# UPPER BLAEN FARM, LLANVEYNOE, HEREFORD

## Tree Survey Report

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February 2019

**Our Ref: JSL3124_770**

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# QUALITY MANAGEMENT

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# CONTENTS



**APPENDICES:**

# 1 INTRODUCTION

1.1 This tree survey report was commissioned by Coinstone Limited. A tree survey was undertaken by RPS on the 6th February 2019.

1.2 This Tree Survey Report is a qualitative survey of the existing trees bordering and within Upper Blaen Farm, Llanveynoe, Hereford.

1.3 The purpose of the survey is to assess the landscape and visual amenity value of the existing trees and to identify the constraints associated with the trees prior to any potential redevelopment of the site. An assessment of the quality of the trees has been made, with reference to the categories and sub-categories listed within Table 1 - BS5837:2012[1].

# 2 SITE INFORMATION

2.1 The survey site was Upper Blaen Farm, Llanveynoe, Hereford, HR2 0NL. The survey site is roughly centred on OS grid reference SO27243387.

2.2 The soilscape of the area within which the survey site is located typically comprises 'slowly permeable seasonally wet acid loamy and clayey soils'[2]. Clay soil was also noted to be prominent during the survey anecdotally.

2.3 The survey site comprises the currently disused farm buildings and stables of Upper Blaen Farm, the associated access track and the land within its boundaries, which comprised semi-improved grassland.

2.4 Upper Blaen Farm is located in the Olchon valley between Black Hill and Offa's Dyke. The border between Wales and England lies less than a mile to the west, on Offa's Dyke. The lower slopes of the valley have been historically settled and comprise grass moorlands grazed by sheep, whilst the higher elevations of Black Hill and Offa's Dyke comprise upland heathland, with a distinct definition between these different habitat classifications. Olchon Brook runs along the bottom of the valley and to the north-east border of the site. The town of Hay-on-Wye lies approximately 6 miles to the north-west.

# 3 SURVEY METHODOLOGY

3.1 The tree survey was carried out by Jake Bailey (BSc (Hons), MArborA) of RPS group.

3.2 The report and survey were carried out in general accordance with the requirements set out in BS 5837:2012 "Trees in Relation to Design, Demolition and Construction – Recommendations[1]".

3.3 The tree survey involved a visual inspection from the ground of individual specimens and groups of trees in order to record their amenity value, management recommendations and dimensions. Where observed, the general condition of all the trees has been noted. The survey does not constitute a full arboricultural condition assessment involving the detailed inspection of trees in relation to their structural condition, decay, and any other physical and pathogenic defects.

3.4 The locations of the trees were based upon topographic survey produced by A.D. Horner In April, 2018.

3.5 The survey assesses individual trees and groups of trees for quality and benefits within the context of proposed development. The quality of each tree or group of trees has been recorded by allocating it to one of four categories as described in table 1. These categories have been differentiated on the tree survey plan (JSL3124_700, Appendix 2) by colours.

3.6 The survey information was recorded on the attached schedule (Appendix 1) in general accordance with the guidance contained within Section 4 of BS 5837:2012[1].

3.7 The information recorded is detailed in Table 1.

**Table 1 Tree characteristics recorded during survey**

| | |
|---|---|
| **Tree Ref No:** | Sequential reference number of trees or groups of trees. Avenues, woodlands and hedgerows were also recorded on the tree survey plan.<br># - denotes trees in an estimated location (best estimates are made about the location).<br>*- Denotes an offsite tree (Best estimates are made about physical characteristics and dimensions). |
| **Species** | Species listed by common name, with scientific names (italic lettering). |
| **Height (m)** | Estimated height of canopy to nearest metre. |
| **Crown Spread** | Crown spread, taken as a minimum at the four cardinal points, to derive an accurate representation of the crown |
| **Stem diameter @ 1.5 m (m)** | Measured diameter of trunk at 1.5 m above ground level in metres unless otherwise indicated, multi-stemmed trees being measured in accordance with Annex C: BS5837 |
| **Existing height above ground level** | To inform on ground clearance, crown/stem ratio and shading the estimated height of the first significant branch and direction of growth and canopy above ground level. |
| **Stem No.** | Number of stems (if necessary) of individual tree. |

| | | | | | |
|---|---|---|---|---|---|
| **Life Stage** | Expressed as:- | Y<br>SM<br>EM<br>M | (Young)<br>(Semi-mature)<br>(Early-mature)<br>(Mature) | OM<br>V<br>D | (Over-mature)<br>(Veteran)<br>(Dead) |
| **Structural/ Physiological Condition** | Apparent condition expressed as the following categories, based upon a brief visual inspection from the ground only:- | | | Good<br>Fair<br>Poor<br>Dead | |
| **Comments / Management Recommendations** | General observations, particularly of structural and/or physiological condition (e.g. the presence of any decay and physical defect), and/or preliminary management recommendations and potential for wildlife habitats (not exhaustive). | | | | |
| **Estimated remaining contribution (years)** | Estimated remaining contribution, in years (<10, 10+,20+,40+) | | | | |
| **Tree Quality Assessment Value**: **Category** | Criteria grading with regards to Table 1: BS 5837:2012, expressed as:- | **A** (Trees/Vegetation of high quality and value)<br>**B** (Trees/Vegetation of moderate quality and value)<br>**C** (Trees/Vegetation of low quality and value)<br>**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) | | | |
| | * Category U trees can have existing or potential conservation value which might be desirable to preserve. | | | | |
| **Tree Quality Assessment Value: Sub - Category** | Criteria grading with regards to Table 1: BS 5837:2012, expressed as:- | **1** (Trees with mainly *arboricultural* value)<br>**2** (Trees with mainly *landscape* value)<br>**3** (Trees with mainly *cultural / conservation* value) | | | |

3.8 A glossary of arboricultural terms is included in Appendix 3.

**Limitations**

3.9 The findings of this survey are not valid following adverse or unpredictable weather conditions or for any failure due to 'force majeure' or unpredictable events.

3.10 Trees were not climbed or inspected below ground level and inaccessible trees will have best estimates made about the location, physical dimensions and characteristics.

