

Senior Director:
Julian Forbes-Laird
BA(Hons), Dip.GR.Stud, MICFor, MRICS, MEWI, Dip.Arb.(RFS)

 Institute of
Chartered Foresters
Registered Consultant

RASCALS FARM



PLANNING SUBMISSION (ARBORICULTURE)

 EXPERT WITNESS
INSTITUTE

- TREE SURVEY TO BS5837:2012
- ARBORICULTURAL IMPLICATIONS ASSESSMENT
- PROPOSED TREE RETENTION & REMOVAL
- TREE PROTECTION PLAN &
ARBORICULTURAL METHOD STATEMENT

Prepared for: Catesby Strategic Land Limited

FLAC Instruction ref: CC39-1039

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Technical Director
Patrick Stileman
BSc(Hons), MICFor, MRICS, RC.Arbor.A, CUEW, Dip.Arb.(RFS)

Operations Director
Andrew Colebrook
MICFor, MRICS, M.Arbor.A, Dip.Arb.(RFS)

Senior Associate Director
Ben Abbatt
BA(Hons), MICFor, MRICS, RC.Arbor.A, CEnv, Dip.Arb.(RFS)

Dendron House
Barford Road • Blunham
Bedford • MK44 3ND
T 44 (0)1767 641648
F 44 (0)1767 660330
E enquiries@flac.uk.com
www.flac.uk.com



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RASCALS FARM

ARBORICULTURAL PLANNING SUBMISSION (RESERVED MATTERS) -

INTRODUCTION

This Arboricultural Planning Submission has been prepared on behalf of Catesby Strategic Land Limited in support of an application for reserved matters planning permission. The description of development is: approval of reserved matters (appearance, layout, landscaping and scale) following outline planning Permission (APP/Z3825/W/20/3257700 and DC/20/0695) for the erection of up to 100 residential units and associated development including vehicular and pedestrian access at Rascals Farm, Shipley Road, Southwater RH13 9BG

This document comprises the following elements:

- i) Text introducing the key points in relation to FLAC's baseline survey and arboricultural impacts of tree retention and removal based upon the application's layout
- ii) Explanatory key to aid interpretation of the tree survey data, including our representation of BS5837:2012 Table 1, *Cascade Chart for Tree Quality Assessment*
- iii) BS5837:2012 compliant tree survey data, including *Proposal* column identifying tree retention and removal outcomes, to be cross-referenced to the colour-coded crown outlines on the FLAC drawings to follow
- iv) *RAVEN*, FLAC Principal Julian Forbes-Laird's field recognition method for identifying irreplaceable habitat trees (RAVEN: Recognition of Ancient, Veteran & Notable trees)
- v) RAVEN data recorder giving relevant details of identified veteran trees 3027 and 3030
- vi) Single-sheet drawing presenting our Tree Survey and Retention & Removal Plan overlaid upon the proposed layout and drainage, FLAC project drawing ending .03
- vii) Single-sheet drawing presenting our Tree Protection Plan with Arboricultural Method Statement overlaid upon the proposed layout and drainage, FLAC project drawing ending .04

ARBORICULTURAL IMPLICATIONS ASSESSMENT -

1 Tree retention and removal - qualitative analysis

1.1 Trees subject of our survey have been assessed by FLAC according to the recommendations of BS5837:2012 *Trees in relation to design, demolition and construction - Recommendations*. As its title indicates, this document is specifically designed to inform and be used within the planning process.

1.2 A BS5837-compliant assessment includes differentiation of the quality of the trees according to that Standard's Table 1, which provides for trees to be placed into one of four quality categories:

- A High quality
- B Moderate quality
- C Low quality
- U Trees which are unretainable in viable condition, regardless of development

1.3 Following categorisation, the impact of any given set of proposals on a tree population can be assessed in terms of the retention or removal of trees within each quality category. The impact of proposals for existing trees (comprising both individual trees and trees within tree groups), assessed by overlay of the proposed layout, is summarised in Table 1 below.

Table 1. Tree numbers by quality and value categories, after impacts by the proposals

Grade	Trees before	Trees after	Trees lost	Percentage of grade lost	Percentage of grade retained
U	13	0	13	100	0
A	733	733	0	0	100
B	118	52	66	56	44
C	248	56	192	77	23

1.4 The tree retention and removal balance remains the same as previously assessed for the Outline application with the following exceptions:

- a) on the site's highway boundary immediately south of the existing and proposed site access, ash tree components of two tree groups referenced TG3002 and TG3003 have developed advancing physiological and structural impairment arising from infection by Chalara ash dieback, removal is recommended for safety reasons. An additional tree group has been added to our dataset, TG3024, to capture and separate the declining ash formerly recorded as components within TG3003;
- b) removal of TG3017 due to need to excavate close to tree stems to provide drainage from the south-west basin, which would pass between the stems of the two trees and would be expected to require severance of major roots within the structural root plate, accordingly TG3017 is shown for removal.

2 Tree protection during construction

2.1 Standardised (i.e. BS5837:2012) tree protection details for the development phase are provided upon our *Tree Protection Plan* which includes an Arboricultural Method Statement, Tree Protection Phasing Schedule and an Arboricultural Supervision Schedule and confirms the feasibility of tree protection.

2.2 The drainage basin at south-east of the site has an outfall connecting to the existing boundary ditch to south, as captured by the topographical survey and located within the within the planning red line boundary. This passes across the root protection area of tree group TG3021. Engineers have assessed this connection in the course of the work towards this Reserved Matters application and confirmed trenchless solutions are not practicable here.

2.3 In the case of TG3021 the trees are located beyond the boundary ditch to its south, accordingly it is not anticipated that major structural roots will be affected by the formation of a swale within the notional RPAs on the north side of the ditch.

2.4 The swale within TG3021 is ca. 4 metres from the closest tree stem at the point it connects to the ditch. The section of swale within the RPA on the north side of the ditch shall be formed by air excavation under arboricultural supervision in combination with secondary tree protection measures (fencing and ground protection).

