Arboricultural Impact Assessment

of Proposed Construction of 28nc. Residential Properties at

Land off Mill Lane, Gisburn, Lancashire, BB7 4LN

Prepared by:

Bowland Tree Consultancy Ltd

January 2014

Control sheet

Project No.:	BTC610
Project Title:	Arboricultural Impact Assessment at Land off Mill Lane, Gisburn
Agent for Client:	Avalon Town Planning
Council:	Ribble Valley Borough Council
Survey Date:	21 January 2014
Prepared by:	Phill Harris MSc BSc(Hons) HND CEnv MArborA MICFor Chartered Arboriculturist
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DISCLAIMER

Survey Limitations: Unless otherwise stated all trees are surveyed from ground level using non-invasive techniques, in sufficient detail to gather data for and inform the design of the current project only. The disclosure of hidden crown and stem defects, in particular where they may be above a reachable height or where trees are ivy clad or located in areas of restrictive ground vegetation, cannot therefore be expected. Detailed tree safety appraisals are only carried out under specific written instructions. Comments upon evident tree safety relate to the condition of said tree at the time of the survey only. Unless otherwise stated all trees should be re-inspected annually in order to appraise their on-going mechanical integrity and physiological condition. It should, however, be recognised that tree condition is subject to change, for example due to the effects of disease, decay, high winds, development works, etc. Changes in land use or site conditions (e.g. development that increases access frequency) and the occurrence of severe weather incidents are also significant considerations with regard to tree structural integrity, and trees should therefore be re-assessed in the context of such changes and/or incidents and inspected at intervals relative to identified and varying site conditions and associated risks.

Where trees are located wholly or partially on neighbouring private third-party land then said land is not accessed and our inspection is therefore restricted to what can reasonably be seen from within the site. Stem diameters and other measurements of trees located on such land are estimated. Any subsequent comments and judgments made in respect of such trees are based on these restrictions and are our preliminary opinion only. Recommendations for works to neighbouring third-party trees are only made where a potential risk to persons and/or property has been identified during our survey or, if applicable, where permissible works are required to implement a proposed development. Where significant structural defects of third-party trees are identified and associated management works are considered essential to negate any risk of harm and/or damage then we will inform the relevant Council of the matter. Where a more detailed assessment is considered necessary then appropriate recommendations are set out in the Tree Survey Schedule.

Where tree stem locations are not included on the plan(s) provided then they are plotted by the arboriculturist at the time of the survey using, where appropriate and/or practicable, a combination of measurement triangulation and GPS co-ordination. Where this is not possible then locations are estimated. Restrictions in these respects are detailed in the report.

This document is intended as a guide to identify key tree related constraints to site development only, and the potential influence of trees upon existing or proposed buildings or other structures resulting from the effects of their roots abstracting water from shrinkable load-bearing soils is not considered herein. The tree survey information in its current form should not therefore be considered sufficient to determine appropriate foundation depths for new buildings. Accordingly, an updated survey, with reference to the current NHBC Standards Chapter 4.2 - Building Near Trees, must therefore be prepared for the specific purpose of informing suitable foundation depths subsequent to planning approval being granted. The advice of a structural engineer must also be sought with regard to appropriate foundation depths for new buildings.

Third Parties: Any disclosure of this document to a third party is subject to this disclaimer. The report was prepared by Bowland Tree Consultancy Ltd at the instruction of and for use by our client. This report does not in any way constitute advice to any third party who is able to access it by any means. Bowland Tree Consultancy Ltd excludes to the fullest extent lawfully permitted all liability whatsoever for any loss or damage arising from reliance on the contents of this report.

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APPENDICES

PLANS

1.0 INTRODUCTION

Terms of Reference

1.1 Bowland Tree Consultancy Ltd were instructed to:

a) Survey, either as individuals or by group, all trees having reasonable potential to be adversely affected by or to affect the development of the site under consideration;
b) Prepare a tabulated Tree Survey Schedule based on guidance specified BS5837:2012 - Trees in Relation to Design, Demolition and Construction – Recommendations;
c) Evaluate the potential tree related impacts and design conflicts of the proposals;
d) Advise on removal, retention and management options for the trees in the current context and in the context of the proposed development;
e) Advise on suitable tree protection measures required during development;
f) Annotate the existing site proposal plan to produce a Tre Constraints Plan and a Tree Protection Plan identifying tree retention categories, crown spreads, Root Protection Areas, projected tree related impacts, approximate temporary protective fencing locations, new tree planting suggestions, and other pertinent details; and
g) Produce an Arboricultural Impact Assessment report outlining the main tree related issues and potential tree related impacts in relation to the proposed development and indicating suitable mitigation provisions and retained tree protection measures.

Scope and Purpose of Report

1.2 By detailing foreseeable tree related issues this report is intended to assist the Local Planning Authority (LPA) in their review of the proposed development and, as such, should be supplied to them in support of the planning application to which it pertains. Essentially, the report provides an initial analysis of the impacts that the proposed development is projected to potentially have on trees located both within the site and immediately adjacent to its boundaries. It also offers guidance on suitable retained tree management and mitigation for projected losses, along with appropriate tree protection measures in the context of the proposed development in accordance with current guidance.

