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A BS 5837 Tree Survey Report and Tree Constraints Plan

from

Cuffley

for

Mr P. Bowler

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1 Executive Summary

- This is a tree survey and constraints plan.
- It is not a tree impact assessment or protection plan.
- Several trees need attention in regard to risk to road users and it is suggested that this needs to be addressed in a timescale of months.
- Several trees have bat roost potential. Try to avoid affecting those with Moderate or High potential (remember indirect impacts such as light pollution are relevant). If these trees are affected, they will need investigating further.
- There are trees within the ownership site that were not surveyed (the east end of the property). Some of these are worthy of retention and some have bat roost potential. It is assumed that this part of the property will be entirely off site.
- *Rhododendron ponticum* was noted on site. Check the site for this and other invasive plants listed on Sch. 9 of the Wildlife and Countryside Act. It is an offence for material containing such plant matter to leave site unless an appropriate licence is held.

2 Introduction

In April 2021, trees on and around a proposed development site were subject to a survey in line with BS 5837, 2012: Trees in Relation to Design, Demolition and Construction: Recommendations.

The site is Cuffley, The Ridgeway, Northaw, Potters Bar, EN6 4BB. OS grid reference TL29250349.

An aerial image of the site can be viewed at <https://goo.gl/maps/hk2M2PmBU82hFssz6>

The site is designated as Priority Habitat Inventory - Deciduous Woodland.

It is not known if there are Tree Preservation Orders or if it is in a Conservation Area.

The applicant intends to construct a house but no plans have yet been provided.

This report describes the tree survey and shows the results (Appendix 1).

It then uses the results to show a Tree Constraints Plan (Appendix 2).

3 Abbreviations

DBH = (stem) Diameter at Breast Height

RPA = Root Protection Area(s)

TCP = Tree Constraints Plan

AIA = Arboricultural Impact Assessment

TPP = Tree Protection Plan

AMS = Arboricultural Method Statement(s)

BRP = Bat Roost Potential

TPO = Tree Preservation Order

4 Tree Survey

4.1 Survey Method

The survey visit took place in fine weather. Dimensions of trees considered significant and relevant were recorded and notes made on their condition.

Some trees shown on the topographical survey plan have been disregarded because they are considered irrelevant (small/scrappy trees/hedge/shrub), too remote to be affected and/or protected by other trees being retained.

The BRP of each tree was also considered.

4.2 Survey Limitations

DBH was measured using a tape measure. All other dimensions were estimated/paced out, not measured.

Although binoculars were used where deemed necessary, all work was conducted from ground level.

Survey was from within the ownership site or public land. In this case, this meant that the canopy extents of trees to the N of the N boundary and to the S of the S boundary were estimated from within the site.

4.3 **Survey Results**

The condition, dimensions, BS5837 category and RPA sizes of surveyed trees are listed in the Tree Survey List, Appendix 1.

The location, BS5837 category, RPA and canopy extents of the trees recorded are shown in the TCP figure, Appendix 2.

RPA have not been offset/adjusted.

Rhododendron ponticum was found on site in several places.

5 **Tree Constraints Plan**

The TCP in Appendix 3 shows the locations of trees on/near the site, their BS5837 category, their canopy extents and RPA. RPA have not been offset/adjusted.

- U categorised trees are those likely to be lost regardless of any proposed development (i.e. unsuitable for retention in their current setting).
- There should be a presumption against impacts on A category trees.
- B category trees should be retained if possible.
- C category trees are of least concern but should be retained where they have potential and/or are useful e.g. for screening, for wildlife or whilst new planting becomes established.

