

# **JK ARBORICULTURE**

## **Arboricultural Survey & Implication Study**

### **Hillside Farm, Littlebeck, Whitby**

February 2018

NYMNPA

08/02/2018

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**Introduction:**

I am instructed by Richard Dykes of the Planning & Design Partnership to provide an arboricultural assessment and implication study in relation to trees at Hillside Farm, Littlebeck, Whitby in connection with a planning application for conversion, and the erection of an extension at the north western end of the farm building. The purpose of this report is to provide a preliminary consideration of the arboricultural implications created by the proposed development in accordance with the feasibility and planning sections of BS5837:2012 "Trees in relation to design, demolition and construction – Recommendations", trees deemed to be within the influencing distance of the projected construction have been evaluated for quality, and longevity.

**Date of inspection:**

A site visit was made on 5 February 2018 during clear conditions.

**1. METHODOLOGY:**

The trees have been evaluated in relation to British standard 5837:2012 – Trees in relation to design, demolition and construction – Recommendations with regard to their quality and their value in the landscape. All inspections were made from ground level. Trees are living organisms; consequently their health and structural condition may change rapidly during extremes of weather and as a result of other environmental influences. These observations are based on the general condition of the trees at the time of inspection. It is strongly recommended that tree stocks are inspected twice a year, i.e. in leaf and during autumn/winter. The consultant shall not be responsible for events which happen after this time due to factors which were not apparent at the time, and the acceptance of this report constitutes an agreement with the guidelines and the terms listed in this report. The report aims to consider both the aesthetic qualities of the trees as well as their health, and a general indication as to their structural stability and the future safe life

expectancy. This information along with the tree's general size and categorisation (U, A, B, or C) is recorded at **Appendix 2 – Table 1. - Tree Survey.**

The Survey Plan at Appendix 3, plots the individual trees, and allocates a (T) number for each individual tree. For the purpose of this report as there is only one area of new construction that potentially affects one tree on the site, only those trees within 15m of the proposed development that may be influenced by the development have been surveyed. The accurate crown spreads of individual trees, or an estimation of crown spread in a particular direction, where access is not possible, are also recorded in the survey data or on the survey plan. Individual trees and groups are allocated a colour code with reference to BS 5837:2012. Trees in relation to Demolition, Design and Construction – Recommendations where (A) category trees are the highest quality trees, (B) category trees of good quality but downgraded owing to recognisable faults, and (C) category trees those of least significance or poor quality. Those tree allocated a U reference are recommended for removal. **(see Cascade Chart for tree quality at Appendix 1)**

The root protection areas (RPA's) are calculated by multiplying the diameter of each tree trunk measured at 1.5m from ground level by a factor of 12 to provide a radius of a circle that should be protected during development by fencing in accordance with the British Standard.

**Table 1: Tree Survey:** provides details for each tree surveyed. It will be noted that two different measurements are provided regarding root protection areas. The upper measurement in the table is the radius of a circle for protection assuming that there are no obstruction such as buildings or roads and footpaths within the circle of protection. The lower measurement in the table is used where there are such obstructions referred to above and provides an area for protection,

of any suitable shape within the favourable rooting zone, i.e. not including the area covered by buildings, footpaths, or roads. This measurement should be capped at 225m<sup>2</sup> which for instance is equal to a square with 15m sides. The trees and the radii for root protection areas are annotated on the extract from the topographical survey at **Appendix 3**.

All inspections were made from ground level.

## 2. THE SITE, LOCATION, SPECIES & GENERAL CONDITION OF TREES

### Site location:

The farm is located approximately 2/3<sup>rd</sup> of a mile to the west of Littlebeck village with open views of the undulating landscape to the south west and plantation woodland to the north west and south east growing on rising ground from the farm buildings. These plantations are unaffected by the proposed development. The main farm building is fronted by a level linear stoned forecourt some 8m wide, the outer landscape beyond the boundary low dry-stone boundary wall falls away rapidly from this point.

### The trees:

#### T1 Sycamore.

A maturing fairly symmetrical tree in good condition somewhat stunted by its exposed location. Growing at the south eastern end of the forecourt almost adjacent to the low dry- stone wall.

#### T2 Copper beech

A maturing tree in fair condition having a multi-stemmed congested crown emerging from a short main trunk. Evidence of the removal of three main boughs several years ago where large wounds have partially healed. Growing on the edge of the elevated area adjacent to the access to the farm. May be the remnant of a former hedge on the site.

#### T3 Cherry

An over-mature tree in only fair structural condition growing on sloping land and to the south east of T2. The tree is formed by two main co-joined trunks. This tree has been heavily pruned in the past severing large limbs resulting in large scars where decay has set in.

