

Nurton Developments Ltd

**Land West of Magna Park, Cross in Hand,
Rugby**

TREE SURVEY TO BS 5837:2012



our ref: 2393 / TGW / TR001
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prepared by: TGW
checked by: [director]

Cross in Hand, Nurton Developments

1.0 Introduction:

- 1.1 The tree survey for the site at Cross in Hand was carried out by Bea Landscape Design on behalf of Nurton Developments on the 30 October 2023 for submission to the local planning authority Rugby Borough Council.
- 1.2 The tree survey inspection was carried out from ground level only and no invasive diagnostic tools were used. This is a pre-development site inspection prepared in accordance with BS5837: 2012 'Trees in relation to design, demolition and construction – Recommendations' and the report is valid and relevant only as part of the planning process.
- 1.3 It should be noted that tree surveys carried out at specific times of year are subject to seasonal limitations. For example; in spring leaves are not present or are just emerging and fungi are generally not visible (depending on species) which limits the assessment of a trees physiological condition, in summer trees are in leaf which reduces the visibility of the crown and can limit the ability to assess the structural condition with fungi not generally visible (depending on species), in autumn there is a decline in leaf quality / cover affording an improved view of the crown and fungal fruiting bodies can be present, in winter the structure of the crown can be easily assessed however assessment of physiological condition is limited and fungi are generally not visible.
- 1.4 Trees are dynamic natural structures and require frequent monitoring if predictable failures are to be identified. As such the trees should be re-inspected within at least a two year period from the date of this report or when changes occur to the trees (such as appearance of fungal growths, splits in branches etc.) or changes in their immediate environment occur. Any recommendations for action should also be carried out within this period unless identified in the report as requiring immediate action.
- 1.5 Some tree failures are not predictable such as those occurring during 'freak weather' conditions and those without external symptoms, these types of failure are not covered by this report.
- 1.6 The tree survey schedules document [2393/tgw/TS001] and survey drawing BEA-23-93-01 & 02-P01 are included within this report. The tree survey is based on the topographical survey carried out by Survey and Engineering Projects in December 2023. It should also be noted that a number of the surrounding woodland blocks are on or just outside of the site boundary and as such were not identified on the original topographical survey. The location of these trees has been estimated using triangulation or based on aerial photography and their location should not be relied on for the purposes of construction.
- 1.7 In accordance with British Standard 5837: 2012 the survey records the tree common names (refer to Appendix A for a key to scientific names), height, stem diameter and branch spread and existing height above ground level of the canopy or first significant branch including life stage, general observations (such as structural, physiological condition and/or preliminary management recommendations) and the estimated remaining contribution in years.

1.8 Each tree is also awarded a category grading based on Table 1 'Cascade Chart for Tree Quality Assessment' of the British Standard as included within Appendix C.

The following are an explanation of the terms used to describe the life stage, physiological condition and sizes referred to within the tree survey schedule.

Life Stage

<i>Young</i>	A tree in the first third of its expected life span.
<i>Semi-mature</i>	A tree within the second third of its expected life span.
<i>Mature</i>	A tree within the final third of its expected life span.
<i>Over mature</i>	A tree in natural decline.
<i>Notable</i>	A mature tree that stands out in the local environment because it is large in comparison with other trees around it. The tree doesn't have any obvious veteran characteristics, but may be taller than ancients and fatter than some veterans. Notable trees are usually worthy of recognition and can be potential, next generation veteran trees.
<i>Transition veteran</i>	A mature tree that shows three veteran features i.e rot sites, holes & water pockets, deadwood, hollowing and fungal fruiting bodies. Transition veterans have some habitat characteristics and may become potentially important veteran trees for biodiversity in time.
<i>Veteran</i>	Non ancient trees of any diameter that show four or more veteran features i.e rot sites, holes & water pockets, deadwood, hollowing and fungal fruiting bodies. These trees show the habitat characteristics of veteran trees that are thought to be important in terms of biodiversity. A veteran tree is a survivor that has developed some of the features found on an ancient tree but not necessarily as a consequence of time, but of its life or environment.
<i>Ancient</i>	An over mature tree identified primarily by the girth. Likely to have abundant veteran tree features. An ancient tree has great aesthetic appeal and is defined by the following characteristics; a small canopy exhibiting stag headedness following crown retrenchment; with a very wide hollowing trunk relative to other trees of the same species and one or more openings to the outside exhibiting the fruiting bodies of heart rot fungi

Physiological condition

<i>Good</i>	The tree appears to have no obvious defects.
<i>Fair</i>	The trees condition is slightly compromised and considered to be remediable.