5.1 **Recommendations**

- Trees recorded as U are considered in need of remedial work on a timescale of months to alleviate risk to highway users.
- Trees with High or Moderate BRP should be left unaffected (remember to consider indirect impacts). If not, further bat work should occur.
- The neighbour's trees (Group 1) should be retained unless otherwise agreed with them. To achieve this a margin along the fenceline of at least 3.5m should be retained as the RPA for these.
- Try to keep all construction activity (don't forget materials storage, site parking, operational space etc.) outside the RPA of trees to be retained.
- The shape (but not area) of the RPA may be amended slightly with arborist guidance.
- Encroachment into RPA is easier if it is for driveways, patios etc. and can be raise-to-a-level construction.

- Trees can often be 'lifted' (side branches pruned off to lift the canopy) without ruining their form. For some hornbeams, this might not be feasible because they have spreading stems.
- Before devising, unearthing or installing service runs, consult a competent arborist.
- Any ground investigations, test pits etc., only upon approval by a competent arborist.
- Comply with the COSHH Regulations and the Environment Agency's Pollution Prevention Guidelines series.
- Commission a competent arborist for a regime of site inspections and an end-of-project letter/report to be submitted to the local authority.
- Any plans for landscaping or new planting should be approved by a competent arborist.
- Ensure Rhododendron (and any other Wildlife and Countryside Act Sch. 9-listed plant) does not leave the site without a licence. Either eradicate from the work area (whilst ensuring none leaves the site) or commission a specialist waste carrier with the appropriate licence to take plant matter off site before work starts.

6 Appendices

6.1 Appendix 1. Tree Survey List

| ID # | species | overall height (m) | lowest sig. limb (m) and (orientation) | height of canopy base (m) and (after reasonable lifting) | DBH (cm) | canopy extent (m) | | | | maturity | vigour | structure | form | expected useful life | BRP | BS5837 category | RPA (radius of circle in cm) | comments |
|------|--------------------------|--------------------|--|--|---------------------|-------------------|-----|-----|-----|----------|--------|-----------|------|----------------------|-----|-----------------|------------------------------|---|
| | | | | | | N | E | S | W | | | | | | | | | |
| G1 | Ilex aquifolium (mostly) | 12 | 0 | 0 | Up to about 28 | A few metres | | | | sm | vg | gd | fr | 30+ | L | C | 350 | Neighbour's trees – overgrown hedge. |
| 1 | Acer pseudoplatanus | 14 | 4(W) | 4(5) | 54 | 4.5 | -2 | 4.5 | 7 | sm | gd | pr | pr | <10 | N | U | 648 | 'unnatural' lean towards road. Lots of ivy. Needs felling (suggest in timescale of months). |
| 3 | Quercus robur | 16 | 6.5(S) | 6.5(9) | 80 | 4.5 | 8 | 12 | 6.5 | m | fr | fr | gd | >30 | L | A | 960 | |
| 5 | Acer pseudoplatanus | 14 | 6.5(W) | 6(10) | 12,1 8,26, 30 | 0 | 3 | 7.5 | 3 | sm | fr | pr | pr | <10 | L | U | 540 | |
| 6 | Quercus robur | 16 | 5(SW) | 5(8) | 61 | 7 | 3 | 4 | 5 | sm | fr | fr | gd | >30 | L | B | 732 | |
| 13 | Carpinus betulus | 12 | 3(NE) | 3(6) | 27 | 3 | 4.5 | 7 | 3 | sm | vg | gd | gd | >30 | N | C | 324 | 'natural' lean to SW |
| 17 | Carpinus betulus | 13 | 4.5(SW) | 3.5(6) | 19,2 4,28 | 2 | 3 | 6 | 5 | sm | vg | pr* | pr | >30 | N | C | 500 | * = included bark in fork at base. Ivy. |
| 20 | Fraxinus excelsior | 19 | 7(SE) | 8(10) | 66 | 7.5 | 5 | 7.5 | 5.5 | m | pr | fr | fr | <10 | L | U | 792 | Nearly dead. Bracket fungi. Dead in stem. Presumed affected by Ash blight. Largest stem leans to road. Only one cavity with bat roost potential seen, cavity facing at 6m S but seems superficial. Suggest fell in timescale of months. |
| 23 | Carpinus betulus | 12 | 1(S) | 3.5(4) | 10,1 1,15, 17 | 3 | 4.5 | 6 | 3 | sm | vg | pr | pr | >30 | N | U | 330 | 1 stem leans to road and has ivy. Suggest remove in timescale of months. |
| 26 | Carpinus betulus | 16 | 5(S) | 4(7) | 13,2 4 | 3 | 4 | 4 | 3.5 | sm | vg | gd | fr | >30 | N | C | 330 | |
| 27 | Carpinus betulus | 10 | 3(NE) | 3(4) | 24,2 5 | 3 | 4 | 2.5 | 0 | sm | gd | gd | pr | >30 | N | C | 420 | Topped in last couple of years. |
| 28 | Carpinus betulus | 17 | 7.5(S) | 5(7) | 19,3 | 3.5 | 3 | 4 | 3.5 | sm | vg | gd | vg | >30 | N | C | 430 | |