#### T4 Sycamore

A medium sized semi-mature tree growing along the same alignment and to the south east of T3 and formed by two co-dominant stems. A narrow crown in good condition.

#### T5 Horse Chestnut

A semi - mature tree growing at the north western end of the site. Congested crown but in a healthy condition. Some cracking of the bark at the base of the crown possibly due to twisting under wind stresses.

## 3. STATUS OF REPORT:

This report is valid for a period of **1 year** following the date of inspection, after which time regular inspection (twice per year) are recommended to ensure that trees to be retained are in a healthy and safe condition.

#### 4. LEGAL PROTECTION:

The site is not within a statutory conservation area nor are any of the trees protected under a TPO.

#### 5. IMPLICATION FOR TREES:

##### Tree removal:

No trees are required to be removed to accommodate the proposed development.

##### Conflicts with development proposals:

##### T2 Copper beech:

Piping for the new heating system from the converted shed to the south west of this tree could potentially run through the outer edge of the RPA for this tree.

##### Proposed mitigation:

Ensure that the alignment of the piping runs outside of the limit of the RPA.

##### Proposed protection measures:

The root protection areas of T1 T2 and T5 are totally under compacted stoned surfacing therefore to allow access to carry out the development it will only be necessary to fence off individual trees along the outer edge of crown spreads to ensure that the upper parts of the trees are not damaged by construction traffic. The alignment of protective fencing is annotated on the Tree Survey Plan at

Appendix 3. All fencing should be erected prior to the commencement of the development.

T4 will only be required to be fenced along the alignment of grassed area as its RPA is within the grassed area it is growing in. The proposed alignment for protective fencing is annotated on the survey plan at Appendix 3

##### Conclusion:

The trees adjacent to the development are not directly affected by it as there is no proposed construction within root protection areas. Provided that the upper parts of the trees are protected during the development phase by appropriate sturdy fencing in accordance with BS 5837:2012 or similar they should suffer no detriment as a consequence of the development.





## LIST OF APPENDICES

Appendix 1	Cascade chart for tree quality assessment – BS 5837 2012
Appendix 2	Table 1 - Tree Survey
Appendix 3	Topographical Survey
Appendix 4	Default protective fencing – BS 5837:2012
Appendix 5	Photographs



Appendix 1

**BS5837:2012 Table 1 – Cascade chart for tree quality assessment**

Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
<b>Trees unsuitable for retention (see Note)</b>				
<b>Category U</b> 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	<ul style="list-style-type: none"> <li>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)</li> <li>Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline</li> <li>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</li> </ul> <p><i>NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see [BS5837:2012] 4.5.7.</i></p>			
	<b>1 Mainly arboricultural qualities</b>	<b>2 Mainly landscape qualities</b>	<b>3 Mainly cultural values, including conservation</b>	
<b>Trees to be considered for retention</b>				
<b>Category A</b> <b>Trees of high quality</b> 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)	
<b>Category B</b> <b>Trees of moderate quality</b> 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	
<b>Category C</b> <b>Trees of low quality</b> 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	

Appendix 2 Table 1 – Tree Survey Data

Tree No.	Species	Ht (m)	Trunk diam (mm) @ 1.5 m from ground	Crown Spread				Height to 1 <sup>st</sup> branch	Cat. BS 5837:2012	Estimated remaining contribution (years)	Structural condition	Physiological condition	Life stage: Y – Young SM – Semi-mature M – Mature OM – Over mature V - Veteran	Radius of	Comments
				N	S	E	W							Root protection area (m)	
T1	Sycamore	11	700	4.0	4.0	4.8	4.8	0.8	A1	40+	Good	Good	M	8.40 26.4	Healthy tree
T2	Copper beech	12	700	5.2	5.4	5.2	5.0	1.6	B1	20/30	Fair	Good	M	8.40 26.4	May be remnant of a former hedge, several included joints.
T3	Cherry	11	600	4.8	4	4.8	3.5	0.5	C1	≤10	Fair	Fair	OM	7.2 22.70	Heavily pruned in the past when large limbs were removed, some deterioration of wounds.
T4	Sycamore	7	300	3.5	3.5	3.5	3.5	2.0	B1	30/40	Good	Good	SM	3.60 11.3	Medium sized symmetrical healthy tree.
T5	Horse Chestnut	11	450	4.50	4.0	5.0	4.0	2.2	B1	30/40	Good	Good	SM	5.40 16.90	Semi-mature tree generally in good condition. Cracking of bark in lower crown.