3.11 Trees and woody vegetation were not assessed for their potential impact upon future construction issues such as foundation designs (r.e.: NHBC chapter 4.2[3]). Whilst this report may assist in assessing likely future impacts, it should not be classed as a comprehensive vegetation survey in relation to impact upon future designs.

# 4 APPRAISAL AND RECOMENDATIONS

**Generally**

4.1 During the survey, 35 nr. trees were recorded as individuals, whilst 4 nr. tree groups and 2 nr. hedges were recorded.

**Tree Cover- Summary**

4.2 The trees were generally located at the boundaries of the site, with a few trees of limited value in the midst. The groups could be separated into broad categories as below:

4.3 High value, mature ash trees (T3, T4, T5, T12, T13#, T14, T23) were the most prominent trees noted during the survey and contributed significantly to the treed character of the area. These were between category A ('high value') and category B ('moderate value') of the BS5837:2012 tree grading criteria, with estimated lifetimes of 40+ years (see section on Ash dieback below) and a stage of maturity not replaceable with new planting. As such, these trees should be regarded as assets to the site and their retention planned for in the design phase of any potential development; see design and layout considerations. See figures 1a-1c.

4.4 Elsewhere, trees were largely of limited value. Much of the peripheral trees and tree groups (G1, G2, G3, G4, T25, T26, T27, T29#), comprised category C ('low value') hawthorn which exhibited typical species faults such as fusion between multiple stems. Rough pruning wounds were noted to crowns where they had previously extended into the neighbouring site. Although these trees provide some low-level screening od the site, their loss would be easily mitigated with new planting.

4.5 In the midst of the site, fruit trees (T30, T31) were noted to be in terminal decline with an estimated useful lifetime of less than 10 years. As such, they were identified as category U ('unsuitable for retention').

4.6 It was noted that several trees had been 'topped', with wide diameter cuts through the main stem, such as T28 (a willow, category U), T33 and T34 (An ash and a bird cherry, both category C). T33 and T34 are likely to persist with epicormic regrowth which is already dense, but will need cyclical pruning to maintain at a reasonable structural condition, although the loss of both could be replaced with new planting; T28 however is likely to undergo further structural failures and is not considered suitable for long term retention in a residential context.




Figures 1a-1c: Mature ash trees formed an integral part of the landscape character, both within the site and in the wider area.

1a- A large and prominent category A ash tree at the site entrance. 1b- T3 and T4, a pair of category A ash trees which complemented each other. 1c- Ash trees in the wider landscape beyond the north-east site boundary.

**Tree Quality- Summary**

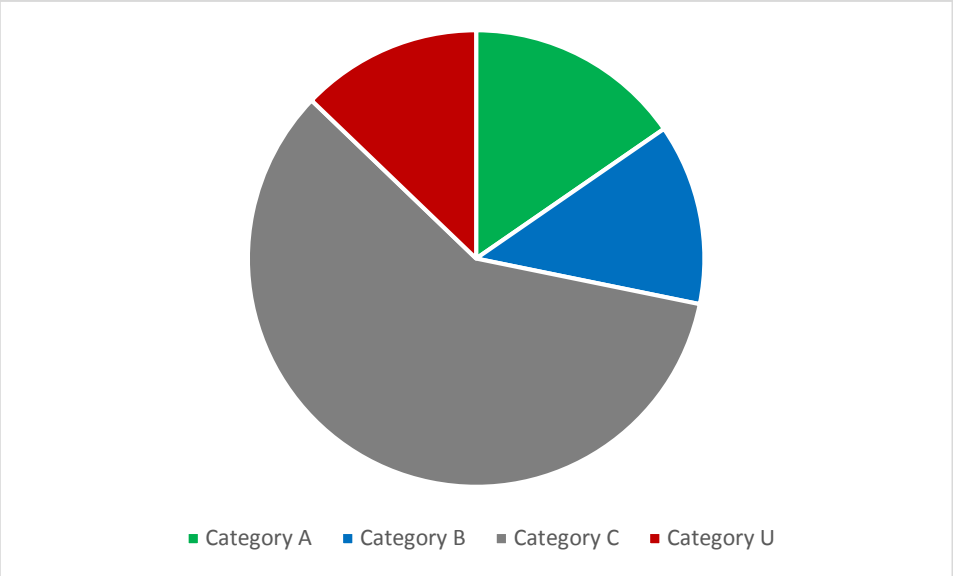


Figure 2. 15% of Trees and Groups surveyed were of category A, 13% were of category B, 50% of category C and 13% of Category U (total sample size= 39).

4.7 The tree stock comprised a relatively high percentage of Category A trees, which is attributable to the mature ash trees as described in paragraph 4.3. Category B trees were slightly less abundant but still formed a significant part of the tree stock and their retention is desirable. Category C trees were dominant, which is largely attributable to the abundance of lower quality trees and smaller statured trees at the site peripheries such as hawthorn; see paragraph 4.4. Category U trees were also comprised a relatively high percentage of the tree stock, largely because of failed or failing trees as noted in paragraph 4.5 , or trees with a limited estimated lifetime (paragraph 4.6).

**Significant defects noted**

4.8 This survey is not intended as a comprehensive hazard assessment and should not be used as such. However, some significant defects (i.e. large sizes of defective parts, relatively high target area) were noted and are described in the following paragraphs which are earmarked to assist future identification.

4.9 **T3-** A rot pocket from a previous pruning wound or branch failure was noted at the base of a major limb which may compromise branch strength (See figure 2). The rot pocket itself may have habitat potential (seek advice from an ecologist). Branch reduction may be necessary in the future if the cavity extends. Recommend further monitoring of woundwood occlusion.

Fig. 3.

4.10 **T4-** A basal stem cavity was noted on the south west stem. Cursory probing with a sounding hammer suggested sufficient reaction wound was present, however it is recommended the condition of this tree is further monitored and the extent of the cavity measured in a tree hazard assessment.