| | | | | | | | | | | | | | | | | | | |
|----|---------------------|----|---------|--------|--------------------------------|-----|----------|----------|-----|----|----|-----|-------|-----|-----|---|------|--|
| 30 | Carpinus betulus | 15 | 4(S) | 2.5(6) | 18,2 5 | 1 | 3 | 4 | 3.5 | sm | vg | gd | gd | >30 | N | C | 370 | |
| 31 | Carpinus betulus | 14 | 6(N) | 6(8) | 27 | 9 | 2 | 1 | 3 | sm | vg | gd | fr | >30 | L | C | 324 | |
| 32 | Carpinus betulus | 18 | 5(S) | 5(9) | 29,3 2 | 5 | 4 | 6 | 5 | sm | vg | gd | gd | >30 | L | C | 520 | |
| 33 | Acer pseudoplatanus | 18 | 10(SW) | 12(12) | 45 | 3.5 | 5 | 5 | 4 | sm | vg | gd | gd | >30 | L | B | 540 | |
| 34 | Fraxinus excelsior | 14 | 6(S) | 9(9) | 38 | 4 | 3 | 4 | 2 | sm | gd | fr | bd | <10 | H* | C | 456 | *Main stem snapped off at 6.5m |
| 35 | Carpinus betulus | 15 | 2(NW) | 2(7) | 14,2 0,30, 39 | 10 | 4.5 | 5.5 | 8 | m | bd | gd | vg | >30 | N | B | 660 | |
| 36 | Quercus robur | 16 | 6(E) | 6(8) | 75 | 6 | 7.5 | 8 | 3.5 | om | vg | fr* | fr | >30 | H | A | 900 | * = Possible included metal or compression bulges at base? Dead wood in canopy. |
| 37 | Quercus robur | 17 | 9(all) | 8(10) | 87 | 5 | 9 | 8 | 6.5 | om | fr | bd | fr | >30 | H* | B | 1044 | Leans slightly E. Extensive dead in stem. Only a few % of circumference intact/alive. Could not be retained near any development. * = multiple cavities and cracks for bat roost potential |
| 38 | Carpinus betulus | 15 | 5(NW) | 5(8) | 15,2 8,35 | 3 | 8.5(3)*1 | 3.5 | 4.5 | sm | fr | gd | pr/fr | >30 | M*2 | B | 570 | Main stem broken off at 5m. *1 = If larger, damaged stem is coppiced canopy extent only 3m to E. *2 = branch at top of broken stem might have rot/cavity extending along it. |
| 39 | Carpinus betulus | 16 | 5(NW) | 5(7) | 14,3 7 | 4.5 | 1.5 | 2 | 7 | sm | vg | fr | fr | >30 | N | C | 470 | dead in stem growing NW |
| 40 | Carpinus betulus | 17 | 1(E) | 2(7) | 16,1 9,36, 48 | 4 | 8 | 9(5.5)*1 | 3 | sm | vg | fr | fr*2 | >30 | N | C | 780 | *1 = canopy if 3 smaller stems were removed (which would improve form). *2 = form would be much improved if three smaller stems were removed. |
| 41 | Carpinus betulus | 14 | none | 4(7) | 20,2 4,27 | 6 | 6 | 4 | 4 | sm | vg | fr | gd | >30 | N | C | 500 | largest stem hollow at base. |
| 44 | Carpinus betulus | 16 | 5(E)* | 6(7) | 21,3 1 | 4 | 4 | 3 | 3.5 | sm | vg | fr | fr | >30 | N | C | 450 | * = natural brace. Pruned recently to SE. |
| 46 | Carpinus betulus | 15 | 7.5(N) | 3(7.5) | 21,2 7 | 4.5 | 3.5 | 5.5 | 3.5 | sm | vg | fr | fr | >30 | N | C | 410 | dead in larger stem. |
| 47 | Fraxinus excelsior | 17 | 6(E) | 10(10) | 60 | 4 | 3.5 | 8 | 7 | m | bd | pr | fr | <10 | H* | C | 720 | Almost dead. Bracket fungi. Could not be retained near any development. * = hole in branch at 7m SW and several holes on stem to E. |
| 51 | Carpinus betulus | 16 | 2.5(W) | 2(5) | 13,3 0,50 | 3.5 | 6 | 6.5 | 6.5 | m | vg | fr | gd | >30 | N | C | 720 | |
| 52 | Fagus sylvatica | 20 | 7.5(NW) | 2(7.5) | 61 | 8 | 4.5 | 6 | 5 | m | vg | vg | vg | >30 | N | B | 732 | |
| 53 | Carpinus betulus | 13 | 15(E) | 2(5) | 27 | 4 | 3 | 5 | 1.5 | sm | vg | vg | bd | >30 | N | C | 324 | lost leader in past |
| 54 | Carpinus betulus | 15 | 0(all)* | 1(1) | 13,1 7,18, 29,3 0,33, | 7.5 | 6 | 9.5 | 6.5 | m | vg | fr | pr | >30 | N | C | 900 | * = very spreading stems (approx 45deg). |