KEY TO TREE SURVEY DATA SCHEDULE

Note

This survey has been undertaken in compliance with BS5837:2012; it is not intended to be a tree safety survey. Any notes offered on structural integrity of trees are incidental, though where trees are considered to be in immediately hazardous condition (identified by red font in the *Structural condition & Notes* column, see below), our recommendations given for immediate intervention should be put in hand by the owner / site manager as soon as can be arranged.

Trees are dynamic living organisms capable of achieving considerable size and structural complexity. They are exposed to and can become damaged by the elements and by human activity, and have co-evolved with decay-causing organisms that can degrade and sometimes destroy their structural integrity. Due to genetic characteristics and local microenvironmental factors this integrity can be innately uncertain. The laws and forces of nature dictate a natural failure rate even among trees that are healthy and structurally sound. By their very nature, therefore, trees cannot be considered entirely hazard-free.

Tree surveys and / or tree inspections are, inherently, only a snapshot in time of the physiological and structural condition of the trees concerned.

Unless otherwise stated in our reporting material, all such surveys and inspections are undertaken from ground level and no internal inspections or tests have been undertaken. Any structural defects present might not be visible, for example being masked by vegetation, whether the tree's foliage, plants growing round the base of the tree, or climbing plants growing on the stem and into the crown.

Unless otherwise stated, the survey data should be considered time-limited **for planning purposes** to a maximum of three years (absent revisions of BS5837, which render pre-existing data obsolete).

FLAC Ref. No.

Tree numbers per relevant FLAC dwg

In line with the advice of BS5837:2012, where trees occur as a cohesive group feature (prefixed TG for tree group or WG for woodland group), they are assessed as such

Size data for TG or WG are given as mean figures for trees at roughly the 80 percentile of the population concerned. Trees in the 90-100 percentile range for the group are identified on the TSP

Trees within TG / WG boundaries that have more than one stem and which are sub-dominant within the TG / WG (i.e. <80 percentile) are subsumed within the TG / WG data; dominant multi-stemmed trees (i.e. >80 percentile) within TG / WG boundaries are listed as individual trees

TG / WG outlines follow the mapping base (typically either topographical survey or geo-rectified aerial imagery)

Hedges (domestic) are recorded prefixed H and are always excluded from the provisions of the Hedgerows Regulations 1997

Hedgerows (rural) are recorded prefixed HR and possibly fall within the provisions of the Hedgerows Regulations 1997

All numbering starts from x001 **for each type of vegetation**, where x identifies the surveyor (3000 series = AJC). Thus:

3000	Individual tree
TG3000	Tree group
WG3000	Woodland group
H3000	Domestic hedge
HR3000	Rural hedgerow

The addition of the FLAC instruction ref. ahead of the tree number provides a unique, non-repeated reference number for the particular tree in question

Any trees omitted from the topo survey are listed on the referenced plan, though their positions are only shown indicatively. Off-site trees are included where deemed relevant, though their positions are also shown indicatively if omitted from the topo base

TPO Ref.

Statutory protection listing for individual trees, TG and WG

ATTENTION: SEE NOTE IMMEDIATELY BELOW

Note

This column is only completed in cases where FLAC has been instructed to undertake a TPO search and correlation to FLAC reference numbers. The absence of data in this column **must not** be taken to indicate that the trees concerned are not under TPO protection. Statutory protection may also arise from the trees' location within a Conservation Area. Further statutory control over tree removal may be conferred by the Forestry Act 1967

Species

Tree species as listed in the schedule by common name. Species present are [LIST ADAPTED TO REFLECT SURVEY FINDINGS]:

<i>Common name</i>	<i>Botanical name</i>	<i>Provenance</i>	<i>Notes</i>
Ash	Fraxinus excelsior	Native	
Blackthorn	Prunus spinosa	Native	
Crab apple	Malus sylvestris	Native	
Elder	Sambucus nigra	Native	
Elm	Ulmus procera	Native	
Field maple	Acer campestre	Native	
Gean	Prunus avium	Native	
Goat willow	Salix caprea	Native	
Hawthorn	Crataegus monogyna	Native	
Hazel	Corylus avellana	Native	
Holly	Ilex aquifolium	Native	
Horse chestnut	Aesculus hippocastanum	Naturalised	
Norway spruce	Picea abies	Exotic	
Pedunculate oak	Quercus robur	Native	
Purple plum	Prunus cerasifera 'Pissardii'	Exotic	
Silver birch	Betula pendula	Native	
Wild service tree	Sorbus torminalis	Native	
Yew	Taxus baccata	Native	Present as 'Fastigiata'

Tree Count

For trees assessed as groups (ident. prefix TG), number of trees present, according to:

2-10 trees	Accurate count
11-50 trees	Close estimate
51-100 trees	Estimate

Area m²

For trees assessed as woodland (ident. prefix WG), existing area in square metres within survey envelope, derived from CAD interrogation of the completed tree survey plan

Ht. (m)

Tree height in metres

Either:

Crown Spread

For individual trees, measured radial crown spread in metres, listed for each of the four cardinal points

Or:

MRCS

For trees assessed as groups or woodland, an estimated mean radial crown spread in metres for trees at the 80 percentile size

Note

For trees assessed as woodland, sample measurements for canopy overhang beyond woodland boundary (i.e. hedgerow, fence, ditch etc.) are given on the tree survey plan

Or:

Mean Width

Mean width in metres of hedge or hedgerow

Length

Approximate length in metres of hedge or hedgerow

Ht. 1st Br.

For individual trees and trees assessed as groups or woodland, height in metres above ground of attachment point of first significant branch (cardinal point may be given indicating growing direction)

Ht. Can.

For individual trees and trees assessed as groups or woodland, mean height in metres of lower extent of tree canopy above ground

Stem Count

For individual trees, number of stems present below 1.5m AGL. Stem count affects diameter entry as follows:

Where the stem count is 1 the diameter should be entered into the 1 column under Stem Dia.