**Chalara Ash Dieback**

4.11 A desktop investigation using the Forestry Commission chalara ash dieback infection interactive map[4] indicated that infection as confirmed in 2016, within the 10km hectad within which the survey site is located. This does not necessarily mean the ash trees on site are infected with chalara ash dieback and no symptoms were observed during the survey, however it is recommended the trees are routinely further monitored for symptoms, particularly during full leaf. See Appendix 4 for further detail on the identification of symptoms.

4.12 In the event that the disease is identified within the site, the Forestry Commission does not require any action to be taken by owners of infected trees. However, the disease can lead to the structural decline of trees and further monitoring is recommended on a regular basis to ensure pruning/ felling is undertaken as necessary to abate any hazards that may arise.

**Planning considerations**

4.13 A desktop investigation using the Herefordshire Council interactive map[5] confirmed that there are no Tree Preservation Orders (TPOs) within the survey site and the site is not within a conservation area.

4.14 A desktop investigation also confirmed that there are no areas within the survey site designated as ancient woodland[2].

4.15 Under the UK planning system, local authorities have a statutory duty to consider the protection and planting of trees when granting planning permission for proposed development. The potential effect of development on trees, whether statutorily protected (e.g. by a tree preservation order or by their inclusion within a conservation area) or not, is a material consideration that is taken into account in dealing with planning applications.

**New Tree Planting Considerations**

4.16 Trees can offer many benefits, including the provision of visual amenity, softening or complementing the effect of the built environment, and adding maturity to new developments by making places more comfortable in tangible ways e.g. contributing screening and shade, reducing wind speed and turbulence, intercepting snow and rainfall, and reducing glare.

4.17 New tree planting opportunities should be considered as part of any potential redevelopment; this will help to broaden the age diversity and arboricultural interest of the tree cover within the area. Sufficient space should be provided for species with significant stature to grow out into maturity.

4.18 In particular, new tree planting would also help to broaden the species diversity of the site, and give a provision for continuous canopy cover given the biosecurity risk to a significant part of the existing tree stock posed by Chalara Ash Dieback.

4.19 It is recommended species selection is of native stock and in keeping with the local area. The main soil type of the area is clay and this should also be considered in species selection.

4.20 Tree locations should be considered early on and their mature size and crown spread should guide the choice of tree. It may be better to remove poorly positioned trees and plant new ones in more suitable locations than persist with a ‘wrong tree in the wrong place’.

4.21 Given the above considerations, a native, clay tolerant species which have the potential to reach a medium- large mature size is recommended for new planting. Pedunculate oak, sessile oak, common alder, and field maple are all suitable species.

4.22 See also design and layout considerations, below.

**Design and Site Layout Considerations**

4.23 A tree constraints plan defines the Root Protection Area (RPA) for each tree shown as a circle. This area may be adjusted should physical constraints or topographical features limit root activity in a particular area, however the total area should remain the same. Prior to any adjustment of the tree’s RPA zones the changes should be assessed by an arboriculturalist. During any site planning exercises the current and future growth potential of the trees should be considered.

4.24 The RPA for single stem trees broadly equates to a radius 12 times the stem diameter of the tree at 1.5m above ground level or the extent of canopy spread, whichever is the greater. For multi-stemmed, low branching trees or those with trunks with an irregular girth the point of stem diameter measurement is adjusted in consideration of these factors and in accordance with the illustrations in BS5837:2012[1] (Annex C).

4.25 The RPA for trees to be retained and protected should become an exclusion zone during construction works and for any development. It should be fenced-off and protected in accordance with BS5837:2012. The canopy is likewise susceptible to damage during construction work and requires similar protection.

4.26 No activities that result in excavations, changes in level or soil compaction should take place within the RPA of any retained trees, especially older mature trees. This would include the storage of materials, any construction work, trafficking by vehicles or even excessive trafficking by pedestrians.

4.27 If some form of construction has to take place within the RPA then certain measures need to be adopted to avoid disturbance or damage to the roots and to maintain moisture infiltration and gaseous diffusion into the soil.

4.28 Services likewise should be routed outside the existing or potential root zone of trees. Where it is unavoidable, then certain measures should be employed to avoid damage to the trees larger roots.

4.29 The location and siting of new facilities near trees should consider the potential impact on and conflict with both tree roots and canopy. This should take into account the ultimate size of existing young and middle-aged trees at maturity. Conversely the impact of the tree on the activities should also be considered with regard to obstruction, shading, leaf fall and root action. These are problems that can be managed provided sufficient space is allowed for.

4.30 Particular care is needed regarding the retention of large, mature trees which become enclosed within the new development. Where such trees are retained, adequate space should be allowed for their long-term physical retention and future maintenance.

**Trees and Management of Health and Safety**

4.31 It is recommended that a programme of periodic arboricultural assessments be undertaken in order to regularly assess the full health and safety of all trees both in full leaf and bare stemmed. The assessments should prioritise areas based on levels of access and presence of target (i.e. exposure of people to hazard) and accord with arboricultural advice, taking account of relevant factors (where known) that affect safety such as the age class, condition, size and species of the trees.

# 5 REFERENCES

[1] British Standards Institute. *British Standard (BS5837) Trees in Relation to Design, Demolition and Construction - Recommendations*. 2012.

[2] DEFRA. 'Magic Map Application'. Available: www.magic.gov.uk. [Online]. Accessed 20th February 2019.

[3] NHBC. 'Chapter 4.2- Building Near Trees'. *NHBC Standards 2016.* 2016.

[4] Forestry Commission. 'Chalara (Hymenoscyphus fraxineus)- infections confirmed in the wider environment as at 15th February 2019'. Available: www.chalaramap.fera.defra.gov.uk [Online]. Accessed 20th February 2019.

[5]Herefordshire Council. 'Administrative map'. Available: www.hereforshire.gov.uk [Online]. Accessed 20th February 2019.