| | | | | | | | | | | | | | | | | | | |
|----|------------------------|----|---------|--------|----------------------------|-----|----|-----|-----|----|----|----|----|-----|----|---|-----|---|
| | | | | | 34,3 8 | | | | | | | | | | | | | |
| 60 | Carpinus betulus | 12 | none | 1(8) | 15,1 9,21, 34 | 2 | 5 | 4 | 3 | sm | vg | fr | pr | >30 | N | C | 560 | pruned recently to SE. |
| 61 | Carpinus betulus | 14 | 3(E) | 1(3) | 16,1 7,18, 27,3 2 | 5 | 11 | 4.5 | 3 | sm | vg | fr | fr | >30 | N | C | 610 | 2 stems have dead wood in them. |
| 62 | Carpinus betulus | 13 | 0(all)* | 2(6) | 23,2 5,26 | 7 | 10 | 3 | 4 | sm | vg | fr | pr | >30 | N | C | 510 | * = 2 smaller stems very spreading (to NE). |
| 63 | Fraxinus excelsior | 18 | 7(S) | 10(10) | 71 | 4.5 | 7 | 6 | 5 | sm | bd | pr | pr | <10 | H* | C | 852 | Almost dead. Bracket fungi. Could not be retained near any development. * = 6 holes at 9 – 10m. |
| 64 | Carpinus betulus | 13 | 2(N) | 2(6) | 16,1 6,20 | 7.5 | 4 | 0 | 2 | im | vg | gd | pr | >30 | N | C | 360 | |
| 65 | Acer pseudoplatanus | 15 | 5(S) | 6(8) | 55 | 6.5 | 4 | 6.5 | 4.5 | m | vg | gd | fr | >30 | N | B | 660 | |
| 66 | Quercus robur | 14 | 4.5(S) | 3(8) | 49 | 6 | 5 | 4 | 4.5 | m | fr | gd | pr | >30 | N | B | 588 | |
| 67 | Fagus sylvatica | 17 | 5.5(S) | 2(7) | 68 | 5.5 | 4 | 8 | 7 | m | gd | gd | gd | >30 | N | B | 816 | 'natural' lean to SW. |
| 68 | Quercus robur | 17 | 5(S) | 1(5) | 68 | 3 | 7 | 9.5 | 5 | m | fr | fr | pr | >30 | L | B | 816 | |
| 70 | Fraxinus excelsior | 17 | 6(W) | 8(8) | 80 | 7 | 9 | 7 | 12 | m | bd | fr | fr | <10 | M* | C | 960 | Almost dead. Could not be retained near any development. * = snag and hole on limb to W. |
| 74 | Quercus robur | 17 | 7(E) | 2(9) | 67 | 5 | 9 | 6.5 | 7 | m | fr | fr | pr | >30 | M* | B | 804 | * = snag and hole on limb to E. |
| 75 | Acer pseudoplatanus | 17 | 6.6(SW) | 6(7) | 36 | 0 | 6 | 6 | 3.5 | sm | vg | gd | pr | >30 | N | C | 432 | 'natural' lean to S |
| 76 | Aesculus hippocastanum | 13 | 6(SW) | 6(6) | 29 | 4 | 4 | 4 | 3 | im | vg | vg | fr | >30 | N | C | 348 | |