Appendix 3 Topographical Tree Survey

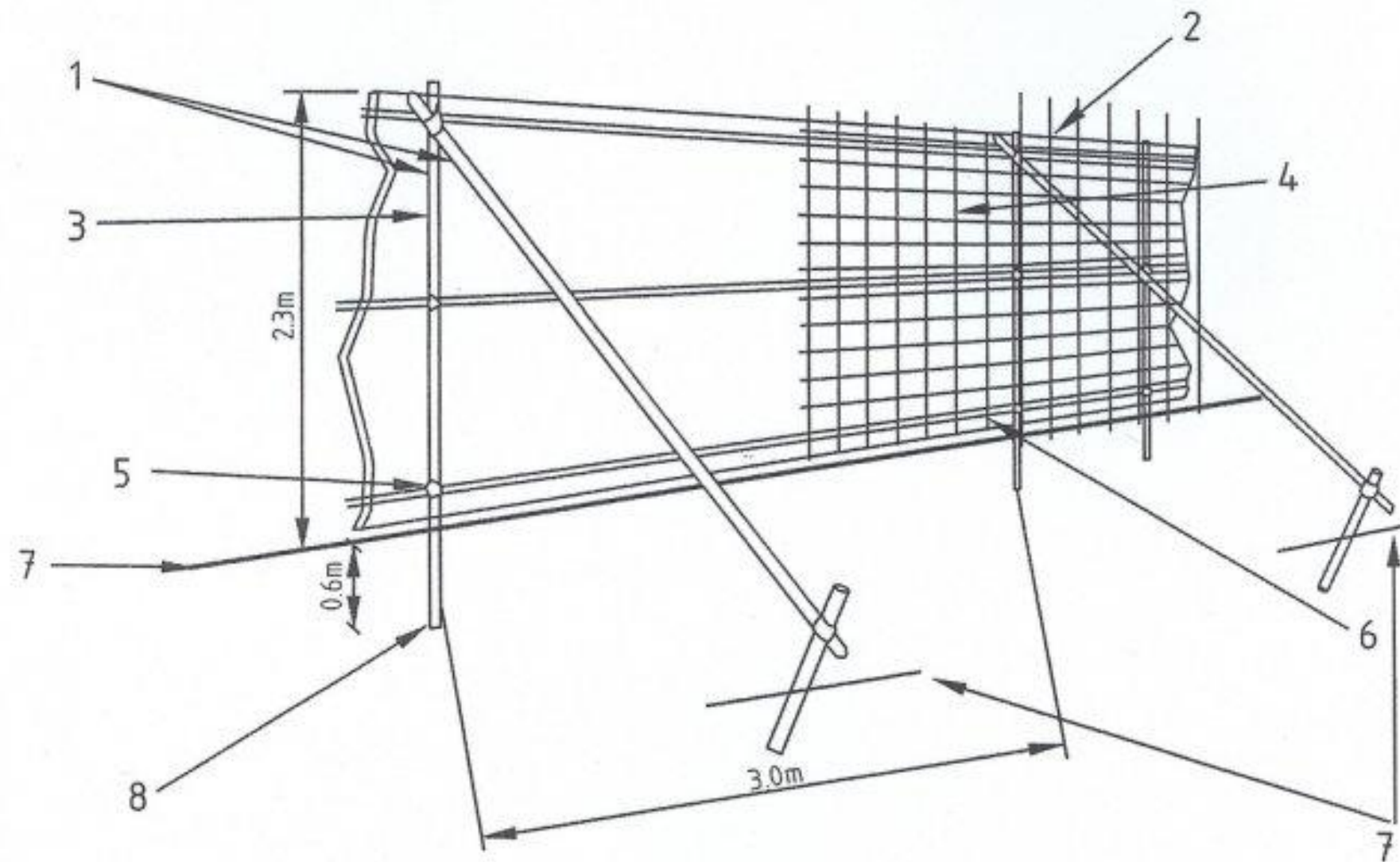


### Tree Survey Plan

- Category A trees
- Category B trees
- Category C trees
- Root protection areas
- Proposed alignment for protective fencing

Do not scale from this plan – see measurements on Table 1 – Tree survey at appendix 2

## Appendix 5 Default protective fencing



- |  |  |
|--|--|
| 1 Standard scaffold poles  | 5 Standard clamps  |
| 2 Uprights to be driven into the ground  | 6 Wire twisted and secured on inside face of fencing to avoid easy dismantling |
| 3 Panels secured to uprights with wire ties and, where necessary, standard scaffold clamps | 7 Ground level   |
| 4 Weldmesh wired to the uprights and horizontals   | 8 Approx. 0.6m driven into the ground  |

Figure 2. – Protective fencing for RPA



Appendix 6 Photographs



T1 Sycamore



T2 Copper Beech



T3 Cherry



T4 Sycamore





**T5 Horse Chestnut and plantation beyond**



**Minor cracking in bark at base of crown**