Where the stem count is up to 5 each stem dia. should be listed

Where the stem count exceeds 5, the mean stem diameter should be entered in the 1 column

Either:

Stem Dia. (mm)

Stem diameter(s) at 1.5m above ground level (see measurement system in BS5837:2012 Annex C), given in millimetres

Where entered 1:

Single measured stem diameter

Where entered 2-5:

Multiple measured stem diameters, listed per stem

Where entered >5:

For trees with more than five stems, diameter is listed as an estimated mean

Where the diameter entry for trees with 1 or 2-5 stems appears in italics, this indicates that it was estimated by the surveyor (for example, due to the presence of ivy on the stem)

It is our practice to round up when estimating stem diameters

Or:

Specimen Stem Dia.

For trees assessed as groups or woodland, stem diameter in millimetres at 1.5m above ground level for 80 percentile member of TG or WG. Trees with larger diameters are identified on the TSP

Or:

Mean Stem Dia.

Mean stem diameter in millimetres above the basal flare of hedge or hedgerow component plants

Either:

RPA Rad.

Radius in metres of the notionally circular Root Protection Area, based on 12x stem diameter (example for single stemmed trees), capped to 15m radial to stem centre

Note

Where trees are identified as being *notable* (i.e. very large trees that have yet to attain veteran status), FLAC removes the cap such that the RPA is simply 12x stem diameter

Or:

Specimen RPA Rad.

For trees assessed as groups or woodland, radius in metres of the notionally circular Root Protection Area based on specimen diameter for TG or WG 80 percentile tree

Either:

Conversion of RPA radius to an area, given in m², capped to a maximum of 707m² (in line with BS5837:2012), except for *notable* trees

Or:

Specimen RPA Area

For trees assessed as groups or woodland, conversion of specimen RPA radius to an area, given in m², capped to a maximum of 707m²

Note

RPA for hedges or hedgerows is to be taken as 3m from the centreline, half the height or 2m beyond existing width, whichever is the greater

Life Stage

Life stage assessment according into:

Y	Young
SM	Semi-mature
EM	Early mature
M	Mature
OM	Over-mature

Phys. Condition

An assessment of the **physiological** condition (i.e. health/vitality) status of the tree summarised according to:

GOOD	Generally in healthy condition
FAIR	Condition satisfactory though below mean species performance
POOR	Tree in decline/retranching
DEAD	Self explanatory

Structural condition & Notes

Notes on the apparent structural integrity of the tree based on visual tree assessment, including notes on form, taper, forking habit, storm damage, decay fungi, pests, etc. plus other pertinent observations

Management recommendations

Preliminary recommendations for intervention (e.g. tree surgery, felling, etc) in relation to existing context

Trees assessed as being in apparently immediately hazardous condition will be notified to the client separately as soon as practical. Where the recommendation is for further investigation, including removal of ivy and reinspection, the given retention span and quality/value grade (see below) should be treated as provisional

Notes

This is **not** intended to comprise a specification for tree work: further advice should be sought prior to implementation

Change in land use (target value) requires further assessment

Ret. Span

Estimated remaining retention span based on species, condition & context divided into the following bands (relates to quality and value grade achievable as stated):

Years Best QV grade

<10	U
10+	C
20+	B
>40	A

QV Grade

Quality & Value grade classification according to BS5837:2012 (see attached extract from BS5837:2012 'Table 1 - Cascade Chart for Tree Quality Assessment') –

<i>Grade</i>	<i>Summary meaning</i>	<i>Ident. colour spot on TSP</i>
U	Trees that are unretainable in viable condition	Dark red
A	High quality & value and consequent high retention priority	Light green
B	Moderate quality and value (moderate priority for retention)	Mid-blue
C	Low quality and value (generally considered to be sacrificial)	Grey

Note

Trees present which we consider to be **exceptional** specimens are identified by the suffix * after the A grade, e.g. A1*

Proposal

This column identifies:

1. Pre-planning (Arboricultural Stages 1, Tree Survey, & 2, Design):
Our initial view of a defensible tree retention / removal balance
2. Planning submission (Arboricultural Stage 3):
The actual tree retention / removal balance as proposed

The following codes are used:

RET	1. Trees preferably retained 2. Trees that would be retained
PRET	<i>For tree groups (TG), woodlands (WG) & hedgerows (HR)</i> – signifies partial retention (see below)
REM	1. Trees defensibly removed to facilitate development 2. Trees that would be removed
U	Trees identified to be unsuitable for retention

No. of trees retained

For tree groups only

Number of trees retained out of the total recorded for the group. Outcomes are as follows:

Survey grade U	Number of trees for retention defaults to 0 (can be amended by manual override)
Proposal code RET	Number of trees for retention defaults to total from <i>Tree Count</i> data field
Proposal code PRET	No. of trees for retention requires manual input following interrogation of relevant plans
Proposal code REM	Number of trees for retention defaults to 0

Trees retained %

For tree groups only

Percentage of pre-existing TG tree count that would be retained, based on an auto-sum derived from inputs into the preceding column

Area retained m²

For woodlands only

Area, in square metres, of woodland (WG) proposed for retention. Outcomes are as follows:

Survey grade U	Area for retention defaults to 0 (can be amended by manual override)
Proposal code RET	Area for retention defaults to existing area
Proposal code PRET	Area for retention requires manual input following interrogation of relevant plans
Proposal code REM	Area for retention defaults to 0

Area retained %

For woodlands only

Percentage of pre-existing WG area that would be retained, based on an auto-sum derived from inputs into the preceding column

Length retained m

For hedgerows only

Length, in metres, of hedgerow (HR) proposed for retention. Outcomes are as follows:

Survey grade U	Length for retention defaults to 0 (can be amended by manual override)
Proposal code RET	Length for retention defaults to existing length
Proposal code PRET	Length for retention requires manual input following interrogation of relevant plans
Proposal code REM	Length for retention defaults to 0

Length retained %

For hedgerows only

Percentage of pre-existing HR length that would be retained, based on an auto-sum derived from inputs into the preceding column

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 <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>			
	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)	
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	
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	

FLAC Note

The original contents of the column *Identification on plan* have been replaced by FLAC in the version above; spot colours to RGB codes given in BS5837:2012 Table 2