Poor The trees condition is significantly compromised and considered non-remediable. Significant defects.

Sizes:

Minor A diameter of less than 25 millimetres.

Moderate A diameter of between 25 to 50 millimetres.

Major A diameter of greater than 50 millimetres.

1.9 This report does not consider any potential influence that trees may have upon load bearing soils beneath existing or proposed structures through abstraction of water by their roots (i.e. soil shrinkage and expansion and subsequent building subsidence and heave). The advice of a structural engineer should be sought with regard to appropriate foundation depths for new buildings with reference to NHBC standards Chapter 4.2 (NHBC, 2011).

2.0 Context:

2.1 The site is located Just south west of the A5 adjacent to Cross In Hand farm which is in turn south of Magna Park, a large logistics distribution park as identified in Figure 01. Location Plan.

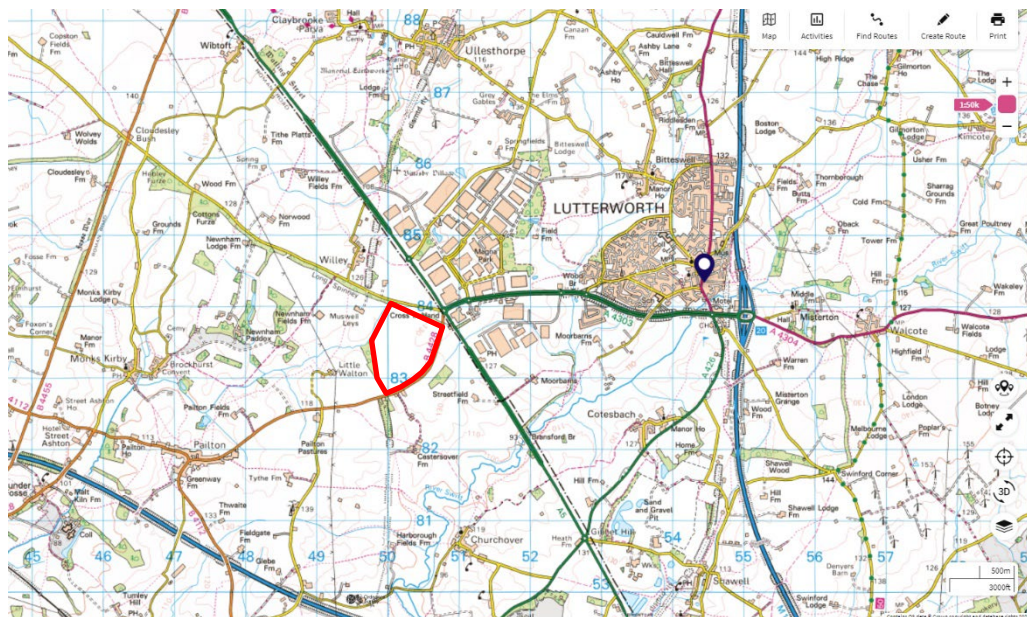


Figure 01. Location Plan

2.2 The area surveyed is currently occupied by agricultural fields, some used as pasture while others are under cereal production. (refer to Figure 02. Aerial Photograph).



Figure 02. Aerial Photograph

2.3 The topography of the site is gently rolling from 131 AOD on the southern boundary to 120 AOD on the north west boundary, a change of 11m over a distance of approx 1 kilometre.

3.0 Tree Survey Summary:

3.1 All of the trees surveyed within the boundary of the site are located on the boundaries of the fields and within the hedgerows that either bound or cross the site. To the boundaries of the site and just outside are a number of established and mature woodlands. The majority of the individual trees are large mature ash trees, which have in the majority of cases reached maturity and are starting to decline.



Photo of W01, Long Spinney, showing how the combined effect of the individual trees results in a Category A High quality.

- 3.2 The woodlands to the boundary of the site are of different ages, species and condition. However, the combined effects of the individual trees means that collectively these woodlands have been given a Category A, High Quality status due to their prominence in the landscape.



Photo of W02, which is located just outside of the northern boundary of the Site.