# APPENDIX 1

Tree Survey Schedules JSL3124_750

**TREE SURVEY SCHEDULE**

Site: Upper Blaen Farm, Hereford
Project Schedule Ref: JSL3124_750
Drawing Reference: JSL3124_700
Survey date: 6th February 2019

Surveyor: J. Bailey
Status: For Information
Revision:
Notes: Stem dia. (mm) for trees with 6 or more stems are estimated averages.

| Ref. no | Species | Height (m) | Crown spread (m) | | | | Stem dia. (mm) | Stem no. at 1.5m | Height of crown clearance | Dir/ height | Age class | Structural Condition | Physiological Condition | General Observations Management Recommendations | Estimated remaining contribution | Tree Quality Category (BS5837) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | N | S | E | W | | | | | | | | | | |
| T1 | Crataegus monogyna - Common Hawthorn | 6 | 1 | 1.5 | 2 | 2 | 140, 140, 100 | 3 | 4 | East | EM | Fair | Good | Epicormics growth on Base & Stem. Pruning wounds to lower crown. Multi stemmed stem formed at 0 metres. Outgrown part of hedge. | 20-40 | C2 |
| T2 | Fraxinus excelsior - Common Ash | 24 | 7.5 | 9.0 | 6.5 | 9.0 | 1100 | 1 | 2.0 | East | M | Fair | Fair | Pruning wounds to Stem and Crown. Dieback and minor sized deadwood noted within inner crown; peripheral vitality appears ok. Prominent tree at entrance, fluted basal stem and buttress roots established with hedge bank. Recommend further monitoring in full leaf for ash dieback symptoms. Minor rot pockets associated with pruning wounds. | 40+ | A2 |
| T3 | Fraxinus excelsior - Common Ash | 26 | 6.5 | 11 | 11 | 7.0 | 770 | 1 | 2.0 | West | M | Fair | Good | Previous branch failures noted. Rot pocket with internal decay at branch to stem union of major south limb noted, habitat potential but may compromise brnch strength in future. Visually prominent and ash dieback symptoms not noted, but rcommend further monitoring in full leaf nonetheless. | 40+ | A2 |
| T4 | Fraxinus excelsior - Common Ash | 26 | 4 | 5 | 4 | 8 | 740 | 1 | 0.0 | West | M | Fair | Good | Cavity noted on basal SW stem, internal decay noted but extesive reaction wood present, flared basal stem with buttress roots. Adds to setting of area. Ash dieback symptoms not noted, vitality appeared good at time of survey. | 40+ | A2 |
| T5 | Fraxinus excelsior - Common Ash | 26 | 7.0 | 7.5 | 2.5 | 8.5 | 760 | 1 | 1.5 | West | M | Fair | Good | Located outside of application boundary down a bank, crown oversails boundary. Attractive form and group value, adds to setting of area. Ash dieback symptoms not noted. | 40+ | A2 |
| T6 | Corylus avellana - Common Hazel | 8 | 2.0 | 4.5 | 3.5 | 3.5 | 300, 220 | 2 | 2.0 | South | M | Fair | Good | Mature hedegrow remnant, group value. Lacks central leader. Pruning wounds in crown. Bark delamination/ woundwood seams noted on minor limbs. | 20-40 | C2 |
| T7# | Corylus avellana - Common Hazel | 8 | 1.5 | 2.0 | 4.5 | 1.0 | 120, 80 | 2 | 5.0 | East | EM | Fair | Fair | Stem wounds are present. Asymmetric formed crown. Hedegrow remnant, some group value but limited individual value. Adjacent basal stem to south has been coppiced. Deadwood in mid crown. | 10-20 | C2 |
| T8# | Corylus avellana - Common Hazel | 10 | 2.0 | 1.5 | 4.0 | 1.0 | 180 | 1 | 6.0 | East | EM | Fair | Fair | Stem wounds are present. Asymmetric formed crown. Deadwood in the crown of Moderate extent. Mature hedegrow remnant, some group value but limited individual value. Adjacent stem to south has been coppiced. | 10-20 | C2 |
| T9# | Crataegus monogyna - Common Hawthorn | 9 | 3.5 | 1 | 4.0 | 0.5 | 150 | 1 | 6 | NE | EM | Fair | Fair | Asymmetric formed crown. Branch dieback of Minor extent. | 10-20 | C2 |
| T10# | Crataegus monogyna - Common Hawthorn | 7.5 | 3.5 | 1.0 | 4.0 | 0.5 | 60 | 1 | 5 | NE | EM | Fair | Fair | Asymmetric formed crown. Scrappy tree established on bank. | 10-20 | C2 |
| T11 | Acer campestre - Field Maple | 4 | 1.5 | 4 | 5 | 0.1 | 230 | 1 | 1.8 | South | EM | Fair | Fair | Partially lapsed tree on bank edge, limited crown remains. | 10-20 | C2 |
| T12 | Fraxinus excelsior - Common Ash | 18 | 4 | 4.5 | 5.0 | 3.5 | 490 | 1 | 6+ | West | EM | Fair | Good | Fence and stake has become occluded in stem growth. Bifurcates at 3m, good union. West divergent stem is dominant in crown. | 40+ | B2 |
| T13# | Fraxinus excelsior - Common Ash | 23 | 6.0 | 7.0 | 6.5 | 6.0 | 840 | 1 | 1.75 | SW | M | Fair | Good | Deadwood stubs and previous limb failures noted in crown, minor extent. Bifurcates at 6m, partial cup union formed and sheltered aspect. High landscape value, adds to setting of area. | 40+ | A2 |
| T14 | Fraxinus excelsior - Common Ash | 20 | 9 | 9.5 | 6.5 | 8.5 | 970 | 1 | 0.0 | SW | M | Good | Good | Wide spreading crown, attractive form with high landscape amenity. Adds to setting of area. Moderate previous branch failures and deadwood limbs in lower crown (up to ~7m long and 15cm diameter). | 40+ | A2 |
| T15 | Fraxinus excelsior - Common Ash | 20 | 0.5 | 2.5 | 2 | 2.5 | 220 | 1 | 6+ | East | SM | Good | Good | Young tree, narrow crown and limited stature. | 40+ | C2 |
| T16 | Corylus avellana - Common Hazel | 7.5 | 3.5 | 4 | 4 | 4 | 110 | 6 | 1.75 | West | M | Fair | Good | Pruning wounds to West Crown. Multi stemmed stem formed at 0.0 metres. Fused limb/branches.Young tree, narrow crown and limited stature. | 20-40 | C2 |

Note: This survey is based on a brief visual inspection from the ground.
It is not intended as a full arboricultural inspection.
# - indicates estimated/offsite tree.

| Ref. no | Species | Height (m) | Crown spread (m) | | | | Stem dia. (mm) | Stem no. at 1.5m | Height of crown clearance | Dir/ height | Age class | Structural Condition | Physiological Condition | General Observations Management Recommendations | Estimated remaining contribution | Tree Quality Category (BS5837) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | N | S | E | W | | | | | | | | | | |
| T17 | Acer campestre - Field Maple | 5 | 2.5 | 4.5 | 2.0 | 2.5 | 110 | 6 | 1.5 | West | EM | Fair | Good | Multi stemmed stem formed at 0.0 metres. Stunted form. | 20-40 | C2 |
| T18 | Acer pseudoplatanus - Sycamore | 17 | 4.0 | 7.5 | 4.5 | 5.5 | 340, 330, 300, 390 | 4 | 3.0 | SW | EM | Fair | Fair | Previously pollarded at 1.5m, multiple stems diverge with compression forks/ included bark present. Crown lacks central leader and divergent scaffold limbs provide mass damping. Stem wounds noted, semi occluded with inner wood exposed in places.Recommend repollarded at higher points. | 40+ | B2 |
| T19 | Acer campestre - Field Maple | 8.5 | 5.5 | 6.0 | 6.0 | 5.5 | 490 | 1 | 2.0 | SW | M | Fair | Good | Approaching late mature life stage. Established at top of bank. Basal stem cavity with internal decay noted.Reaction wood throughout lower stem and stem leaning ~30° over bank. | 20-40 | B2 |
| T20 | Crataegus monogyna - Common Hawthorn | 8.5 | 4 | 4.5 | 4 | 3 | 230, 230 | 2 | 1.5 | East | OM | Poor | Good | Recommend tree is removed.Extensive basal shear crack with internal decay nored. | <10 | U |
| T21 | Fraxinus excelsior - Common Ash | 7.5 | 2.5 | 1.5 | 1.5 | 2 | 100 | 1 | 1.5 | North | SM | Fair | Good | Self sewn tree amongst old brick wall. Limited stature. | 40+ | C2 |
| T22 | Acer pseudoplatanus - Sycamore | 18.5 | 2.5 | 8.0 | 4.5 | 6.5 | 630 | 1 | 3.0 | SE | EM | Fair | Good | Deadwood in the crown of Minor extent. Stem trifurcates at ~2m, Reaction wood around junction. Included bark likely to develop in future. | 40+ | B2 |
| T23 | Fraxinus excelsior - Common Ash | 15 | 4.5 | 6.0 | 5.5 | 6.5 | 650 | 1 | 3.0 | East | M | Fair | Good | Basal stem diverges into 6 stems at 1.5m, appears to have bena lapsed pollard. Included growth noted between adjacent stems. | 40+ | B2 |
| T24# | Ilex aquifolium - Common Holly | 6.5 | 1 | 2 | 0.5 | 1 | 80, 180 | 2 | 0.5 | SW | SM | Fair | Good | Not plotted on land survey plan. | 20-40 | C2 |
| T25 | Crataegus monogyna - Common Hawthorn | 7 | 2 | 3 | 2.5 | 2 | 70, 90, 140, 140, 90 | 5 | 0.5 | South | EM | Fair | Good | Scrappy multistem at boundary. | 20-40 | C2 |
| T26 | Crataegus monogyna - Common Hawthorn | 7.5 | 4.5 | 4 | 4 | 3.5 | 200, 100, 200 | 3 | 0.5 | North | EM | Fair | Good | Included branch union in the crown. Fused limb/branches.Basal stem diameters measured, as multiple limbs diverge from 0.5m+ making an accurate multistem value difficult to obtain. | 20-40 | C2 |
| T27 | Crataegus monogyna - Common Hawthorn | 7 | 2.5 | 2.5 | 3 | 3 | 280 | 1 | 1 | East | EM | Fair | Good | Included branch union in the crown. Fused limb/branches.Basal stem diameters measured, as multiple limbs diverge from 0.5m+ making an accurate multistem value difficult to obtain. | 20-40 | C2 |
| T28 | Salix sp. - Weeping Willow | 7 | 2.0 | 2.0 | 1.0 | 4.0 | 220, 180, 160, 200, 170 | 5 | 1.5 | East | EM | Poor | Good | Basal stems are in very poor structural condition but have been pollarded. Pollard is lapsed however and the tree has no significant long term potential. | <10 | U |
| T29# | Crataegus monogyna - Common Hawthorn | 7 | 1.0 | 1.5 | 1.0 | 1.5 | 70, 60, 60 | 3 | 2.0 | SE | SM | Fair | Poor | x2 adjacent stems, peripheral dieback in crown of southernmost. Limited stature. | 10-20 | C2 |
| T30 | Prunus sp. - Prunus sp. | 3 | 0.5 | 2 | 2 | 1 | 140 | 1 | 1.5 | SE | OM | Poor | Poor | Stem failure inevitable. | <10 | U |
| T31 | Prunus spinosa - Blackthorn | 4.5 | 1.5 | 0.5 | 2.5 | 0.1 | 250 | 1 | 0.0 | SE | OM | Poor | Poor | Hollow stem. Stem failure inevitable. | <10 | U |
| T32# | Prunus spinosa - Blackthorn | 4.5 | 1 | 1.5 | 1 | 2 | 210 | 1 | 1.8 | SW | OM | Poor | Poor | Not plotted on land survey plan. Significant internal stem decay. Stem failure inevitable. | <10 | U |
| T33# | Fraxinus excelsior - Common Ash | 6 | 2.0 | 2.0 | 2.0 | 1.5 | 620 | 1 | 1.5 | North | M | Fair | Good | Not plotted on land survey plan. Previously pollarded to 3m. Epicormic regrowth surrounds pole. | 10-20 | C2 |
| T34 | Prunus padus - Bird cherry | 12 | 5.0 | 6.5 | 3.0 | 0.1 | 43 | 1 | 0.0 | North | EM | Fair | Good | Asymmetric formed crown. Previous stem failure noted with decay on south stem. Lapsed branch to south has resumed growth from lapsed position. Pollarded at 4m but northern limb left unpollarded giving assymetric crown. | 20-40 | C2 |
| T35# | Crataegus monogyna - Common Hawthorn | 12 | 3.0 | 1.5 | 2.5 | 0.5 | 70 | 6 | 1.0 | North | EM | Fair | Good | Not plotted on land survey plan. Partially lapsed stem in horizontal position has resumed vertical growth with side branches. | 20-40 | C2 |
| G1 | Crataegus monogyna - Common Hawthorn\| | 8 | as shown. | | | | 100-200 | - | - | - | SM-EM | Fair | Good | Boundary group. Scrappy individual trees. Recent pruning wounds noted on neighbouring side. | 20-40 | C2 |
| G2 | Crataegus monogyna - Common Hawthorn\| | 3 | as shown. | | | | 80-250 | - | - | - | SM-EM | Fair | Fair | Rough hawthorn at boundary. | 20-40 | C2 |
| G3 | Crataegus monogyna - Common Hawthorn\| | 8 | as shown. | | | | 70-140 | - | - | - | SM-SM | Good | Fair | Rough hawthorn x3 at boundary. | 20-40 | C2 |
| G4 | Crataegus monogyna - Common Hawthorn\| | 8 | as shown. | | | | 130-300 | - | - | - | EM-M | Fair | Fair | Rough boundary group, most have stem defects. | 10-20 | C2 |