Site Visit, Data Collection and Tree Plans

1.3 Further to our instruction I confirm that I visited the site on 21 January 2014 and carried out a survey of trees. My survey was carried out in accordance with the preceding disclaimer, and all tree data collected on site is set out in the attached tabulated Tree Survey Schedule (TSS) at Appendix One which, for ease of interpretation, should be read alongside the associated BS5837:2012 Table 1 (as appended).

1.4 During my survey review I identified seven individual trees (prefixed ‘T’) and one hedge (prefixed ‘H’), and have numbered them accordingly on the Tree Constraints Plan (TCP) and Tree Protection Plan (TPP), as appended. The plans are based on a topographical survey based existing and site proposal plans that were provided in electronic format by the client’s agent, Avalon Town Planning, and, for the purpose of this report, the plans’ details are presumed to be accurate. The TCP details the existing site with the readily definable tree constraints, whilst the TPP also has an overlay of the development proposals along with associated tree related impacts and proposed temporary protection measures.

2.0 STATUTORY PROTECTION IN RESPECT OF TREES AND ASSOCIATED WILDLIFE

Tree Preservation Orders and Conservation Area Designations

2.1 The Town & Country Planning Act (1990) (the Act) and associated Regulations empower

Local Planning Authorities (LPAs) to protect trees in the interests of amenity by making Tree Preservation Orders (TPOs). The Act also affords protection for trees of over 75mm diameter that stand within the curtilage of a Conservation Area (CA). Subject to certain exemptions, an application must be made to the LPA in question to carry out works upon or to remove trees that are subject to a TPO, whilst six weeks' notice of intention must be given to carry out works upon or to remove trees within a CA that are not protected by a TPO.

2.2 I have not been informed if the site stands within a CA, or if any of the trees are the subject of a TPO. As such, it is therefore essential to contact the Planning Department of Ribble Valley Borough Council prior to scheduling or carrying out any tree works that are not specifically related to the implementation of a detailed (i.e. full) planning consent granted under the Act (1990).

Protected Species

2.3 Nesting birds are afforded statutory protection under the Wildlife & Countryside Act (1981) (as amended) and their potential presence should therefore be considered when clipping hedges, removing climbing plants and pruning and removing trees. The breeding period for woodlands runs from March to August inclusive. Hedges provide valuable nesting sites for many birds and clipping should therefore be avoided during March to July. Trees, hedges and ivy should be inspected for nests prior to pruning or removal and any work likely to destroy or disturb active nests should be avoided until the young have fledged.

2.4 All bat species are protected under Schedule 5 of the Wildlife & Countryside Act (1981) (as amended) and under Schedule 2 of the Conservation of Habitats and Species Regulations 2010 (as amended). In this respect it should be noted that it is possible that unidentified bat habitat features may be located high up in tree crowns and all personnel subsequently carrying out tree works at the site should therefore be vigilant and mindful of the possibility that roosting bats may be present in trees with such features. If any bat roosts are identified then it is essential that works are halted immediately and that a suitably qualified and experienced ecologist investigates and advises on appropriate action(s) prior to works continuing.

Felling Licences

2.5 Subject to certain exemptions the Forestry Act (1967) requires that a 'Felling Licence' be obtained to remove growing trees amounting to more than five cubic metres of timber in a calendar quarter. Felling Licences are administered by the Forestry Commission and contravention of the associated controls can incur substantial penalties. A Felling Licence is, however, not required where tree removals are required for the purpose of implementing a development authorised by detailed (i.e. full) planning permission granted under the Act (1990).

3.0 THE SITE AND THE SURROUNDINGS

3.1 The site is located within a rural area to the north-western edge of the village of Gisburn, Lancashire, approximately 11 kilometres north-east of Clitheroe, the LPA's administrational town. It is bordered to the east by residential properties with gardens and a light industrial complex, to the south by a banking down to a low usage railway line, to the west by open fields, and to the north by Mill Lane. There is a vehicular access point to the north-eastern corner of the site from Mill Lane.

3.2 The site currently consists of an agricultural field that has evidently been managed through recurrent ploughing, along with a hedge along its northern boundary and several trees to its

south (see Figs. 1 & 2, below). Topography within the site is variable, with gentle falls in ground levels from the north-eastern corner to the west and the south.

Fig 1: The site, as seen from the NW looking SE, with tree T7 to the right and T1 to the left

Fig 2: Trees T4 (left) to T6 (right), as seen from the southern section of the site looking SE

4.0 THE TREE POPULATION

4.1 As noted previously, seven individual trees and one hedge were surveyed for the purpose of this appraisal. The surveyed trees are all Sycamores, a non-native deciduous broadleaf species, whilst the hedge is mainly made up of Hawthorn, a native deciduous species. Of the trees included in this appraisal three (T5 to T7) are located within the site boundaries, whilst four (T1 to T4) are located on neighbouring areas of land to the east.

4.2 The surveyed trees are from early-mature to mature in age, with trees T5 and T6 being of a size and age whereby they can reasonably be classed as 'veteran'. Tree sizes range from moderate to large, with heights of up to 22.5 metres, maximum diametrical crown spreads of up to 21 metres and stem diameters of up to 1530 millimetres. Detailed tree dimensions and other pertinent, information such as structural defects and physiological deficiencies, are included in the Tree Survey Schedule (TSS) at Appendix One.

4.3 In respect of the TSS it should be noted that tree quality is categorised within the existing context without taking any site development proposals into account. However, recommendations for works included in the TSS take both current site usage into consideration and the proposed site development where there are definable development related issues with regard to specific trees.