- 3.3 By contrast the majority of the trees within the site and within the hedgerows are mainly Ash trees, most of which have reached maturity. Where these are still vigorous specimens they have been given a B category of moderate quality. However, where they have started to decline they have been listed as C category Low quality and where there are signs of severe decay and fungal rot they have been given a category U, unsuitable for retention.



Photo typical of many of the mature ash trees on site showing extensive fruiting bodies of Shaggy polypore (*Inonotus hispidus*).

- 3.4 The hedges surveyed within the survey area are also of mixed ages, but there are several sections of hedgerows which have the characteristics of being very old. Some of these older hedgerows do show signs of having been laid but in recent years they have all been maintained by mechanical means. The result of this is that some of the older hedgerows are now quite gappy at the base.



Photo of a old hedgerow showing how at one stage that it had been laid but now is maintained by mechanical means resulting in a gappy base.

Table 1: Tree Survey Summary				
Cat.	Tree / Group / Woodland No.	Frequency		
		T	G	W
A	W01,G02,T08,W03,W04,	1	1	3
B	T02, T03, T04, T05, G01, T07, T09, T11, T13, T14, T18, T27, T28, T29, T31, T35, T40, T41, T42, T43, T45, T46, T47, T48, T49, G06, T62, T63, T64, T65,	28	2	0
C	T01, T06, T10, T12, T15, T17, T22, T30, T36, T39, G04, T50, T51, T52, G05, T53, T54, T55, T58,T60,	18	2	0
U	T16, G04, T19, T20, T21, T23, T24, T25, T26, T32, T33, T34, T37, T38, T44, T56, T57, T59, T61, T62, T66	20	1	0

4.0 Tree Preservation Orders & Conservation Areas

4.1 It is our understanding that there are currently no Tree Preservation Orders designated within the survey area, the site is not within a Conservation Area and no surveyed trees are considered to be Veteran or Ancient or listed on the Woodland Trust Ancient Tree Inventory. For the avoidance of doubt we would recommend that the local authority tree officer is contacted and confirmation obtained.

- 4.2 The Town and Country Planning (Tree Preservation) (England) Regulations 2012 empowers local planning authorities to protect trees in the interests of amenity by making Tree Preservation Orders (TPO). Subject to certain specified exemptions, an application must be made to the local planning authority to carry out works upon or to remove trees that are subject to a TPO. However in certain situations where detailed planning permission has been granted and protected trees are directly affected by the implementation of the approved development, then it is possible to carry out the works necessary to said trees in order to implement the said development.
- 4.3 Under the Regulations any damage caused to, or the felling of those trees protected by an order will be considered an illegal act and subject to prosecution as set out in the TPO regulations.
- 4.4 Section 211 of the Town & Country Planning Act 1990 (the Act) affords protection for the trees of over 75mm diameter (measured at 1.5 metres above ground level) within a Conservation Area. Subject to certain specified exemptions six weeks notice of intention (a 'Section 211 notice') must be given to the local planning authority to carry out works upon, or for the removal of the protected trees.
- 4.5 Under section 186 (c) of the National Planning Policy Framework (as revised December 2023) '*development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons (footnote 67) and a suitable compensation strategy exists*'. Whilst Notable status trees are not afforded the same level of protection under the National Planning Policy Framework as Veteran or Ancient trees it does indicate that they provide significant amenity, ecological and landscape value.

5.0 Protected Species

- 5.1 The Wildlife & Countryside Act 1981 forms the legislative basis for protecting Britain's flora and fauna, together with its 1985 and 1991 amendments, the subsequent variations to the schedule of orders, and strengthening amendments made within the Countryside & Rights of Way Act 2000.
- 5.2 Nesting birds are afforded statutory protection by the Wildlife & Countryside Act 1981. The bird nesting season is officially from February until August with the busiest time for nesting birds from the 1st March until the 31st July according to species.
- 5.3 As such, consideration should be given to the presence of nesting birds when clipping hedges, pruning or removing trees or removing ivy or other climbing plants during the bird nesting season. Trees, hedges and ivy should be inspected for nests prior to pruning or removal and any work likely to destroy or disturb active nests should be avoided until the young have fledged. Hedges provide valuable nesting sites for a wide range of birds and clipping should therefore be avoided during the months of March to July.
- 5.4 In Britain all bats are protected under Schedule 5 of the Wildlife & Countryside Act 1981 (as amended) and under Schedule 2 of the Conservation (Natural Habitats) Regulations 1994 (as amended). In England, under current legislation, it is an offence to:
- Deliberately capture, injure or kill a bat;