Note: This survey is based on a brief visual inspection from the ground.
It is not intended as a full arboricultural inspection.
# - indicates estimated/offsite tree.

| Ref. no | Species | Height (m) | Crown spread (m) | | | | Stem dia. (mm) | Stem no. at 1.5m | Height of crown clearance | Dir/ height | Age class | Structural Condition | Physiological Condition | General Observations Management Recommendations | Estimated remaining contribution | Tree Quality Category (BS5837) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | N | S | E | W | | | | | | | | | | |
| H1 | Corylus avellana - Common Hazel\| Prunus spinosa - Blackthorn\| Ilex aquifolium - Common Holly \| | 2 | as shown. | | | | - | - | - | - | - | Fair | Good | Mixed species hedgerow, predominantly hazel, flailed at ~1.5m. | 20-40 | - |
| H2 | Corylus avellana - Common Hazel\| Prunus spinosa - Blackthorn\| Ilex aquifolium - Common Holly \| | 2 | as shown. | | | | - | - | - | - | - | Fair | Good | Mixed species hedgerow, predominantly hazel, flailed at ~1.5m. | 20-40 | - |

Note: This survey is based on a brief visual inspection from the ground.
It is not intended as a full arboricultural inspection.
# - indicates estimated/offsite tree.

# APPENDIX 2

Tree Survey Plan JSL3124_700

Notes

1. This drawing has been prepared in accordance with the scope of RPS's appointment with its client and is subject to the terms and conditions of that appointment. RPS accepts no liability for any use of this document other than by its client and only for the purposes for which it was prepared and provided.
2. If received electronically it is the recipients responsibility to print to correct scale. Only written dimensions should be used.
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# Key

Survey boundary.

T1 — Tree with numbered reference. Canopy spread and BS5837:2012 tree quality category as shown below.

T1# — Tree (location estimated) with numbered reference. Canopy spread and BS5837:2012 tree quality category.

G1 — Vegetation group with numbered reference. Canopy extents and BS5837:2012 tree quality category as shown below.

H1 — Hedge with numbered reference. Width and BS5837:2012 tree quality category as shown below.

BS 5837:2012 Tree Quality Categories - Table 1

- Category A - High quality
- Category B - Moderate quality
- Category C - Low quality
- Category U - Unsuitable for retention

Root protection area (RPA) Calculated in accordance with Section 4.6 - BS5837:2012

NOTES:

- Refer to RPS Tree Survey Report & Schedule for further details.
- Survey based on a visual inspection from the ground and is not intended as a full arboricultural inspection.
- Plan produced in accordance with recommendations set out in BS 5837:2012 - 'Trees in Relation to design, demolition and construction'.
- Due to the legal protection afforded to breeding birds vegetation removal should not take place during the bird nesting period; generally, although not restricted to, March - August inclusive.
- Survey based upon topographic survey produced by A.D. Horner in April, 2018

Scale Bar

0m 10m 25m

| Rev | Description | By | CB | Date |
|---|---|---|---|---|
| | | | | |
| | | | | |

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Client: Coinstone Limited.

Project: Upper Blaen Farm, Llanveynoe, Hereford

Title: Tree Survey Plan

| Status | Drawn By | PM/Checked by |
|---|---|---|
| For Information | JB | DC |

| Job Ref | Scale @ A1 | Date Created |
|---|---|---|
| JSL3124 | 1:250 | Feb '19 |

RPS Drawing / Figure Number: 700

Rev: -

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# APPENDIX 3

## Arboricultural Glossary

**Age-class** - A general classification of the tree into either - young, semi-mature, early mature, mature, over-mature, or veteran.

**Apical Bud/Shoot** – The apical bud, also known as the leading shoot, is responsible for shoot extension and is dominant.

**Apical Dominance** – A singular, leading shoot remains dominant.

**Arboriculturalist** – Person who has, through relevant education, training and experience, gained recognised qualifications and expertise in the field of trees in relation to construction.

**Asymmetric crown**- Crowns that have a morphological bias in a particular direction. This can give the tree an aesthetically unfavourable appearance, but can also subject the tree to uneven wind- loading forces and potentially result in failure.

**Basal** – Referring to the bottom part of a tree's stem.

**Bifurcated** - A growth characteristic, where two stems of similar size grow from the same point. Can create an inherent weakness.

**Branch union/junction** - The point at which a branch joins a larger stem. Can be a point of weakness, especially in certain species.

**Brown Rot**- Decay caused by certain species of fungus which results in the affected wood becoming brittle and liable to suddenly 'break out', especially if in key structural areas.

**Buttress flares** – Extensions of the basal stem of a tree that provide additional structural support. See reaction wood.

**Bifurcated**- A growth characteristic, where two or more stems of similar size grow from the same point. Can create an inherent weakness.

**Canker** – A clearly defined area of dead and sunken or malformed bark, caused by bacteria or fungi. Can have a bearing on structural integrity of infected limb(s) depending on size and location.

**Central leader**- See apical dominance.

**Chalara ash dieback**- A disease affecting ash trees caused by the fungus *Hymenoscyphus fraxineus*. Usually fatal, the disease causes leaf loss and crown dieback in infected trees. It was first confirmed in Britain in 2012.

**Chlorosis**- yellowing of leaves which can be caused by a range of factors, often an indicator of nutrient deficiency.

**Compaction** - The compressing & hardening of soil around tree root systems, due to vehicular/pedestrian use etc. Loss of pore space between soil granules limits water movement and gaseous exchange, and inhibits root growth.

**Companion shelter**- Shelter provided by neighbouring trees in groups to one another, factors such as wind throw are reduced due to supporting branches and interlocking root systems. Removing individual trees on the peripheries of such groups can expose neighbouring trees to environmental factors they have not previously been subjected to and can lead to individual failure.

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

Note 1 A competent person understands the hazards and the methods to be implemented to eliminate or reduce the risks that can arise. For example, when on site, a competent person is able to recognise at all times whether it is safe to proceed.

Note 2 A competent person is able to advise on the best means by which the recommendations of this British Standard may be implemented.

**Condition** – Assessment based on a visual and professional view giving consideration to many factors such as tree health, structural integrity and suitability of its position.

**Conservation dead- wooding**- Removal of deadwood using 'coronet cuts' that mimic the way a branch would naturally break off, maximising deadwood habitat availability for invertebrates.

**Coppice** - The method of managing trees by cutting the stems at between 1.0 inch and 1.0 foot from the ground level on a regular cycle, the cut stumps of the trees or shrubs are allowed to re-grow many new stems.

**Crown spread** - Gives distances between extreme limits of the crown and the stem, usually along the four compass points. Helps to show crown symmetry.

**Crown Reduction** – The removal of branch ends to reduce the extreme limits of a trees branch spread and height.

**Crown Thin** – The removal of selected branches within the crown to thin the internal branch structure.

**D.B.H.** - 'Diameter at Breast Height', an industry standard to gauge tree stem size and development. Within arboriculture, breast height is taken to be 1.5m above ground level.

**Dieback** - The reduction in crown vigour and extension growth progressing to death of distal parts; often associated with decline.

**Epicormic growth** - New growth from dormant buds that can often form tenuous attachments. Although some species readily form such shoots, it can be an indication of stress.

**Form** - A general assessment of the shape and position of the tree within its environment.

**Hanger** – Term used to describe a branch that has become detached and is being supported by other branches. Can be a hazard to persons and property below.

**Hazard Beam** – After the loss of a distal part, a limb concentrates growth upwards creating adverse end weights that can render the limb susceptible to failure. .

**Included bark** – Growth characteristic usually caused when two or more stems/branches growing in close proximity 'fuse' together entrapping the bark from when the parts were separate in the middle, creating a structural weakness.

**Invertebrate tower** – Pollarding of a (usually dead) tree to a safe height that leaves part of the main stem as a deadwood habitat for invertebrate species.

**Live Crown Ratio** – Ratio of the foliage canopy to the total height of the tree. Trees grown in close proixmimity to other trees/ buildings will often have a low live crown ratio, and can become vulnerable to failure if suddenly exposed to wind e.g. by removal of adjacent trees.

**Occlusion/Occluded** – Normally used to describe the overgrowth of a wound. Also, immoveable foreign objects in contact with a tree part can become encased or 'occluded' by the tree as it grows incrementally.

**Pathogen** - An agent that causes disease, especially a living microorganism such as a bacterium or fungus.

**Pollard** – The removal and subsequent regular re-removal of the crown of a tree above animal browsing height. Can be an effective method of controlling the size of trees in urban areas. This is ideally begun in the trees early stages and maintained throughout its life.

**Reaction wood** - Essentially additional wood laid down by the tree to compensate for structural defects such as cavities.

**Ring barking/Girdling** – the removal of bark around the entire circumference of a stem or branch, causing the death of all distal parts.

**Root Protection Area (RPA)** – Layout design tool indicating the area surrounding a tree that contains sufficient rooting volume to ensure the survival of the tree, shown in plan form in $m^2$.

**Scaffold limbs** - The main structural branches within the crown.

**U.L.E** – 'Useful Life Expectancy' is an estimate based on currently known factors of the possible remaining life of the tree as an asset. AKA 'Estimated remaining contribution'.

**Veteran tree –** Tree that, by recognised criteria, shows features of biological, cultural or aesthetic value that are characteristic of, but not exclusive to, individuals surviving beyond the typical age range for the species concerned.

**Vitality -** A general classification, as to the present and future potential growth and development of a tree. A comment regarding the health status of the tree specific to its species.

**White Rot -** A type of decay caused by certain species of fungi which results in the affected wood becoming flexible with little compressive strength.

# APPENDIX 4

Forestry Commission Ash Chalara Dieback symptoms ID

Forestry Commission

# Chalara dieback of ash

## Symptoms associated with **Chalara dieback** of ash (1–7)


Diseased saplings typically display dead tops and/or side shoots.


At the base of dead side shoots, lesions can often be found on the subtending branch or stem.


Lesions which girdle the branch or stem can cause wilting of the foliage above.



Mature trees affected by the disease initially display dieback of the shoots and twigs at the periphery of their crowns. Dense clumps of foliage may be seen further back on branches where recovery shoots are produced.