Note: All survey work was conducted from within the ownership site or the public highway

Key to Tree Survey List

U = Unsuitable for retention in original context).

A = Category A trees (especially good specimens).

B = Category B trees (good specimens but perhaps with factors limiting value).

C = Trees with only a decade or so of useful (for amenity) life.

Maturity on a scale of **immature**, **semi-mature**, **mature** and **over-mature**

Bat Roost Potential on a scale of **Low**, **Medium**, **High** (see Appendix 7 for an explanation of these relative terms).

Vigour, Structure, Form on a scale of **bad**, **poor**, **fair**, **good**, **very good**. These are relative terms and should not be used to determine that a tree is safe (or not) or suitable for retention (or not).

RPA = Root Protection Area.

LLD = Lost Leader Dominance

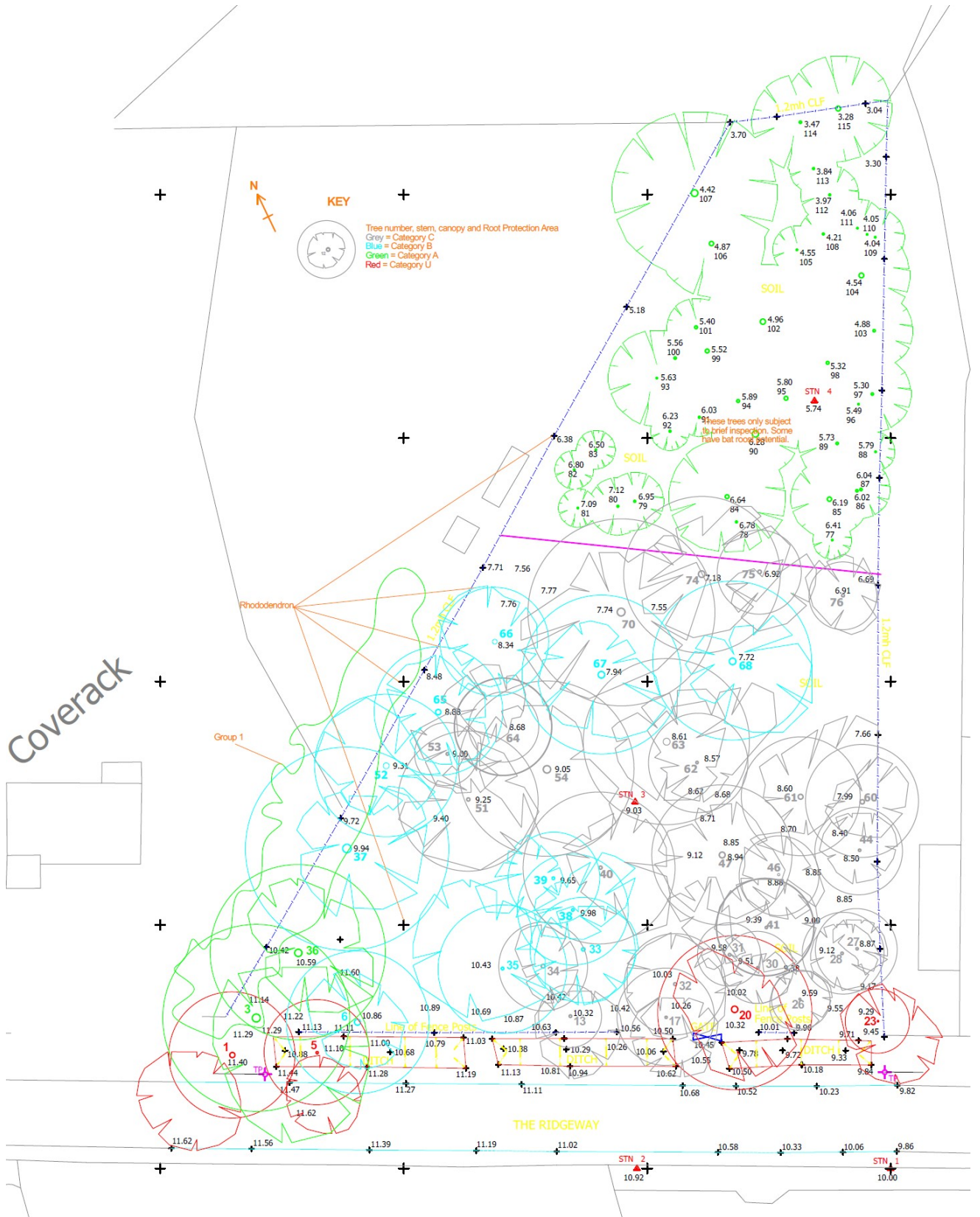
TF = Tight Fork (included bark)

DB = Dieback (1 = twigs, 2 = branches, 3 = limbs, 4 = stem(s)).

* = See comments section.

? = dimension was estimated (e.g. on inaccessible land or obscured).

6.2 Appendix 2. Tree Constraints Plan



6.3 Appendix 3. Bat Roost Potential Assessment

Table 2. System for Bat Roost Potential Categorisation

| | Example results of survey |
|---------------------|---|
| Roost found | Positive evidence of bats found (bats, squeaking or droppings) or evidence that would be reckless to dismiss (e.g. insect wings). |
| High BRP | <p>Tree located in likely spot.</p> <p>Tree has one or more than one, really good feature or has many fairly suitable ones.</p> <p>Evidence that possibly isn't bats but that would be reckless to ignore (e.g. polishing, staining).</p> <p>Trees with sections that cannot be seen properly from the ground but where there is strong suspicion there might be a feature there.</p> |
| Moderate BRP | <p>Either; Tree has bat roost features but tree/feature is in extremely unlikely location.</p> <p>Or; Tree in good habitat but crevices gaping/superficial/minor/ exposed or flaky bark of limited extent.</p> |
| Low BRP | Tree generally in good structural condition and/or in unsuitable location. |

6.4 Appendix 4. References

- **British Standard 5837 (2012)**. Trees in Relation to Design, Demolition and Construction: Recommendations. British Standards Institute, London.
- **NJUG Vol. 4 (2007)**. Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees.