)*	PM	13	9	950	P	• Off-site tree to north west river bank • Partially collapsed • Colonised by dense ivy • Contains potential bird nest/bat roost sites	• Consider dismantling to a 5m high standing stem	1	U	U	11.4
T4	Alder	EM	10	8	550	P	• Off-site tree to north west river bank • Heavily suppressed • Colonised by dense ivy	• Protect during development	1	C	C	6.6
T5	Sycamore *(Acer pseudoplatanus)*	EM	15	12	450	M	• Stem and crown slightly biased to east • Suppressed by T7 • Regrowth from old sycamore stump	• Fell for development • Grub out or grind stump to a depth of 0.3m	2	B	U	N/A
T6	Alder	-	8	-	-	D	• Standing dead stem • Contains potential bird nest/bat roost sites	• Remove for development	0	U	U	-

Assessment was restricted where trees were ivy clad or located wholly or partially on neighbouring land or where basal growth or vegetation obscured lower stems and root collars. All trees should be re-assessed at appropriate intervals

HEADINGS & ABBREVIATIONS

Age Range	Y = young SM = semi-mature EM = early-mature M = mature PM = post-mature
Stem Dia	Stem diameter (measured in accordance with Figure C.1 of BS5837: 2012) (MS = multi-stemmed EST = estimated)
Crown Spread	Maximum crown spread (EST = estimated)
Vitality	D = dead MD = moribund P = poor M = moderate G = good
Visual (Visual Prominence)	Broad indication of prominence in the landscape (0 = none 1 = very low up to 5 = very high) (G = contributes to a wider group)
Retention Category Existing	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)
Retention Category Proposed	Broadly in accordance with Table 1 of BS5837: 2012 (considers the merits of the tree or group in the context of a development proposal)
BS5837 RPA Radius	Calculated in accordance with Table D.1 of BS5837: 2012

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T7	Ash *(Fraxinus excelsior)*	M	20	18	900	M	• Stem and crown colonised by dense ivy • Secondary basal stems • Failed lateral branch hanging in lower crown • Contains potential bird nest/bat roost sites	• Fell for development • Grub out or grind stump to a depth of 0.3m	2	B	U	N/A
T8	Oak *(Quercus robur)*	M	12	14	550	M	• Minor bark damage to lower stem • Low vigour	• Fell for development • Grub out or grind stump to a depth of 0.3m	2	B	U	N/A
T9	Sycamore	EM	13	12	300 280 420	M	• Boundary tree on a steep east facing bank alongside canal • Triple stem from ground level • Abutting and displacing adjacent stone boundary retaining wall	• Retain and protect during development • Monitor retaining wall for signs of further damage	2	B	B	6.9
T10	Ash	EM	12	13	170 300 300	G	• Off-site boundary tree, on a steep east facing bank alongside canal • Abutting a partially derelict stone retaining wall • Triple-stem from ground level, at which point there are acute included bark unions of co-dominant stems with no signs of failure • The southernmost stem has been cut in recent years at a height of 3m • Partially occluded branch tear out wound in mid crown	• Protect during development • Monitor retaining wall for signs of damage • Monitor for further branch failures	2	B	B	5.4
T11	Ash	EM	11	8	420	M	• Off-site and not re-assessed • Extensive stem decay	• Protect during development	2	C	C	5.1
T12	Wych elm *(Ulmus glabra)*	SM	8	8	MS ≤150	G	• Off-site and not re-assessed • Coppice regrowth	• Protect during development	2	C	C	-
T13	Sycamore	EM	12	12	500	M	• To the top of a steep east facing bank alongside the canal • Ivy colonising stem and lower crown • Low vigour	• Retain and protect during development	2	B	B	6.0

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T14	Alder	EM	12	8	400	G	• No major defects	• Fell for development • Grub out or grind stump to a depth of 0.3m	2	B	U	N/A
G1	3 Sycamore	M	≤14	≤14 (EST)	≤600	M	• Growing on a very steep east facing bank to the edge of the river • Dense ivy colonising stems and crowns • Dense basal shoots to westernmost tree • Contains potential bird nest/bat roost sites	• Fell for development • Grub out or grind stumps to a depth of 0.3m	2	B	U	N/A
G2	Ash Sycamore	EM	13	10	310 430	G	• Closely spaced group to the top edge of a steep east facing bank alongside the canal • Abutting a low stone retaining wall • Crossing/rubbing stems	• Retain and protect during development • Monitor retaining wall for signs of damage	2	B	B	3.6 & 5.1
G3	Ash Sycamore	EM	14	12	380 270 350 & 250 270 350	M	• Closely spaced group to the top edge of a steep east facing bank alongside the canal • Abutting and displacing a stone boundary retaining wall • Stems and crowns colonised by ivy • Acute included bark unions of co-dominant stems with no signs of failure • Contains potential bird nest/bat roost sites	• Retain and protect during development • Monitor included bark unions for signs of failure • Monitor displacement of adjacent boundary wall	2	B	B	≤6.9
G4	Hawthorn Ash Elm Alder Sycamore	EM SM SM/EM SM-M SM-EM	≤14	≤12 (EST)	≤500 (EST)	M-G	• Closely spaced linear group on a steep south east facing bank to the edge of the river • Most probably natural colonisation • Several trees colonised by dense ivy • Restricted access and unable to assess in detail	• Fell for development • Grub out or grind stumps to a depth of 0.3m	2	B	U	N/A

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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)
G5	Alder Ash Willow Sycamore Goat willow Snowberry *(Symphoricarpos)* Japanese knotweed *(Fallopia japonica)*	M/PM SM PM	≤20	≤20 (EST)	≤600	G-D	• Closely spaced group to west side of river • Comprises a linear group of mature alders, a multi-stemmed crack willow and recent natural colonisation of ash, sycamore and goat willow • Area of dense snowberry along the western edge • Small patch of Japanese knotweed to eastern edge on riverbank • Several trees contain several potential bird nest/bat roost sites G5/1 – Crack willow • Reduced vitality • Starting to collapse • Would benefit from coppicing	• Fell for development • Grub out or grind stumps to a depth of 0.3m	2	B	U	N/A
G6	Crack willow *(Salix fragilis)* Alder Oak	Y-EM	≤12	≤8 (EST)	≤300	M-G	• Closely spaced linear group to western bank of river • Most probably natural colonisation	• Retain and protect during development	1	B	B	≤3.6
G7	Oak Beech (Fagus sylvatica) Hawthorn Alder Holly (Ilex aquifolium) Ash	Y Y Y-EM EM Y Y	≤14	≤8 (EST)	≤300 (EST)	M-G	• Closely spaced group forming the western end of a larger area of broadleaf tree cover, which extends beyond the site boundary to the east • Mainly alder and holly to eastern edge along river. Plantation or naturally colonised young oak to flat central area • Would benefit from re-spacing • Locally dense, young natural colonisation of ash and holly	• Fell for development • Grub out or grind stumps to a depth of 0.3m	2	B	U	N/A

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CLIENT: HIGH PEAK DEVELOPMENTS
REF: CW/7567-SS1
DATE: 4 JUNE 2004 UPDATED 10 NOVEMBER 2014

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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)
G8	Alder Elder *(Sambucus nigra)* Hawthorn	EM EM EM-M	≤13	≤10	≤MS 7 STEMS AVG 200	G-P	• Closely spaced group of boundary trees and shrubs, on a steep, east facing bank alongside the canal • Comprises poor quality remnants of a former boundary hedge which is heavily colonised by dense ivy • A multi-stemmed alder in the south east corner at bottom of the bank is the only tree of any particular individual merit • Selective removal and replacement of hawthorns with new boundary landscaping could provide long-term amenity benefits	• Remove for development trees and shrubs along eastern edge and grind stumps to a depth of 0.3m. Individual trees for removal to be agreed on site with the LPA Tree Officer and marked up by the project arboriculturist • Retain and protect during development selected trees and shrubs along western edge	2	B	B&U	≤6.3
G9	Elm Hawthorn Oak	SM M-PM Y-SM	≤10	≤10 (EST)	≤300 (EST)	G-P	• Closely spaced linear group of trees and shrubs, the majority of which appear to be natural colonisation • Comprises several poor quality hawthorns to the western edge on an east facing bank alongside the canal and a group of young plantation or naturally colonised oaks to the east side • A single multi-stemmed elm at the northern end is probably natural colonisation • Several trees to the western edge are growing abutting a partially derelict stone boundary retaining wall • Several trees colonised by dense ivy • Selective removal and replacement with new boundary landscaping could provide long-term amenity benefits	• Remove for development trees and shrubs along eastern edge and grind stumps to a depth of 0.3m. Individual trees for removal to be agreed on site with the LPA Tree Officer and marked up by the project arboriculturist • Retain and protect during development selected trees and shrubs along western edge • Monitor boundary wall for signs of damage	2	B	B&U	≤3.6 (EST)

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G10	Sycamore Hawthorn Ash	Y Y-M Y	≤10	≤8 (EST)	≤250 (EST)	M-G	• Closely spaced linear group of boundary trees and shrubs • The hawthorns are probably remnants of a former boundary hedge • Several trees colonised by dense ivy • Several trees growing abutting and out of a stone boundary retaining wall to the east side of the canal • Selective removal and replacement with new boundary landscaping could provide long-term amenity benefits	• Retain and protect during development • Monitor boundary wall for signs of damage	2	B	B	≤3.0 (EST)
G11	Sycamore Alder Willow	EM-M	≤20	-	-	M-G	• Off-site and not re-assessed • Off-site wooded riverbank to the east of the site • Unaffected by the development proposal		3	B	B	-
G12	Various (mainly sycamore)	EM	≤14	-	-	M	• Off-site and not re-assessed • Off-site linear group between canal and road • Heavy ivy colonisation		3	B	B	-
A1	Oak Alder Sycamore Hawthorn Holly Ash Elm	SM SM-PM SM-EM SM-M SM SM-EM SM	≤15	-	-	M-G	• Off-site and not re-assessed • Area comprises three distinct sections • Eastern section comprises early-mature/ mature riverside vegetation comprising an old overgrown hawthorn hedge along the riverbank with natural colonisation of alder and sycamore to the edge of the river • Western section comprises an old overgrown unmanaged hawthorn hedge with semi-mature to early mature natural regeneration of sycamore and ash • Central flatter section comprises young to semi-mature oaks which are either plantation trees or natural colonisation	• Protect during development	3	A	A	-

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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)
A2	Goat willow Silver birch Cherry *(Prunus sp.)* Scots pine Alder	Y Y Y Y Y	≤6	≤3	≤100 (EST)	M-G	• Closely spaced group to western end of site • Comprises mainly young natural colonisation with some recently planted trees on a steep south facing bank to the edge of the Tesco access roadway • Would benefit from re-spacing	• Remove for development • Grub out stumps	2	C	U	N/A
H1	Mixed hedge comprising hawthorn, holly, elder and dog rose. Some semi-mature Ash & Sycamore regeneration	EM SM	≤5	≤5	-	M	• Remnants of an off-site overgrown, unmanaged former hedge • Would benefit from management	• Protect during development	1	-	-	-

APPENDIX 2

TREE CONSTRAINTS PLAN

T1 B
T2 B
G11 B
H1
T3 U
T4 C
G4 B
G11 B
G11 B
A2 C
G5 B
G6 B
G5/1
G1 B
T5 B
T6 U
T7 B
T14 B
G9 B
G8 B
G7 B
T8 B
G10 B
G9 B
G3 B
G8 B
T13 B
G7 B
G2 B
T9 B
T10 B
A1 A
G12 B
G12 B
T11 C
T12 C

SCALE: 1:250
UNITS: METRES
0 5 10

TREE CONSTRAINTS PLAN

CHESHIRE WOODLANDS
ARBORICULTURAL CONSULTANCY

9 LOWE STREET
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F. +44(0)1625 669355
E. info@ cheshire-woodlands.co.uk
W. www. cheshire-woodlands.co.uk

CLIENT	HIGH PEAK DEVELOPMENTS
PROJECT	HOGS YARD BUXTON ROAD WHALEY BRIDGE
JOB REF	CW7567-P-TC-1
DATE	12 NOVEMBER 2014
SCALE	1:250 at A0

- PROPOSED BUILDINGS AND HARDSTANDING (DRAWING 0632-01 Rev A)
- INDIVIDUAL TREE TO BE RETAINED
- GROUP OF TREES TO BE RETAINED
- AREA OF TREES TO BE RETAINED
- HEDGE TO BE RETAINED
- TREE, GROUP OR AREA OF TREES TO BE REMOVED
- A — BS 5837 RETENTION VALUE
- BS5837 ROOT PROTECTION AREA RADIUS
- BS5837 CATEGORY 'A' TREES
- BS5837 CATEGORY 'B' TREES
- BS5837 CATEGORY 'C' TREES
- BS5837 CATEGORY 'U' TREES

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

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

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

Compartmentalization. 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

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

Compressive loading. Mechanical loading which exerts a positive pressure; the opposite to tensile loading

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 exclusion zone. Area based on the Root Protection Area (in square metres) to be protected during development, by the use of barriers and/or ground protection

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

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

Incorporating extracts from Lonsdale, D. 1999. Principles of Tree Hazard Assessment. Her Majesty's Stationary Office, London

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

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. Sapwood that has become dysfunctional as part of the natural 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 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 (2005) Guide for Trees in Relation to 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

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. An area of ground surrounding a tree that contains sufficient rooting volume to ensure the tree's survival. Calculated with reference to Table 2 of BS5837 (2005) and shown in plan form in square metres

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

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

Stem/s. The main supporting structure/s, from ground level up to the first major division into 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

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 canker. A kind of perennial canker, 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

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 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. A loosely defined term for an old specimen that is of interest biologically, culturally or aesthetically because of its age, size or condition and which has usually lived longer than the typical upper age range for the species concerned

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

Vitality. A measure of physiological condition expressed through the health and growth of foliage, shoots and adaptive woody tissues.

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

Incorporating extracts from Lonsdale, D. 1999. Principles of Tree Hazard Assessment. Her Majesty's Stationary Office, London