- Deliberately disturb in a way that would significantly affect their local distribution or abundance, or affect their ability to survive, breed or rear young;
- Damage or destroy a bat roost (note – this is an ‘absolute’ offence whereby intent or recklessness does not have to be proved).
- Possess, control, transport, sell, exchange or offer for sale/exchange any live or dead bat or any part of a bat;
- Intentionally or recklessly disturb a bat roost; and
- Intentionally or recklessly obstruct access to a roost.

5.5 In this respect it should be noted that bats utilise tree cavities, cracks and dense ivy as roosts. It is also possible that unidentified bat habitat features may be located high up in the tree crowns and all personnel subsequently carrying out tree works at the site should therefore be vigilant and mindful of the possibility that roosting bats may be present. If any bats roosts are identified during tree works then it is essential that the works are halted immediately and an ecologist investigate them prior to works continuing.

6.0 Felling Licences

6.1 The Forestry Act (1967), as amended, requires that a ‘Felling Licence’ is obtained for the felling of growing trees subject to certain exemptions. Felling licences are administered by the Forestry Commission and the contravention of the associated controls can incur substantial penalties. Conditions, such as replanting requirements, may be attached to a licence. When processing a licence application the Forestry Commission generally consult the local planning authority and other statutory authorities and can take up to / over 15 weeks to determine.

6.2 Under these controls a Felling Licence is not required to fell up to five cubic metres of timber in any calendar quarter, providing that no more than two cubic metres of said timber are sold.

6.3 It should, however, be noted that a Felling Licence is not needed for the felling of trees where their removal is immediately required for the purpose of carrying out a development authorised by detailed planning permission granted under the Act (1990), or for felling trees within a garden, an orchard, churchyard or a designated open space.

7.0 Hedgerow Regulations 1997

7.1 The Hedgerow Regulations which came into force in 1997 in order to protect important hedgerows in England and Wales. The regulations make it an offence to remove most countryside hedgerows without written permission from the local planning authority.

7.2 The regulations do not apply to any hedgerow within the curtilage of, or that marks the boundary of a dwelling house or garden.

7.3 The regulations apply to hedges growing in or adjacent to land used for agriculture, forestry including the keeping and breeding of horses or donkeys provided that it has a continuous length exceeding 20 metres (including any gaps less than 20 metres), or has a continuous length less than 20 metres and meets at each end another hedgerow.

7.4 Under the regulations in order to remove a protected hedgerow a 'Hedgerow Removal Notice' must be submitted to the local planning authority including the appropriate form, the required supporting information and a plan.

7.5 The local authority then have a period of 42 days (6 weeks) in which to either issue a written notice that the hedge can be removed or issue a 'hedgerow retention notice'. In the event that the period expires without the receipt of a written notice the hedgerow removal is deemed permitted. The removal of the hedgerow must then be carried out with 2 years following the date of the hedgerow removal notice.

8.0 Pests, Diseases & Fungi:

8.1 As identified within the survey a number of Ash trees are being colonised by Shaggy polypore (*Inonotus hispidus*) a white and soft rot parasitic fungi that rapidly affects the upper portions of the trunk, main ascending stems and principal branches, leading to branch snap or break out and the trees eventual demise.

9.0 Tree Surgery & Removal:

9.1 The following trees are scheduled to be felled, or removed due to their poor condition, being dead or structurally dangerous and unsuitable for retention; T16, G04, T19, T20, T21, T23, T24, T25, T26, T32, T33, T34, T37, T38, T44,

9.2 There are also a number of trees within W01 that have also been identified as being dead and structurally unsound and should be removed to allow for either new planting or surrounding trees to fully mature.

9.3 Trees T16, G04, T19, T20, T21, T23, T24, T25, T26, T32, T33, T34, T37, T38, T44, have been identified as being 'U' category however depending on the future land use and appropriate management they may be suitable for retention for biodiversity purposes.

9.4 The preliminary tree management works and tree removal are to be carried out by an Arboricultural Association accredited tree surgeon in accordance with BS 3998: 2010 'Tree Work - Recommendations' with particular care to be taken where trees are in confined spaces or adjacent to highways.

9.5 The stumps of tree species that sucker from roots or stumps such as Alder, Ash, Beech, Birch, Cherry, Elm, Lime, Maple, Oak, Poplar, Rowan, Sycamore, Tree of Heaven and Willow are to be treated on removal with glyphosate plugs i.e 'Ecoplug Max Tree Stump Killer' in accordance with the manufacturer's instructions and specifications.

9.6 Where the existing or future use of the site is considered to be at risk from the retention of large mature trees identified within the survey it is recommended that a Tree Risk Assessment and Hazard Evaluation is carried out in addition to this survey to assess the need for any further tree works.

10.0 Root Protection Area

- 10.1 In order to inform the future retention of existing trees the root protection area has been calculated for each tree in accordance with BS 5837:2012 Annex D, Table D.1 – Root Protection Area and using the two calculation methods as detailed within clause 4.6.1. The root protection areas are illustrated on the Tree Constraints Plan BEA-23-93-03 & 04-P01.
- 10.2 Where Veteran & Ancient trees have been identified within the tree survey the root protection area has been based on a minimum of 15 times the diameter of the trunk in accordance with the standing advice from Natural England and the Forestry Commission.
- 10.3 Where pre-existing site conditions (i.e the presence of retaining walls) or other factors indicate that rooting has occurred asymmetrically, a polygon of equivalent area had been illustrated
- 10.4 All trees that are being retained on site should be protected by barriers and/or ground protection before any materials or machinery are brought onto the site, and before any demolition, development or stripping of soil commences. These 'Construction Exclusion Zones' are to be protected by barriers and ground protection in accordance with section 6.2 of BS 5837:2012 and as specified and indicated on an approved Tree Protection Plan to be prepared by the project arboriculturalist.
- 10.5 Of particular importance on sites where there are significant level changes it should be noted that existing ground levels are to be retained within the RPA. Intrusion into soil (other than for piling) within the RPA is generally not acceptable, and topsoil within it should be retained in situ and any re-grading works or the location of retaining features should take this into account. The advice of an arborist should be sought where underground structures are present within the RPA are, or will become, redundant. In general it is preferable to leave such structures in situ, as their removal could damage adjacent tree roots.
- 10.6 Where construction operations are proposed and permitted within the Root Protection Area precautions should be taken and specified within an Arboricultural Method Statement prepared by the project arboriculturalist to maintain the condition and health of the root system in accordance with Section 7 'Demolition and construction in proximity to existing trees' of BS 5837:2012.
- 10.7 Where permanent hard surfacing within the RPA is considered unavoidable, site-specific and specialist arboricultural and construction design advice should be sought to determine whether it is achievable without significant adverse impact on trees to be retained. As a general guide new permanent hard surfacing should not exceed 20% of any existing unsurfaced ground within the RPA.

11.0 Above Ground Constraints

- 11.1 In addition to the condition of the tree the probable impact on proposed buildings or development of trees considered for retention should be assessed to take into account the root protection areas, shadow patterns, species characteristics, maintenance requirements and allowances for space and future tree growth.

Shading:

- 11.2 In order to assess any unreasonable obstruction of sunlight or daylight to any proposed development tree shadow patterns are also illustrated on the Tree Constraints Plan BEA-23-93-03 & 04-P01.

Species Characteristics:

- 11.3 Trees are living organisms and exhibit structural and seasonal characteristics that may give rise to conflicts in proximity to buildings, footpaths and hard standing areas.
- 11.4 Alder are broadly conical deciduous pioneer trees species characteristic of areas with a high water table such as wet areas, stream sides or riparian zones. A medium to long lived tree that is susceptible to Phytophthora which causes chronic dieback and eventual demise. Alder is nitrogen fixing and responds well to coppicing and was traditionally coppiced for charcoal and gunpowder.
- 11.5 Ash trees are a large spreading deciduous tree species with an upright branching habit, often exhibiting co-dominant stems with included bark. Heavy branches are susceptible to splits, cracks and branch failures. The lower shaded branches in the canopy have the propensity to die off and drop. This can result in increased maintenance requirements to surfaces and possible damage to structures located in the immediate vicinity. Ash trees are susceptible to 'Ash dieback' disease which once infected will lead to the trees gradual or in the case of younger trees sudden demise.
- 11.6 Beech are large, slow growing and long lived deciduous trees (200 years +) with a spreading habit and canopies that cast dense shade. With a shallow root system they are naturally susceptible waterlogging, drought and root decay and suffer from leader failure in old age due to weight and decay. Prone to windthrow they are susceptible to root rot from a variety of fungal pathogens.
- 11.7 Cherry are fruiting trees and as such can cause slippery surfaces and increased maintenance during the autumn. As a species they are susceptible to bacterial canker which can be disfiguring and sometimes fatal. Stem and branch breakages often occur due to wood decay, heavy branch ends or poor branch architecture. In severe winters the bark may crack and bleed gum.
- 11.8 Goat willow are a small spreading native deciduous tree species (10 metres in height) that can live for up to 300 years. As with all Willows they have a propensity for branch drop or failure particularly in high winds. Combined with brittle twigs this can result in increased maintenance requirements to surfaces and possible damage to structures located in their immediate vicinity. Pollarded Goat willow will require regular tree surgery and management.

- 11.9 Lime trees are large long lived tree species (200 years plus) planted as avenue, parkland trees or street trees that tolerate management through pleaching or pollarding. The trees are susceptible honey fungus and to aphids that secrete honeydew which can be damaging to surfaces and vehicles. Lime trees can produce prolific epicormic growth from the trunk or base of the tree.
- 11.10 Norway maple are medium to large non native trees that are susceptible to squirrel damage. They are a large leaved deciduous species that drop their leaves in the autumn which can result in increased maintenance requirements to structures or surfaces located in the vicinity.
- 11.12 Oak trees are typically a large, wide spreading and long lived tree species (over 500 years) that are important for biodiversity and provide habitats for a variety of species including Bats with veteran Oak trees being important for saproxylic insects. Oak trees are resistant to decay and often exhibit fungal fruiting bodies, crown dieback and deadwood within the canopy, typically developing hollow trunks and other veteran tree features without there being a significant effect on longevity.
- 11.13 Poplar are large native trees with a medium to long lifespan (150-200 years) that grow best in boggy conditions alongside ditches and floodplains. Often planted as parkland or estate trees they are prone to a variety of fungal diseases including cankers, leaf rusts and Poplar scab. Poplar have a propensity for branch drop or failure particularly in high winds. This can result in increased maintenance requirements to surfaces and possible damage to structures located in the immediate vicinity. Pollarded Poplar will require regular tree surgery and management.
- 11.14 Rowan or Mountain ash are small native trees growing to 15 metres in height with a medium to long life span of 150-200 years. Tolerant of atmospheric pollution they are useful for poor sites or street trees and are often planted as free standing specimens or groups in small gardens. Freely berrying the trees are a rich source of autumn food for birds. Susceptible to fireblight and silver leaf disease.
- 11.15 Silver birch are native short lived trees with a lifespan of between 75 and 150 years. Intolerant of hard pruning they dislike waterlogged soils and are vulnerable to drought. They are prone to branch failures on dense branch ends and stem and branch failures due to wood decay and weak wood. Sensitive to fungal pathogens including Honey fungus they are also vulnerable to storm damage from snow, ice and wind.
- 11.16 Sycamore are large, parkland, non native long lived trees (more than 200 years) that are deep rooted, suited to rough barren sites and tolerant of atmospheric pollution. Susceptible to squirrel damage, the trees host aphids that secrete honeydew which can be damaging to surfaces and vehicles. They are also a large leaved deciduous species that drop their leaves in the autumn which can result in increased maintenance requirements to structures or surfaces located in the vicinity.
- 11.17 Willow are a short to medium lived (50-75 years) large spreading deciduous tree species that have brittle wood and a propensity for branch drop or failure particularly in high winds. This can result in increased maintenance requirements to surfaces and possible damage to structures located in the immediate vicinity. Pollarded Willow will require regular tree surgery and management.

- 11.18 Elm Branch shedding will occur within one year of death from Dutch elm disease. Branch leader failure (Co-dominant leaders, included bark/splits) due to upright branching habit and dense branch ends.

Ultimate Height and Spread:

- 11.19 Where surveyed trees are classified as young to semi mature their future growth in terms of predicted height and canopy spread at maturity (refer to Appendix B) should be considered to prevent direct potential damage to structures or buildings, minimise future pressure for removal and increase the effect of shading as described above.

Appendix A: Scientific Names

<i>Common names:</i>	<i>Scientific Name</i>
Common alder	<i>Alnus glutinosa</i>
Crab apple	<i>Malus sylvestris</i>
Common ash	<i>Fraxinus excelsior</i>
False acacia	<i>Robinia pseudacacia</i>
Silver birch	<i>Betula pendula</i>
Downy birch	<i>Betula pubescens</i>
Common beech	<i>Fagus sylvatica</i>
Wild cherry	<i>Prunus avium</i>
Bird cherry	<i>Prunus padus</i>
Cherry plum	<i>Prunus cerasifera</i>
Horse chestnut	<i>Aesculus hippocastanum</i>
Sweet chestnut	<i>Castanea sativa</i>
Cypress	<i>Chamaecyparis cultivar</i>
Leyland cypress	<i>Cupressus x leylandii</i>
Lawson cypress	<i>Chamaecyparis lawsoniana</i>
Douglas fir	<i>Pseudotsuga menziesii</i>
Common hawthorn	<i>Crataegus monogyna</i>
Common hornbeam	<i>Carpinus betulus</i>
Holly	<i>Ilex aquifolium</i>
Laburnum	<i>Laburnum anagyroides</i>
Small leaved lime	<i>Tilia cordata</i>
Common lime	<i>Tilia x europaea</i>
Large leaved lime	<i>Tilia platyphyllos</i>
European larch	<i>Larix decidua</i>
Field maple	<i>Acer campestre</i>
Norway maple	<i>Acer platanoides</i>
Sycamore	<i>Acer pseudoplatanus</i>
Common oak	<i>Quercus robur</i>
Sessile oak	<i>Quercus petraea</i>
Holm oak	<i>Quercus ilex</i>
Pear	<i>Pyrus communis</i>
Scots pine	<i>Pinus sylvestris</i>
Aspen poplar	<i>Populus tremula</i>
Lombardy poplar	<i>Populus italica</i>
Hybrid black poplar	<i>Populus x canadensis</i>
London plane	<i>Platanus x hispanica</i>
Norway spruce	<i>Picea abies</i>
Rowan	<i>Sorbus aucuparia</i>
Whitebeam	<i>Sorbus aria</i>
Wild service tree	<i>Sorbus torminalis</i>
Crack willow	<i>Salix fragilis</i>
Goat willow	<i>Salix caprea</i>
White willow	<i>Salix alba</i>
Weeping willow	<i>Salix babylonica</i>
Yew	<i>Taxus baccata</i>

Appendix B: Predicted Tree Height & Canopy Spread

<i>Common name</i>	<i>Height (m)</i>	<i>Canopy Spread (m)</i>
Common alder	25	10
Crab apple	9	7
Common ash	30	20
False acacia	25	15
Silver birch	25	10
Downy birch	20	10
Common beech	25	15
Wild cherry	20	10
Bird cherry	15	10
Cherry plum	10	10
Horse chestnut	25	20
Sweet chestnut	30	15
Cypress	15-40	2-5
Leyland cypress	35	5
Lawson cypress	15-40	2-5
Douglas fir	25-50	6-10
Common hawthorn	10	8
Common hornbeam	25	20
Holly	25	8
Laburnum	8	8
Small leaved lime	25	15
Common lime	35	15
Large leaved lime	30	20
European larch	30	4-6
Field maple	10	8
Norway maple	25	15
Sycamore	30	25
Common oak	35	25
Sessile oak	30	25
Holm oak	25	20
Pear	15	10
Scots pine	15-30	6-9
Aspen poplar	20	10
Lombardy poplar	30	5
Hybrid black poplar	35	20
London plane	30	20
Norway spruce	20-40	6
Rowan	15	7
Whitebeam	10-25	10
Wild service tree	20	12
Crack willow	15	15
Goat willow	10	8
White willow	25	10
Weeping willow	12	12
Yew	10-20	8-10

Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
TREES UNSUITABLE FOR RETENTION				
<p>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.</p>	<ul style="list-style-type: none"> 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 U category trees (i.e. 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. <p><i>NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve.</i></p>			DARK RED
TREES TO BE CONSIDERED FOR RETENTION				
	1 Mainly arboricultural values	2 Mainly landscape values	3 Mainly cultural values, including conservation	
<p>Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years.</p>	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)	LIGHT GREEN
<p>Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.</p>	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	MID BLUE
<p>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.</p>	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	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value, and/or trees offering low or only temporary / transient landscape benefits.	Trees with no material conservation or other cultural value	GREY