In late summer and early autumn (July to October), small white fruiting bodies can be found on blackened rachises (leaf stalks) of ash in damp areas of leaf litter beneath trees. These do not necessarily belong to the pathogen but can be tested to determine their identity.


If the disease is well established, some trees may have tongues of bark killed by *C. fraxinea* at the base of their stems.

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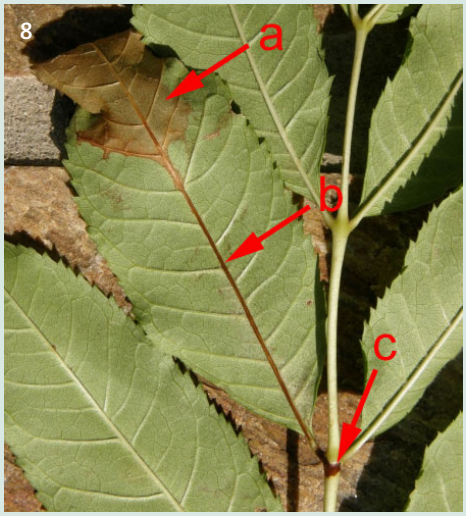
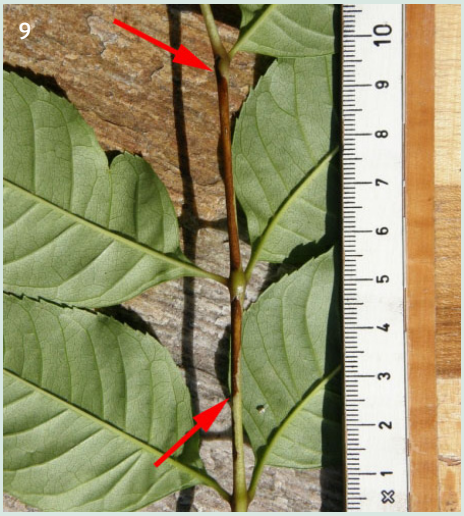
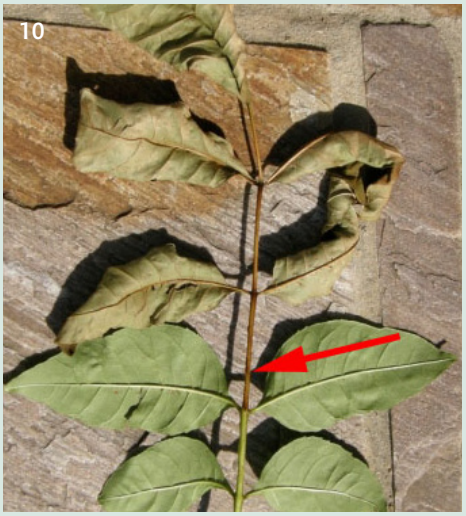
# Symptoms associated with **Chalara dieback** of ash (8–16)



Leaf necrosis (a) extending into leaflet vein (b) and leaf stalk (c).



Lesion on leaf stalk (ends arrowed) without leaflet symptoms.



Necrosis of leaf stalk (arrowed) and associated desiccation of leaflets.

Developing lesions associated with former insertion points of leaf stalks.

Older lesion associated with former insertion point of leaf stalk.

Developing lesion centred on a dead side shoot.

Older lesion centred on a dead side shoot.

Old lesion centred on a dead side shoot.

The wood and pith underlying bark lesions is usually strongly stained.

# Symptoms associated with **other disorders** of ash (17–24)



Browning of leaves is also caused by the activity of mining insects. When held up to the light, the browned area is translucent but includes darker regions of frass material excreted by the insect larva which has caused the damage; the larva itself can sometimes be seen moving within the mined area.




Insect damage may also account for failure of ash buds to flush, or production of weak shoots which shrivel after flushing. When cut open with a knife, unflushed buds damaged by insects are found to have no contents and wilted shoots are hollowed out at their bases.




On young ash, cankers on shoots may be formed by the fungus *Phoma exigua* – the bark within these cankers often has a shredded appearance and fruiting bodies of the pathogen may be evident in the form of small 'pimples' on the surface of the dead bark.

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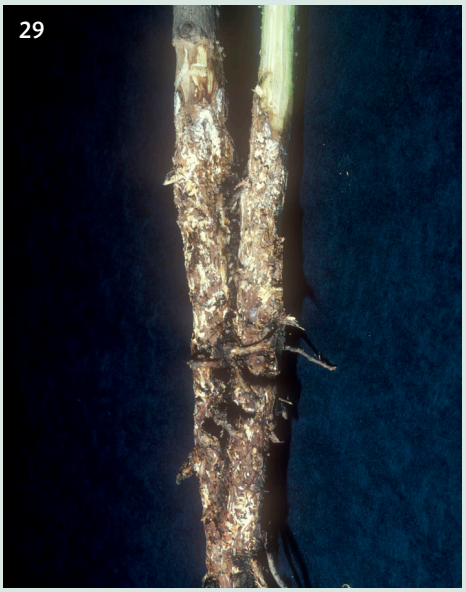
# Symptoms associated with **other disorders** of ash (25–29)



Cankers on the stems of larger trees with a roughened or target-like appearance are generally due to infection by the fungal pathogen *Nectria galligena*.


Irregular roughening of the bark, which can sometimes be extreme, can result from infection by the bacterial pathogen *Pseudomonas savastanoi*.


In established woodlands, death of bark at the base of ash stems may be due to infection by honey fungus (*Armillaria mellea*). The fungus only produces fruiting bodies occasionally but typically forms a leathery mycelial fan beneath the bark which can be revealed by cutting down to the underlying wood.



## Notes

Dark staining of the wood and pith associated with stem lesions (photo 16) is a good indication of Chalara infection, particularly when stain is present in the wood beyond the obvious limits of bark killing.

Symptoms of Chalara infection of the foliage (photos 8 to 10) develop during the late summer and autumn following infection of leaves by spores of the pathogen earlier in the year. Browning of leaves in the spring and early summer is very unlikely to be associated with Chalara dieback of ash and is frequently the result of insect damage (photos 19 to 21).