RASCALS FARM : TREE SURVEY DATA TABLE

Data for individual trees

FLAC Ref. No.	TPO Ref	Species	Ht. (m)	Crown Spread (m)				Ht. 1 st Rr. (m)	Ht. Can. (m)	Stem Count	Stem Dia. (mm)					RPA Rad. (m)	RPA Area (m2)	Life Stage Y-SM-EM-M-OM	Phys. Condition G-F-P-D	Structural condition & Notes	Management recommendations	Ret. Span <10, 10+ 20+, >40	QV Grade U-A-B-C	Proposal
				N	S	W	E				1 / mean	2	3	4	5									
3001		Pedunculate oak	18	10	10.5	9.5	10.5	5 S	3	1	1250					15.00	707	M	F	Stout upright stem. Dense ivy into crown structure. Large dead wood >150mm diameter mostly internal to lower crown. A notable specimen. Good overall condition. Principal branch structure and unions in satisfactory condition. Symmetrical crown form.	No action required at time of survey.	>40	A1	RET
3002		Pedunculate oak	18	8.5	9	8	7	4 N	1	1	890					10.68	358	M	G	Upright stem. Old wound north side of stem at 2 metres after past limb loss. Some crown asymmetry after companion shelter. Very dense ivy impedes inspection and diameter measurement. Scattered medium sized dead wood internal to crown, appear to be related to storm damage.	No action required at time of survey.	>40	A1	RET
3003		Pedunculate oak	18	11	10	8	10	2 N	1	1	940					11.28	400	M	G	Co-dominant scaffold members from 2 metres with a satisfactory union. Very dense ivy into crown impedes inspection. Some crown asymmetry after companion shelter. Scattered medium sized dead wood internal to crown. Broken and hanging branches in south mid-crown.	Remove broken/hanging branches.	>40	A1	RET
3004		Ash	16	5.5	4	3	2	5 N	2.5	1	340					4.08	52	EM	F	Asymmetrical crown and slight stem lean to north. Low arboricultural merit.	No action required at time of survey.	20+	C1	RET
3005		Pedunculate oak	20	8.5	11	8	9.5	5 W	4	1	940					11.28	400	M	G	Stout upright stem. Dense ivy into crown structure. Scattered medium sized dead wood internal to crown. Principal branch structure and unions in satisfactory condition. Crown asymmetry after companion shelter to north. Broken and hanging branches in south-west mid-crown.	Remove broken/hanging branches.	>40	A1	RET
3006		Pedunculate oak	20	13.5	13	10	11	4 N	1	1	1050					12.60	499	M	G	Stout upright stem. Principal branch structure and unions in satisfactory condition. Moderate density ivy into crown. Scattered medium sized dead wood internal to crown. Good overall condition.	No action required at time of survey.	>40	A1	RET
3007		Field maple	12.5	5	6	4	4	2 N	1	1	600					7.20	163	M	G	Upright stem. Dense crown structure. Very dense ivy impedes inspection and diameter measurement. Satisfactory overall condition.	No action required at time of survey.	>40	B1	RET
3008		Pedunculate oak	18	12	12	9.5	9	3.7 N	4	1	1000					12.00	452	M	F	Stout upright stem. Moderate ivy impedes inspection and diameter measurement. Symmetrical crown form. Satisfactory overall condition.	No action required at time of survey.	>40	A1	RET
3009		Pedunculate oak	10	8	7	4	5	2 W	1	1	650					7.80	191	M	F	Suppressed with symmetrical crown form. Satisfactory overall condition.	No action required at time of survey.	>40	B1	REM
3010		Pedunculate oak	13	7	7	3	5	4 S	3	1	600					7.20	163	M	G	Upright stem. Principal branch structure and unions in satisfactory condition. Some crown asymmetry after companion shelter. Scattered medium sized dead wood internal to crown.	No action required at time of survey.	>40	B1	REM
3011		Pedunculate oak	12.5	6	6	4	6	6 E	5	1	850					10.20	327	M	G	Off site tree. No access. Remote inspection only. Management includes crown lifting and heavy crown reduction.	No action required at time of survey.	>40	B1	RET
3012		Pedunculate oak	10	7	6.5	7	6	2.3 N	2	1	450					5.40	92	EM	G	Upright stem. Symmetrical crown. Principal branch structure and unions in satisfactory condition. Satisfactory overall condition.	No action required at time of survey.	>40	B1	REM
3013		Hawthorn	6	4	5	4.5	4.5	1 N	1	8	130					4.42	61	M	F	Multi-stemmed from close to ground level. Rather asymmetrical crown structure after companion shelter to east. Satisfactory overall condition. Tree of relatively low significance.	No action required at time of survey.	>40	B1	REM
3014		Pedunculate oak	14.5	9	7.5	4.5	11	3 E	2	1	750					9.00	254	M	G	Slight stem incline to east after past root plate heave, now apparently stabilized. Principal branch structure and unions in satisfactory condition. Branch structure biased to east. Scattered medium sized dead wood internal to crown. Satisfactory condition but low within the moderate category.	No action required at time of survey.	>40	B1	REM
3015		Field maple	7.5	3	5	1.5	5	1.3 E	1	1	320					3.84	46	EM	F	Asymmetrical crown form. Low limb to south-east is displaying early development of longitudinal fracture. Low arboricultural merit.	No action required at time of survey.	20+	C1	REM
3016		Horse chestnut	11.5	7.5	8.5	7.5	6.5	1.5 S	1	2	600	600				10.19	326	M	G	Poor bark-included twin stem basal union, now beginning to have unequal stem diameters above union to that through and below it. Stem union defect likely to limit long-term retention. Resident reports building movement. Symmetrical crown form. Principal branch structure and unions in satisfactory condition.	No action required at time of survey.	10+	C1	REM
3017		Field maple	10	6	6.5	5.5	6.5	2 W	4	2	520	470				8.42	223	M	G	Twin stems from close to ground level. Tight but stable basal union. Dense ivy into crown structure. Symmetrical crown form. Satisfactory overall condition.	No action required at time of survey.	>40	B1	REM
3018		Pedunculate oak	11	4	6.5	6	5	3 W	4	2	370	320				5.88	109	EM	G	Twin stems from close to ground level. Stems have splayed form due to past management. Bark damage due to trench excavation at immediate north, probably root damage also. Tree of relatively low significance.	No action required at time of survey.	20+	C1	REM
3019		Pedunculate oak	9	4.5	1	4.5	4	2.5 W	2.5	1	250					3.00	28	EM	G	Possibly regrown after past cutting to a high stump. Single principal stem, rather suppressed and unremarkable. Tree of relatively low significance.	No action required at time of survey.	20+	C1	REM
3020		Pedunculate oak	18	10	9.5	10	10	4 N	4	1	980					11.76	434	M	G	Stout upright stem. Principal branch structure and unions in satisfactory condition. Symmetrical crown form. Scattered medium sized dead wood internal to crown. Good overall condition. Remnant <i>Fistulina hepatica</i> fruiting body observed between root buttresses at south.	No action required at time of survey.	>40	A1	RET
3021		Crab apple	14	4	6	6	6	2 E	2.5	1	580					6.96	152	M	F	Upright stem becomes co-dominant from 2 metres. Dense ivy impedes inspection and diameter measurement.	No action required at time of survey.	20+	B1	RET
3022		Silver birch	9	5	5	4	5	2 E	1	8	163					5.54	96	M	F	Multi-stemmed from 1 metre with slender upwardly swept stems in vase-like habit. Crown has regrown from past topping at 5 metres. Low arboricultural merit.	No action required at time of survey.	10+	C1	REM
3023		Pedunculate oak	15	5	5	5	6	4 S	5	1	680					8.16	209	M	D	Standing dead. Appears vulnerable to windthrow due to root degradation. Within striking distance of outbuilding.	Fell.	<10	U	U
3024		Pedunculate oak	13	4	7	6	6	2.5 S	3	1	440					5.28	88	EM	G	Upright stem. Principal branch structure and unions in satisfactory condition. Some crown asymmetry after companion shelter.	No action required at time of survey.	>40	B1	RET
3025		Pedunculate oak	19	8.5	9.5	8.5	8	6 SE	3	1	870					10.44	342	M	G	Upright stem with good taper. Principal branch structure and unions in satisfactory condition. Scattered medium sized dead wood internal to crown. Good overall condition.	No action required at time of survey.	>40	B1	RET
3026		Pedunculate oak	17	8	8.5	2	7.5	5 N	5	1	880					10.56	350	M	F	Upright stem. Crown bias to east after companion shelter at west. Principal branch structure and unions in satisfactory condition. Scattered medium sized dead wood internal to crown.	No action required at time of survey.	>40	B1	RET