Table A: BS5837-2012 Retention Categories of the Surveyed Trees

	Ret. Cats.	Tree/Hedge Numbers	Totals
Those of a moderate or high quality that should be afforded appropriate consideration in the context of development	**'A'**	T1, T3, T4, T5, T6	*5 Trees*
	'B'	T3, T7	*2 Trees*
Those of a low quality that should not be considered a material constraint to development	**'C'**	H1	*1 Hedge*
Those that should be removed for sound management reasons regardless of site proposals	**'U'**	-	-
			= 7 Trees & 1 Hedge in Total

4.4 The TSS includes a column ('Cat. Grade') listing the trees' respective retention values, where they are rated either 'A', 'B', 'C' or 'U', as per BS5837:2012 Table 1 (Appendix One). 'A' category trees are those considered to be of 'high quality' and, accordingly, the most suitable for retention, whilst 'B' category trees are those considered to be of 'moderate quality'. As detailed in Table A (above), five trees were categorised as high quality ('A'),

two trees were categorised as moderate quality ('B'), and the hedge was categorised as low quality ('C').

4.5 The field under consideration has evidently been used for crop growing over a long period of time and, as such, all of the surveyed trees, in particular those that stand within the site boundaries, have had the ground within their RPAs areas extensively ploughed on a regular basis (see Figs. 3 & 4, below). It is therefore reasonable to conclude that the ploughing works will have affected the morphology and extents of the trees' roots.

Fig 3: Sycamore T6, looking east

Fig 4: Ploughed ground extending up to stem of T6

5.0 THE DEVELOPMENT PROPOSAL AND ITS PROJECTED ARBORICULTURAL IMPACTS

5.1 The application is for the construction of 28 detached, semi-detached and small terraces of two-storey residential properties within the northern section of the site, with a single vehicular access point from Mill Lane to the north, and an area of public open space to the south of the site (see TPP). Accordingly, I have been provided with a proposal plan to that effect, as prepared by Avalon Town Planning. In order to appraise the projected impacts that the development would potentially have on the trees the tree constraints details were overlaid onto the site proposal plan, as detailed on the TPP.

Projected Arboricultural Losses Relating to the Proposal

Table B: Arboricultural Impacts of Proposed Development & Other Tree Removal Proposals

	Ret. Cats.	Removals necessary to implement development	Removals suggested for non-development related reasons	Total number of tree removals
Those of a high quality that should be afforded appropriate consideration in the context of development	**'A'**	-	-	-
Those of a moderate quality that should be afforded appropriate consideration in the context of development	**'B'**	-	-	-
Those of a low quality that should be afforded appropriate consideration in the context of development	**'C'**	H1	-	-
Those that should be removed for sound management reasons regardless of site plans	**'U'**	-	-	-
Totals		*1 Hedge*	-	***= 1 Hedge in Total***

5.2 As detailed in Table B (above) and on the TPP implementation of the proposed development as it stands is projected to require the removal of a section of low quality 'C' category hedge H1, but all of the trees within the site boundaries are proposed for retention

in suitable sized gardens and an area of public open space. Please see paragraphs 6.1 and 6.2 with regards to the retention or trees during development at the site under consideration.

Mitigation for Projected Tree Losses as Part of Site Landscaping

5.3 Extensive site landscaping is proposed as part of the development. As provisionally indicated on the TPP the landscaping is to include the provision of a range of locally native tree species planted as individuals and as small groups throughout the site, and as a woodland belt along its western boundary. A replacement native hedge is also proposed along the site's northern boundary to the road frontage and eastern boundary to the neighbouring properties and light industrial units.

5.4 Overall, this new tree and hedge planting is projected to deliver a substantial long-term visual amenity in the local landscape, to provide screening between the proposed new residential properties and the view from the west, and to significantly enhance the ecological value of the area.

5.5 Accordingly, detailed tree planting proposals can be included as part of a detailed landscape plan for the site, which can be conditioned to a planning approval.

6.0 RECOMMENDATIONS FOR SUCCESSFUL TREE RETENTION IN THE CONTEXT OF DEVELOPMENT

Root Protection Areas and Construction Exclusion Zones

6.1 Adequate protection of the Root Protection Areas (RPAs) of retained trees during construction is essential if their long-term viability is to be assured. RPAs, which are calculated through a method provided in BS5837:2012, are ground areas that should be protected by temporary protective fencing as Construction Exclusion Zones (CEZs) throughout the development process, thereby keeping the trees' root zones free from disturbance. Consequently, the RPA distances, as detailed in the TSS (see 6.2, below), and on the TCP and TPP give an idea of the on-site below-ground constraints in respect of tree roots and assist in planning for appropriate tree retention in relation to feasible development. In certain situations, such as at the site under consideration, there is a limited degree of flexibility in the CEZ positioning, as discussed in paragraph 6.2.

6.2 The TSS includes two columns listing the RPAs of the individually surveyed trees and, where applicable, the largest of the trees in any surveyed groups as overall areas in square metres and as radial distances. The radial RPAs are indicated as magenta coloured circles on the TCP and TPP, and the proposed CEZ locations and extents, along with proposed ground protection measures, are detailed on the TPP. As detailed on the TPP, the CEZs do not extend to the full extents of the RPAs of trees T5 to T7 at all points. However, this is is considered acceptable in this case as the affected RPAs are afforded significant offsets in other directions and the trees under consideration have evidently had their roots systems recurrently ploughed over a substantial length of time (see Figs. 3 & 4).

6.3 With regard to CEZs the design, materials and construction of the fencing should be appropriate for the intensity and type of site construction works, should conform to at least section 6.2 of BS5837:2012, and should be secured by the imposition of a suitably worded planning condition. A Temporary Protective Fencing Specification is included at Appendix Two.

Underground Utilities

6.4 The installation of underground utilities in close proximity to trees can cause serious damage to their roots. As such, it is essential that utilities be routed outside RPAs unless there is no other available option, and specifics regarding these routes should be included as part of a detailed planning application. Where RPAs cannot be avoided then guidelines set out in the National Joint Utilities Group publication 'Volume 4: NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees (Issue 2) – Operatives Handbook' should be followed (e.g. trenches of a very limited width to be hand dug or the use of directional drilling).

Arboricultural Method Statement

6.5 Government guidance recommends that, where considered expedient by the LPA, an Arboricultural Method Statement (AMS) be prepared detailing special mitigation construction. Essentially, the AMS should describe and detail the procedures, working methods and protective measures to be used in relation to retained trees in order to ensure that they are adequately protected during the construction process. Production of and adherence to an AMS can be conditioned as part of a planning approval.

7.0 OTHER RECOMMENDATIONS

Non-Development Related Tree Works and Recommendations

7.1 Any general management pruning works for retained trees that are stated to be non-development related, as detailed in the TSS, are recommended in accordance with prudent arboricultural management and should therefore be carried out regardless of any site development proposals and potential changes in land usage. All tree works should be carried out in accordance with BS3998:2010 - Tree Work – Recommendations.

Tree Work Related Consents

7.2 No tree pruning or removal works should commence on site until necessary consents have been obtained from the LPA as part of a planning approval or in respect of any statutory tree protection (e.g. TPOs) that may exist.

Arboricultural Contractors

7.3 All tree works should be carried out by suitably qualified and experienced arboricultural contractors carrying appropriate public liability insurance cover and be implemented to the minimum current CE and UK industry standards and in accordance with industry codes of practice. Only certificated personnel should, in accordance with The Control of Pesticides Regulations, apply any pesticides.

Contractors and Subsequently Identified Tree Defects

7.4 Tree contractors should be made aware that, should any significant tree defects become apparent during operations that would not have been immediately obvious to the surveyor, then such defects should be notified immediately to the client and subsequently confirmed to the consultant within five working days.

New Tree Planting

7.5 All tree planting at the site should be carried out in accordance with BS4428:1989 - Code of Practice for General Landscape Operations, BS3936-1:1992, Nursery Stock – Part 1: Specification for Trees and Shrubs and BS4043:1989, Transplanting Root-Balled Trees where applicable, or any ensuing superseding guidance where applicable.

Retained Tree Management

7.6 Any tree risk management appraisals and subsequent recommendations made in this report were based on observations and site circumstances at the time of my survey. Trees are dynamic living organisms whose structure is constantly changing and even those evidently in good condition can succumb to damage and/or stress. In this respect I would note that, under the Occupiers' Liability Act (1957 & 1984), site occupants have a duty of care to take reasonable steps to prevent or minimise the risk of personal injury and/or damage to property from any tree located within the curtilage of the land they occupy. It is accepted that these steps should normally include commissioning a qualified and experienced arboriculturist to survey their trees in order to identify any risk of harm to persons or damage to property that they may present and, where unacceptable risks are identified, taking suitable remedial action to negate those risks.

8.0 SUMMARY AND CONCLUSIONS

8.1 The subject site is a ploughed field located at the edge of the village of Gisburn. Seven individual Sycamore trees and one native hedge were surveyed in respect of a proposal to construct 28 residential properties and an area of public open space at the subject site.

8.2 Three of the trees and the hedge are located within the site boundaries and four trees are located on neighbouring areas of land to the east.

8.3 Five trees were allocated high retention values, seven trees, two trees were allocated moderate retention values, and the hedge was allocated a low retention value. Two of the trees are of a size and age whereby they can reasonably be classed as 'veteran'.

8.4 An evaluation of the proposed development in the context of the existing site has indicated that it will be necessary to remove the hedge along the road frontage, but that all the surveyed trees on site can be retained in the context of the proposals in accordance with current Government guidance, with the two 'veterans' incorporated into the proposed area of public open space.

8.5 However, although implementation of the development will necessitate the removal of a length of hedge, there is widespread new native tree and hedge planting proposed as part of the landscaping for the development. Overall, this new tree and hedge planting is projected to deliver a substantial long-term visual amenity in the local landscape, to provide screening between the new residential properties and the view from the west, and to significantly enhance the ecological value of the area.

8.6 Accordingly, the provision of and adherence to a suitably detailed landscape proposal plan should be conditioned to a planning permission.

8.7 In consideration of the above findings I therefore conclude that, from the details provided to date, the site in question can be developed as proposed whilst both retaining the existing tree cover and improving its overall quality and enhancing its long-term sustainability

8.8 However, in order to ensure successful existing tree preservation, it is essential that the retained trees are protected in strict accordance with current Government guidance and the recommendations included herein.