FLAC Ref. No.	TPO Ref	Species	Ht. (m)	Crown Spread (m)				Ht. 1 st Br. (m)	Ht. Can. (m)	Stem Count	Stem Dia. (mm)					RPA Rad. (m)	RPA Area (m2)	Life Stage Y-SM-EM-M-OM	Phys. Condition G-F-P-D	Structural condition & Notes	Management recommendations	Ret. Span <10, 10+ 20+, >40	QV Grade U-A-B-C	Proposal
				N	S	W	E				1 / mean	2	3	4	5									
3027		Ash	26	6	5.5	4	7	5 E	4.5	1	855					10.26	331	M	F	RAVEN veteran tree S1. Upright stem becomes co-dominant from 5 metres with satisfactory union. South scaffold member has fractured above the union and several principal limbs lost after decay by Inonotus hispidus. Further related failure likely albeit currently low target occupancy and value. RAVEN records extensive decay, senescence, dead wood >150mm, major storm damage, dry habitat spaces, fungi. Onset ofChalara ash dieback observed as creeping decline from loer crown.	Reassess if target occupancy increases.	10+	C3	RET
3028		Pedunculate oak	13	6	6	10	8	3 W	3	1	820					9.84	304	M	G	Upright stem. Past storm damage at centre of upper crown. Third limb from ground at south-west displays symptoms of longitudinal fracture developing. Scattered medium sized dead wood internal to crown.	No action required at time of survey.	>40	B1	RET
3030		Pedunculate oak	15	11	11	11	11	2 N	3	1	1270					15.00	707	M	G	RAVEN veteran tree S2. Stout lower stem becomes a symmetrical crown of good structure. Two Autumn fruiting fungus <i>Grifola frondosa</i> observed just outboard of stem above principal structural root plate to north-east of stem. RAVEN records hollowing, dead wood >150mm diameter and dry habitat space. Good overall condition.	No action required at time of survey.	>40	A3	RET
3031		Pedunculate oak	15	8.5	8.5	8	9	2 S	1	1	920					11.04	383	M	G	Assumed off site. No access. Remote inspection only. Symmetrical crown. Principal branch structure and unions in satisfactory condition. Good overall condition.	No action required at time of survey.	>40	A1	RET
3032		Pedunculate oak	13	9.5	8	7	6	2 S	1	1	770					9.24	268	M	G	Assumed off site. No access. Remote inspection only. Some crown asymmetry after companion shelter. Principal branch structure and unions in satisfactory condition. Good overall condition.	No action required at time of survey.	>40	B1	RET
3033		Pedunculate oak	18	11	10	10	9	3 N	3	1	920					11.04	383	M	G	Assumed off site. No access. Remote inspection only. Scattered medium sized dead wood internal to crown. Good overall condition.	No action required at time of survey.	>40	A1	RET
3034		Pedunculate oak	20	10	11	11	13	2 S	3	1	1090					13.08	537	M	G	Stout upright stem. Principal branch structure and unions in satisfactory condition. Some crown asymmetry after companion shelter. Scattered medium sized dead wood internal to crown.	No action required at time of survey.	>40	A1	RET
3035		Ash	20	10	8	13	10	2 N	4	5	425	425	345	325	135	9.33	273	M	F	Multi-stemmed from ground level. East stem swept out over highway has sub-optimal basal union displaying bark inclusion and compression.	Remove east stem that is swept out over highway.	20+	B1	RET
3036		Pedunculate oak	18	9	6	9	7	4 W	5	1	950					11.40	408	M	F	Off site tree. No access. Remote inspection only. Management includes large low limb removals.	No action required at time of survey.	>40	B1	RET
3037		Ash	18	7	8	5	10	4 E	5	1	730					8.76	241	M	F	Dense ivy impedes inspection. Co-dominant from 1.6 metres. Principal branch structure and unions in satisfactory condition.	No action required at time of survey.	20+	B1	RET

Data for trees assessed as groups (TG)

FLAC Ref. No.	TPO Ref	Species	Tree Count	Ht. (m)	MRCs (m)	Ht. 1 st Rr. (m)	Ht. Can. (m)	Specimen Stem Dia. (mm)	Specimen RPA Rad. (m)	Specimen RPA Area (m2)	Life Stage Y-SM-EM-M-OM	Phys. Condition G-F-P-D	Structural condition & Notes	Management recommendations	Ret. Span <10, 10+ 20+, >40	QV Grade U-A-B-C	Proposal	No. of trees retained	Trees retained %
TG3001		Field maple 60%, ash 40%	80	12	4	3 N	4	380	4.56	65	EM	F	Twin rows either side of track. Specimens slender, drawn-up, frequently multi-stemmed. Field maple dominant in western half although north row comprises ash further to west than the south row. Eastern half vulnerable to ash dieback infection although currently not present (expected in due course). Occasional larger specimens than the mean but quality very homogenous throughout. Limited potential due to reliance upon each other. Questionable suitability to retention in a scenario of increased land use, single-track access only between trees.	No action required at time of survey.	20+	C2	REM	0	0.0
TG3002		Ash x4, field maple x1	5	15	5	3 E	3	360	4.32	59	EM	F	Field maple at centre upright, ash are all asymmetrical with crown bias to light. Satisfactory overall condition. Presence of Chalara compromises safety of this roadside tree group. Field maple has developed under conditions of close companion shelter and would be at risk of fracture if retained in isolation.	Fell tree group.	<10	U	U	0	0.0
TG3003		Ash x1, pedunculate oak x5, elm x6, field maple x2	7	13	5	4 S	4	350	4.20	55	EM	F	Dispersed tree group within corner of treed area near to third party boundary. Roadside ash displaying dieback consistent with Chalara infection and elms dead and dying due to Dutch elm disease so these have been deleted from this tree group and a new tree group created to represent the poorer trees. Oaks ca. 300mm diameter set back 5 metres from kerb.	No action required at time of survey.	>40	B2	RET	7	100.0
TG3004		Pedunculate oak	4	20	11	4 E	3	800	9.60	289	M	G	Dispersed tree group of specimens greater than mean dimensions of surrounding trees. All stems just west of north to south ditch. Good overall condition.	No action required at time of survey.	>40	A2	RET	4	100.0
TG3005		Field maple, hawthorn, ash, blackthorn (even mix)	10	5	4	1 N	1	240	2.88	26	EM	F	Scrubby understorey beneath principal trees. Asymmetrical and suppressed. Low arboricultural merit.	No action required at time of survey.	20+	C2	RET	10	100.0
TG3006		Pedunculate oak, hawthorn, ash, field maple (even mix)	50	13	3	3 S	2	300	3.60	41	EM	G	Dense area of mostly slender, uptight principal trees. Mostly oak with ash and understorey of others. Satisfactory overall condition.	No action required at time of survey.	>40	B2	REM	0	0.0
TG3007		Pedunculate oak x6, field maple x2, ash x15	23	15	5	2.5 W	2.5	300	3.60	41	EM	G	Dense cluster of slender, upright stems aligned close to east boundary. Two oaks that stand offset near centre at west are larger dimensions. Satisfactory overall condition.	No action required at time of survey.	>40	B2	RET	23	100.0
TG3008		Blackthorn x5, hawthorn x2, ash x2, pedunculate oak x1	10	5	3	0	0	200	2.40	18	EM	F	Scrubby blackthorn with small unremarkable ash, hawthorn and pedunculate oak.	No action required at time of survey.	20+	C2	REM	0	0.0
TG3009		Goat willow x7, blackthorn x3, hawthorn x3	13	7	3	0	0	170	2.04	13	SM	F	Dense scrubby cluster within paddock. Low arboricultural merit.	No action required at time of survey.	20+	C2	REM	0	0.0
TG3010		Field maple, blackthorn, pedunculate oak, elm, ash, gean (even mix)	60	10	3	2 W	2	200	2.40	18	SM	F	Scrubby specimens, ticketing blackthorn with small unremarkable ash and pedunculate oak. Older blackthorn collapsing.	No action required at time of survey.	20+	C2	REM	0	0.0
TG3011		Field maple x2, gean x1, crab apple x2	5	10	3	2 N	2	300	3.60	41	EM	F	Specimens distinct from wider TG3010 by slightly better overall form and condition. Gean at west densely clad by ivy.	No action required at time of survey.	>40	B2	REM	0	0.0
TG3012		Purple plum	8	7.5	5	2 N	2	400	4.80	72	M	F	Linear tree group of generally similar overall sized specimens although cluster at south with smaller stems diameters of 200mm. Centre tree has stem decay to 1.6 metres height. All asymmetrical through group companion shelter.	No action required at time of survey.	10+	C2	REM	0	0.0
TG3013		Purple plum	12	8	5	2 E	1	350	4.20	55	M	F	Scrubby close-set specimens. Browsing damage around lower stems. Low arboricultural merit.	No action required at time of survey.	20+	C2	REM	0	0.0
TG3014		Purple plum	4	7	3	2 W	2	300	3.60	41	M	F	Scrubby suppressed specimens. Low arboricultural merit.	No action required at time of survey.	20+	C2	REM	0	0.0
TG3015		Pedunculate oak, ash, field maple, holly, hawthorn, blackthorn (even mix)	500	24	7	3 E	2	600	7.20	163	M	G	Off site. No access. Remote inspection only. Linear tree group running length of west boundary to paddocks. High canopy mostly oak with ash and understorey of others. Ash within this tree group now displaying advancing Chalara symptoms, safety critical management will be required to abate hazards to the site, chiefly of collapsing stems and trees, due to location and size in relation to the site boundary.	Increasing presence of Chalara ash dieback likely to result in partial/whole ash tree failures, management will be required to attend to tree related risk to third parties.	>40	A2	RET	500	100.0
TG3016		Pedunculate oak	4	21	12	5 E	3	970	11.64	425	M	G	Linear tree group of specimens within paddock. Some crown asymmetry after companion shelter with woodland to west. General crown bias to east. Overall condition good. Minor browsing damage. Scattered medium sized dead wood internal to crowns.	No action required at time of survey.	>40	A2	RET	4	100.0
TG3017		Pedunculate oak	2	19	12.5	4 E	4	750	9.00	254	M	G	Close-set pair share companion shelter. Principal branch structure and unions in satisfactory condition. North tree has previously lost north limbs, otherwise satisfactory overall condition.	No action required at time of survey.	>40	B2	REM	0	0.0
TG3018		Field maple x5, crab apple x1, ash x3, hawthorn x1	10	10	6	1 N	2	500	6.00	113	M	G	Ash to east younger and slender with crow bias to north. Others probably grown out from past/ceased hedgerow management. Satisfactory overall condition.	No action required at time of survey.	>40	B2	RET	10	100.0
TG3019		Field maple, ash, blackthorn, elder, hawthorn (even mix)	40	5	4	1 N	1	300	3.60	41	EM	F	Scrubby specimens of varying density. Low arboricultural merit but performing screen function adequately.	No action required at time of survey.	>40	C2	RET	40	100.0
TG3020		Pedunculate oak x2, ash x2	4	21	12	3 W	2	720	8.64	234	M	G	Specimens to north and west of larger/older pedunculate oak 3034. Some crown asymmetry after companion shelter. Scattered medium sized dead wood internal to crown. Satisfactory overall condition.	No action required at time of survey.	>40	B2	PRET	1	25.0
TG3021		Pedunculate oak x13, ash x1	14	20	10	4 N	2	800	9.60	289	M	G	Linear tree group along south boundary. Mostly off site. Remote inspection only. Slender, upright ash near to westernmost oak. High quality landscape feature.	No action required at time of survey.	>40	A2	RET	14	100.0
TG3022		Field maple x3, hawthorn x1	4	7	3	2 S	1	160	1.92	12	SM	F	Understorey specimens with dense ivy. Satisfactory overall condition but low arboricultural merit.	No action required at time of survey.	20+	C2	RET	4	100.0
TG3023		Pedunculate oak, ash, field maple, holly, hazel, horse chestnut, wild service tree	200	19	8	3 W	2.5	800	9.60	289	M	G	Linear tree group running length of east boundary to paddocks. High canopy mostly oak with ash and understorey of others. High quality landscape feature. Topo survey becomes erratic through this tree group with multiple principal trees not plotted. Public highway to east demands safety critical management of proximal trees and Chalara ash dieback has been observed affecting trees upon this site, risk facing assessments advised to manage tree related risk.	Undertake risk facing assessment of trees relevant to the public highway. General works required include felling of standing dead trees within striking distance of highway and removal of dead wood within tree crowns overhanging the highway.	>40	A2	RET	200	100.0
TG3024		Ash, elm	7	13	5	4 S	4	350	4.20	55	EM	P	Tree group created October 2023 due to deterioration of tree condition amongst former TG3003. Cluster of roadside ash and elm in poor condition. Ash now deteriorating due to infection by Chalara ash dieback at increasing risk of collapse into highway.	Fell dead and dying ash in proximity to both the highway and the domestic boundary at south.	<10	U	U	0	0.0

Data for trees assessed as woodland (WG)

FLAC Ref. No.	TPO Ref	Species	Area (m ²)	Ht. (m)	M RCS (m)	Ht. 1 st Br. (m)	Ht. Can. (m)	Specimen Stem Dia. (mm)	Specimen RPA Rad. (m)	Specimen RPA Area (m2)	Life Stage Y-SM-EM-M-OM	Phys. Condition G-F-P-D	Structural condition & Notes	Management recommendations	Ret. Span <10, 10+ 20+, >40	QV Grade U-A-B-C	Proposal	Area retained (m ²)	Area retained %
WG3001		Pedunculate oak, ash, crab apple, field maple, holly, gean, yew, silver birch, Norway spruce, hawthorn, hazel		20	7	2.5 S	3	560	6.72	142	M	G	Dense boundaries with signs of past coppice management throughout plus woodbanks. Oak with ash high canopy with mixed native understorey. Some larger oaks scattered internally. Generally consistent structural diversity but often with blacktorn thicketting at boundaries. Some public access. Good overall condition. Ash within this tree group now displaying Chalara symptoms and management will be required to abate hazards to the site and the public footpath.	Increasing presence of Chalara ash dieback likely to result in partial/whole ash tree failures, management will be required to attend to tree related risk to third parties.	>40	A2	RET	0	#DIV/0!

Data for hedges (H)

FLAC Ref. No.	Species	Ht. (m)	Mean Width (m)	Length (m)	Mean Stem Dia. (mm)	Life Stage Y-SM-EM-M-OM	Phys. Condition G-F-P-D	Structural condition & Notes	Management recommendations	Ret. Span <10, 10+ 20+, >40	QV Grade U-A-B-C	Proposal
H3001	Leyland cypress	4	2	37	200	EM	F	Domestic boundary hedge under cyclical management including topping. Satisfactory condition. Low arboricultural merit. Some screen function.	No action required at time of survey.	20+	C2	RET
H3002	Leyland cypress	3.5	1.5	37	150	EM	F	Domestic boundary hedge under cyclical management including topping. Satisfactory condition. Low arboricultural merit. Some screen function.	No action required at time of survey.	20+	C2	RET



Recognition of Ancient, Veteran & Notable Trees – **R A V E N**

Step One—Size Assessment

Tree has very large girth for species

Note—pollarding & senescence reduce stem increment: girth may be deceptive – assess stem girth relationship with life-stage accordingly

Refer to *Ancient and other veteran trees: further guidance on management* (Lonsdale, ATF 2013) at Fig. 1.3: *Chart of girth in relation to age and developmental classification of trees*

IF GIRTH NOT VERY LARGE FOR SPECIES, STOP HERE!