REFERENCES

BS4428:1989 - Code of Practice for General Landscape Operations. BSI British Standards,
BS3936-1:1992, Nursery Stock – Part 1: Specification for Trees and Shrubs. BSI British Standards, London.
BS3998:2010 - Tree Work - Recommendations. BSI British Standards, London.
BS4043:1989 - Transplanting Root-Balled Trees. BSI British Standards, London.
BS5837:2012 - Trees in Relation to Design, Demolition and Construction – Recommendations. BSI, London.
National House Building Council (2008). NHBC Standards Chapter 4.2 - Building Near Trees. NHBC, Amersham.
National Joint Utilities Group (2007). Volume 4: NJUG Guidelines For The Planning, Installation And Maintenance Of Utility Apparatus In Proximity To Trees (Issue 2) – Operatives Handbook.

APPENDICES

TREE SURVEY SCHEDULE FOR ARBORICULTURAL IMPACT APPRAISAL		Surveyor:	Phill Harris – Chartered Arboriculturist	Page: 1 of 2
Site:	Land off Mill Lane, Gisburn, Lancashire, BB7 4LN	Survey Date:	21 January 2014	
Agent for Client:	Avalon Town Planning	Job Ref:	BTC610	

No.	Species	Height	Stem Diam.	Branch Spread		Branch & Canopy Clearances	Life Stage	PC	General Observations and Comments	Management Recommendations	ERC	Cat. Grade	RPA (m²)	RPA Radius (m)
T1	Sycamore	19	750#	N E S W	7 7 7 7	5-W 6	M	G	▪ Located on neighbouring land and therefore not inspected in detail.	▪ Ensure protection of Root Protection Area (RPA) throughout development process in accordance with Tree Protection Plan (TPP).	40+	A1/2	254	9
T2	Sycamore	20.5	850#	N E S W	9 9 9 9	5-W 5	M	G	▪ Located on neighbouring land and therefore not inspected in detail.	▪ Ensure protection of RPA throughout development process in accordance with TPP.	40+	A1/2	327	10.2
T3	Sycamore	16	550#	N E S W	6 6 6 6	5-W 4	EM	G	▪ Located on neighbouring land and therefore not inspected in detail. ▪ Height & Direction of 1st significant branch:	▪ Ensure protection of RPA throughout development process in accordance with TPP.	40+	B2	137	6.6
T4	Sycamore	17	650#	N E S W	7 7 7 7	6-W 4	M	G	▪ Located on neighbouring land and therefore not inspected in detail.	▪ Ensure protection of RPA throughout development process in accordance with TPP.	40+	A1/2	191	7.8
T5	Sycamore	22.5	1530	N E S W	10 9.6 9 9	2-N 5	M	M	▪ Field repeatedly ploughed up to stem on all sides. ▪ Several cavities to stem base. ▪ Significant buttress flare. ▪ Upright primary branch arises from north side of stem at a height of approximately 1.5m. ▪ Stem bifurcates at a height of approximately 4m with a tight fork. ▪ Crown showing signs of a reduction in vitality. ▪ Of an age whereby it can be classed 'veteran'.	▪ Retain in context of proposals. ▪ Ensure protection of RPA throughout development process in accordance with TPP.	40+	A1/2/3	707	15

Headings and Abbreviations:

No.	Allocated sequential reference number - Tree ('T'), Group ('G'), Woodland ('W') or Hedge ('H') reference number - refer to plan and to numbered tags where applicable
Species:	Common name
Height:	In metres, to half nearest metre – where possible approximately 80% are measured using an electronic clinometer and the remainder estimated against the measured trees. In the case of Groups and Woodlands the measurement listed is that of the highest tree
Stem Diam.:	Stem diameter in millimetres, to nearest 10mm - measured and calculated as per Annex C of BS5837:2012. MS = multi-stemmed, TS = twin-stemmed
Branch Spread:	Crown radius measured (or estimated where considered appropriate) from the four cardinal points (north, east, south and west) to give an accurate visual representation of the crown
Branch & Canopy Clearances:	Existing height above ground level, in metres, of first significant branch and direction of growth (e.g. 2.5-N) and of canopy at lowest point – to inform on crown to height ratio, potential for shading, etc.
Life Stage:	Estimated age class - Y = young, SM = semi-mature, EM = early-mature, M = mature, PM = post-mature
PC:	Physiological Condition - a measure of the tree'(s)' overall vitality, i.e. D = Dead, MD = Moribund, P = Poor, M = Moderate, G = Good
General Observations and Comments:	Comments relating to the tree'(s)' overall condition and any other pertinent factors including structural defects, current and potential direct structural damage, physiological decline, poor form, etc.
Management Recommendations:	Either Preliminary or In Consideration of the Proposal - In the case of Arboricultural Constraints Surveys the recommended management works only take exiting site and tree circumstances and conditions into account and not proposed developments. Arboricultural Impact Assessment and Method Statement related Surveys take the proposed development into consideration with recommendations made accordingly. More than one option may be given if considered appropriate
ERC:	Estimated Remaining Contribution - in years as per BS5837:2012 (i.e. <10, 10+, 20+, 40+)
Cat. Grade:	Category Grading - tree retention value listed as U, A, B or C - in accordance with BS5837:2012 Table 1
RPA m²:	Root Protection Area in m² - calculated area around the tree that must be appropriately protected throughout the development process in order avoid root damage
RPA Radius (m):	Root Protection Area Radius - in metres measured from the centre of the stem to the line of tree protection
# (Estimated Dimensions):	Where trees are located off-site, or are inaccessible for any other reason, and accurate measurements or other information cannot be taken then the information provided is estimated and is duly suffixed with a "#" symbol

TREE SURVEY SCHEDULE FOR ARBORICULTURAL IMPACT APPRAISAL	
Site:	Land off Mill Lane, Gisburn, Lancashire, BB7 4LN
Agent for Client:	Avalon Town Planning

Surveyor:	Phill Harris – Chartered Arboriculturist
Survey Date:	21 January 2014
Job Ref:	BTC610

No.	Species	Height	Stem Diam.	Branch Spread	Branch & Canopy Clearances	Life Stage	PC	General Observations and Comments	Management Recommendations	ERC	Cat. Grade	RPA (m^2)	RPA Radius (m)
T6	Sycamore	19	1530	N 10 E 9.5 S 11 W 11	5 5	M	M	▪ Field repeatedly ploughed up to stem on all sides. ▪ Significant buttress flare. ▪ Area of necrotic bark extending for approximately 4m up east side of stem, with *Kretzschmaria deusta* soft rot decay causing fungal fruiting body evidently present within wound. ▪ Stem trifurcates at a height of approximately 5m. ▪ Crown showing signs of a reduction in vitality. ▪ Of an age whereby it can be classed 'veteran'.	▪ Retain in context of proposals. ▪ Ensure protection of RPA throughout development process in accordance with TPP.	40+	A1/2/3	707	15
T7	Sycamore	18	1270	N 5 E 6.6 S 7 W 6.5	3-S 4	M	P	▪ Field repeatedly ploughed in rootzone to a distance of approximately 1.5m from stem. ▪ Several cavities to stem base. ▪ Significant buttress flare. ▪ Crown showing signs of a substantial reduction in vitality. ▪ Of an age whereby it can be classed 'locally notable'.	▪ Retain in context of proposals. ▪ Ensure protection of RPA throughout development process in accordance with TPP. ▪ Consider initiating a retrenchment pruning management programme.	20+	B3	707	15
H1	Hawthorn, Holly	≤ 1	N/A	≤ 1 wide	N/A 0	SM	G	▪ Maintained hedge along road frontage. ▪ Located on mound. ▪ Mainly made up of Hawthorn, with very small element of Holly.	▪ Remove sufficient length to construct footpath as proposed.	40+	C1/2	N/A	1

BS5837:2012 Table 1 – Cascade Chart for Tree Quality Assessment

Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention (see Note)				
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	▪ Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) ▪ Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline ▪ Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality *Note: Category U trees can have existing or potential conservation value which it might be desirable to preserve; see BS5837:2012 paragraph 4.5.7.*			Red
	1 **Mainly arboricultural qualities**	**2** **Mainly landscape qualities**	**3** **Mainly cultural values, including conservation**	
Trees to be considered for retention				
Category A **Trees of high quality** with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	Green
Category B **Trees of moderate quality** with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value	Blue
Category C **Trees of low quality** with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	Grey

- TEMPORARY PROTECTIVE FENCING SPECIFICATION -

Construction Exclusion Zones (CEZs), enclosed by **Temporary Protective Fencing**, as detailed below and to be agreed with the Local Planning Authority (LPA), shall:

1. be retained in place throughout the development process, as specified in the 'Temporary Protective Fencing Construction' section below and detailed in BS5837:2012 Figure 2 (overleaf);
2. be sited in the area defined on the Tree Protection Plan (TPP);
3. be erected prior to any construction, demolition or excavation works and remain in place for the duration of the project;
4. preclude any delivery of site accommodation and/or materials and/or plant machinery;
5. preclude all construction related activity, with the sole exception of specified arboricultural works and any other works to be carried out under supervision that have been agreed by all parties; and
6. preclude the storage of all development related materials and substances including fuels, oils, additives, cement and/or any other deleterious substance.

Any incursion into CEZs must be by prior arrangement, following consultation with the LPA.

Temporary Protective Fencing Construction

1. Temporary protective fencing panels shall be weldmesh "Heras" panels of at least 2.0 metres in height.
2. The panels shall butt together and be securely fixed to a scaffold framework, as per 3 to 5 below.
3. The scaffold framework shall comprise of upright poles of at least 3.0 metres in length driven no less than 0.6 metres into the ground at maximum 3.0 metre centres with horizontal and diagonal poles fixed to the uprights, as per 4 to 5 below.
4. The two horizontal rail poles shall be attached to the uprights at heights of 0.6 and 1.8 metres with 3 no. clamps to each joint.
5. The diagonal scaffold pole struts be clamped to the top rail of the scaffold framework at a 45º angle and extend back into the CEZ and clamped to a 0.7 metre length of scaffold tube that shall be driven no less than 0.5m into the ground.
6. No fixing shall be made to any tree and all possible precautions shall be taken to prevent damage to tree roots when locating posts.
7. A 600mm x 300mm warning sign reading "TREE PROTECTION AREA KEEP OUT" (see Figure 1, below) shall be fixed to every 10.0 metre length of protective fencing.
8. On completion and prior to any demolition or construction works, site preparation, excavation or delivery of plant and materials, the Consulting Arboriculturist shall inspect the Temporary Protective Fencing.

Figure 1: CEZ Warning Sign

– TREE PROTECTION AREA –
KEEP OUT!

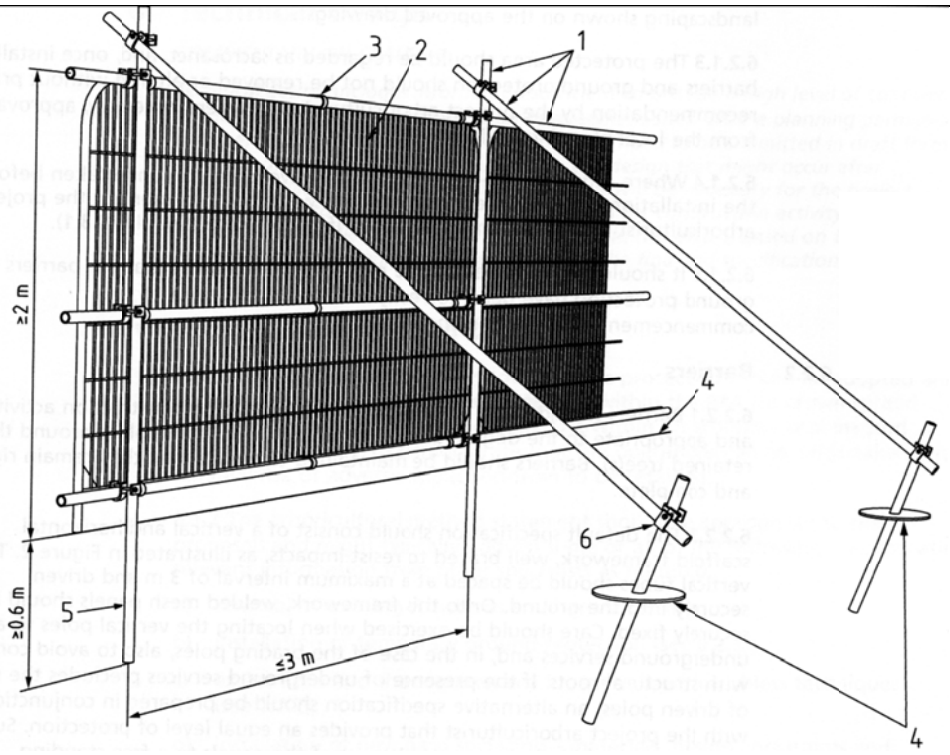
(TOWN & COUNTRY PLANNING ACT 1990)
THE TREES ENCLOSED BY THIS FENCE ARE PROTECTED BY PLANNING CONDITIONS AND/OR SUBJECTS OF A 'TREE PRESERVATION ORDER', THE CONTRAVENTION OF WHICH MAY LEAD TO CRIMINAL PROSECUTION

THE FOLLOWING MUST BE OBSERVED BY ALL PERSONNEL:

- **THE PROTECTIVE FENCING MUST NOT BE MOVED**
- **NO PERSON SHALL ENTER THE CONSTRUCTION EXCLUSION ZONE**
- **NO MACHINE, PLANT OR VEHICLES SHALL ENTER THE EXCLUSION ZONE**
- **NO MATERIALS SHALL BE STORED IN THE EXCLUSION ZONE**
- **NO SPOIL SHALL BE DEPOSITED IN THE EXCLUSION ZONE**
- **NO EXCAVATION SHALL OCCUR IN THE EXCLUSION ZONE**
- **NO FIRES SHALL BE LIT IN THE EXCLUSION ZONE**

ANY INCURSION INTO THE EXCLUSION ZONE MUST BE WITH THE WRITTEN PERMISSION OF THE LOCAL PLANNING AUTHORITY

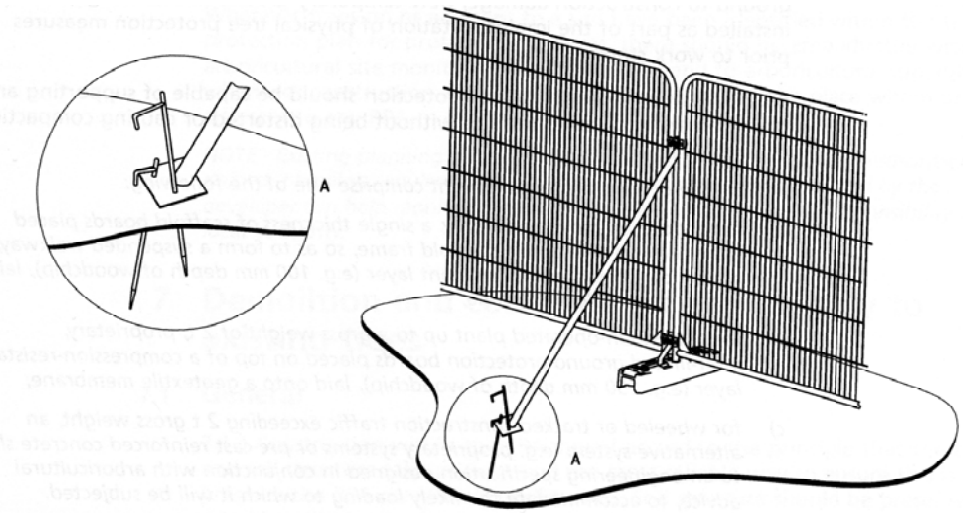
Figure 2: BS5837:2012 Default specification for protective barrier



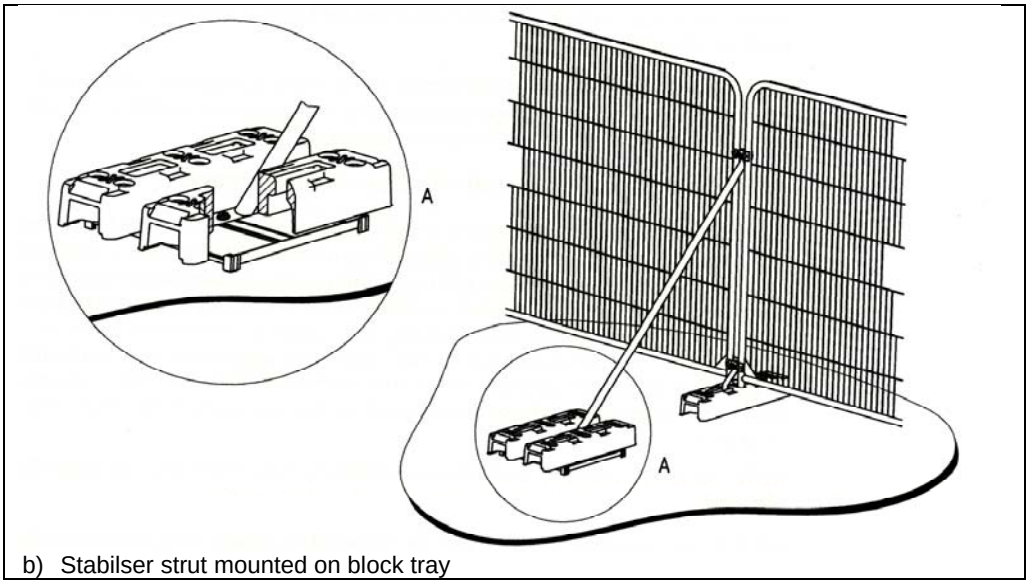
Key

1. Standard scaffold poles.
2. Heavy gauge 2 metre tall galvanised tube and welded mesh infill panels
3. Panels secured to uprights and cross members with wires ties
4. Ground level
5. Uprights driven into the ground until secure (minimum depth 0.6 metres)
6. Standard scaffold clamps

Figure 3: BS5837:2012 Examples of above-ground stabilising systems



a) Stabilser strut with base plate secured with ground pins



b) Stabilser strut mounted on block tray

KEY

T = Surveyed Individual Tree
H = Surveyed Hedge

Please refer to associated Arboricultural Impact Assessment report for specific details in respect of items below:

Tree Categorisations:

Those to be Considered for Retention:

Category 'A' Tree/Hedge
Those of a High Quality with an Estimated Remaining Life Expectancy of at Least 40 Years

Category 'B' Tree/Hedge
Those of a Moderate Quality with an Estimated Remaining Life Expectancy of at Least 20 Years

Category 'C' Tree/Hedge
Those of Low Quality with an Estimated Remaining Life Expectancy of at Least 10 Years, or Young Trees

Those Unsuitable for Retention:

Category 'U' Tree/Hedge
Those in Such a Condition that they Cannot Realistically be Retained as Living Trees in the Context of the Current Land Use for Longer Than 10 Years

Root Protection Areas (RPAs):

RPAs
Area(s) of Ground Around Trees that Should be Protected Throughout Development Works with Protective Fending to form a Construction Exclusion Zone - see Tree Protection Plan

Important: The original version of this plan was produced in colour, which is essential to the plan's interpretation and usability. As such, a monochrome copy should not be relied upon.

Project:
LAND OFF MILL LANE
GISBURN
LANCASHIRE
BB7 4LN

Agent for Client:
AVALON TOWN PLANNING

Title:
TREE CONSTRAINTS PLAN
In Relation to Proposed Construction of 28no. Residential Properties

Scale:	1:500@A2
Date:	January 2014
Drawn by:	PH

Bowland Tree Consultancy Ltd
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Ref: BTC610-TCP Rev:

KEY

T = Surveyed Individual Tree
H = Surveyed Hedge

Please refer to associated Arboricultural Impact Assessment report for specific details in respect of items below:

Tree Categorisations:

Those to be Considered for Retention:

Category 'A' Tree/Hedge
Those of a High Quality with an Estimated Remaining Life Expectancy of at Least 40 Years

Category 'B' Tree/Hedge
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Those of Low Quality with an Estimated Remaining Life Expectancy of at Least 10 Years, or Young Trees

Those Unsuitable for Retention:

Category 'U' Tree/Hedge
Those in Such a Condition that they Cannot Realistically be Retained as Living Trees in the Context of the Current Land Use for Longer Than 10 Years

RPAs & CEZs:

Root Protection Areas (RPAs)
Area(s) of Ground Around Trees that Should be Protected Throughout Development Works with Protective Fencing to form a Construction Exclusion Zone - CEZs (see below)

Construction Exclusion Zones (CEZs)
Ground Area to be Enclosed with Temporary Protective Fencing Throughout the Development Process - see Temporary Protective Fencing Specification

Proposed Tree Planting:

Approximate Locations Considered Suitable for New Individual & Group Tree Planting with Appropriate Native Species as Part of Site Landscaping, to be Agreed with LPA

Project:
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LANCASHIRE
BB7 4LN

Agent for Client:
AVALON TOWN PLANNING

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