Step Two—Additional Primary Features

At least one of the following should be present, or refer to Step Three

- ☐ Extensive decay, especially brown rot or exposed stem heartwood in relevant species
- ☐ Extensive hollowing
- ☐ Crown senescence
- ☐ Retrenchment

Step Three—Secondary Features

If no additional Primary Feature is present, tree should have at least four Secondary Features

- ☐ Large quantity of dead wood in crown, especially where large-sized
- ☐ Major storm damage/ breakout wounds
- ☐ Habitat spaces: decay holes and/ or crevices/ branch splits sheltered from direct rainfall
- ☐ Aerial rooting
- ☐ Sap run/ slime flux
- ☐ Water pool
- ☐ Bark loss inc. due to lightning strike
- ☐ Fungi
- ☐ Other epiphytic plants, including significant presence of lichens

Step Four – Identification Guide

- ☐ **ANCIENT**
Veteran tree with extremely large girth: age likely > 50% of estimated species maximum
E.g. pedunculate oak, 2m stem dia, average site: ca. 460 years old, ca. 50% of species max
- ☐ **VETERAN**
Very large girth for species and qualifies under either Step Two or Step Three
- ☐ **NOTABLE**
Very large girth for species but does not qualify under either Step Two or Step Three

IF A TARGET IS PRESENT, ASSESS RISK USING *THREATS*



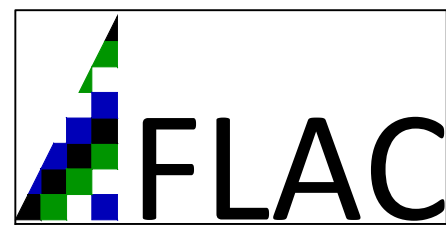
RAVEN - LAND OFF SHIPLEY ROAD

Guide to column headings

Tree No.	Refer to accompanying plan	Required primary feature	Tree must be large relative to others of its kind to qualify for assessment; refer to Lonsdale 2013	DW>150mm dia	Dead wood present in the crown with diameter over 150mm	Age estimate	Computed using FC White Method, form & senescence weighting added
Species	Listed by common name	Additional primary features	Features of principal importance for identifying A/V trees. In each case, feature should be present significantly	Maj. Storm damage	Breakout wounds or broken spars exceeding 30cm dia	Ancient	Trees beyond 50% of species' maximum life expectancy
Form	Key factors that influence significance of stem size and age estimation	Secondary features	Less important though still valuable features that aid identification, especially where present in numbers	Dry habitat space	Potential for faunal use where not subject to rain entry	Veteran	Trees with Required/ Primary or Secondary features as listed
Pollard	Whether the tree bears a pollard form, even if now long grown out	Extensive decay	Exposed decay areas should exceed 400cm2	Water pool	Offers niche habitat for specialist inverts, even where transient	Notable	Trees that are large and/ or old for species, but which lack qualifying features
Relic	Tree assessed as bearing <75% of former maximum crown volume	Exposed HW	HW refers to heartwood; applicable to relevant species only	Signif. Bark loss/ LS	Bark loss exceeding 400cm2. LS refers to lightning strike	Non-special	All other trees
				Notable fungi	Refers to species with known associations to old-growth trees		
				Other epiphytic plants	Should be either rare or present in significant quantity		

Note: This report presents only positive assessments

Job ref.	Tree no.	Species	Form		REQUIRED PRIMARY FEATURE	Either: ADDITIONAL PRIMARY FEATURES - at least one of					Or: SECONDARY FEATURES - at least four of												AGE ESTIMATE		RAVEN ASSESSMENT				NOTES	
			Pollard	Relic	Large stem dia. (mm)	Extensive decay			Hollowing	Senescence	Retrenchment	DW>150mm dia	Maj. Storm Damage	Dry habitat space	Aerial roots	Sap run/ slime flux	Water pool	Signif. bark loss/ LS	Fungi		Other epiphytic plants			Years	Origin	Ancient	Veteran	Notable		Non-special
						Brown rot	Exposed HW	Other											Notable	Other	Lichens	Ferns	Other							
39-1039	S1	Ash			800			X		X		X	X	X						X				121	1898		X			Fugus noted is <i>Inonotus hispidus</i> . Tree will require crown reduction due to decay prior to change of land use
39-1039	S2	Oak			1250				X			X		X										210	1809		X			



Dwg title
Tree Survey and Removal &
Retention Plan

Dwg no.
39-1039.03-B

Date
20.12.23

Scale
1:500 @ A0

Quality & value grades:

Category A  High

Category B  Moderate

Category C  Low

Category U  Unretainable

-  Trees for retention
-  Trees for removal to facilitate development
-  Trees for removal for arboricultural reasons
-  Tree root protection area - RPA (retention trees only)
-  NE Veteran Tree Buffer
-  MAGIC ancient woodland boundary
-  15 metre AW buffer

Deedron House
Barford Road, Blunham
BEDFORD, MK44 3ND
T 44(0)1767 641648 / F 44(0)1767 660330
enquiries@flac.uk.com
www.flac.uk.com

Do not scale off dwg - refer to tree survey data schedule for crown spreads etc

Tree / woodland group outlines follow the topo survey or aerial imagery, as applicable

All tree positions are indicative unless a topo survey has been provided to FLAC

RPA for hedges or hedgerows to be taken as 3m from the centreline, half the height or width + 2m each side, whichever is the greater

Notes on potential habitat features are for guidance only: ecological assessment is recommended

Drawn to N unless otherwise

indicated