Appendix D: Root Protection Area

Single stem diameter <i>mm</i>	Radius of nominal circle <i>m</i>	Root Protection Area (RPA) <i>m²</i>
75	0.90	3
100	1.20	5
125	1.50	7
150	1.80	10
175	2.10	14
200	2.40	18
225	2.70	23
250	3.00	28
275	3.30	34
300	3.60	41
325	3.90	48
350	4.20	55
375	4.50	64
400	4.80	72
425	5.10	81
450	5.40	92
475	5.70	102
500	6.00	113
525	6.30	124
550	6.60	137
575	6.90	150
600	7.20	163
625	7.50	177
650	7.80	191
675	8.10	206
700	8.40	222
725	8.70	238
750	9.00	255
775	9.30	272
800	9.60	290
825	9.90	308
850	10.20	327
875	10.50	346
900	10.80	366
925	11.10	387
950	11.40	408
975	11.70	430
1000	12.00	452
1025	12.30	475
1050	12.60	499
1075	12.90	519
1100	13.20	547
1125	13.50	573
1150	13.80	598
1175	14.10	625
1200	14.40	652
1225	14.70	679
1250	15.00	707

Appendix E: Technical Definitions

Access Facilitation Pruning:	One off tree pruning operation, the nature and effects of which are without significant adverse impact on tree physiology or amenity value, which is directly necessary to provide access for operations on site.
Arboricultural Impact Assessment	An evaluation of the direct and indirect effects of the proposed design on the trees identified within the Tree Survey, where necessary recommending mitigation or amendments to the design.
Arboricultural Method Statement	Methodology for the implementation of any aspect of development that is within the root protection area, or has the potential to result in loss of or damage to a tree to be retained.
Construction Exclusion Zone	An area based on the root protection area from which access is prohibited for the duration of a project
Root Protection Area (RPA)	The minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is considered a priority
Tree Protection Plan	A scale drawing informed by descriptive text where necessary, based upon finalised proposals, showing trees for retention and illustrating the tree and landscape protection measures.

Disclaimer:

This report is issued to the client for their sole use and for the intended purpose as stated in the agreement between the client and Bea Landscape Design Limited under which this work was completed, or else as set out within this report. This report may not be relied upon by any other party without the express written agreement of Bea Landscape Design Limited. The use of this report by unauthorised third parties is at their own risk and Bea Landscape Design accepts no duty of care to any such third party.

Bea Landscape Design has exercised due care in preparing this report. It has not, unless specifically stated, independently verified information provided by others. No other warranty, express or implied, is made in relation to the content of this report and Bea Landscape Design assumes no liability for any loss resulting from errors, omissions or misrepresentation made by others.

Any recommendation, opinion or finding stated in this report is based on circumstances and facts as they existed at the time that Bea Landscape Design performed the work. The content of this report has been provided in accordance with the provisions of the BS 5837:2012 'Trees in relation to design, demolition and construction – Recommendations'.

Nothing in this report constitutes legal opinion. If legal opinion is required the advice of a qualified legal professional should be secured. Observations relating to ecology and the condition of built structures have been made from an arboricultural point of view and, unless stated otherwise, do not constitute structural or ecological advice.

Tree Survey in accordance with BS5837:2012

Estimated dimensions (for offsite or otherwise inaccessible trees where accurate data cannot be recovered).

Tree / Group Number	Common Name	Height (m)	Stem(s) Diameter (mm)	Branch Spread (m)				Canopy Height (m) / First Significant Branch	Life Stage	Physiological Condition	Structural Condition	Preliminary Management Recommendations	Remaining Contribution (years)	Category Grading	Root Protection Area (m2)
				N	E	S	W								
W01	Oak; Ash; Hawthorne; Apple	14	350 770	4	4	4	4	2	Mature / Over mature	Fair / Poor	Bee hives on edge. Lots of standing dead wood, mainly elm and signs of possible ash dieback.	Carry out selective thinning to allow for potential restocking and habitat improvement	40+	A3	
H01	Blackthorn; Elm; Hawthorn;	1.5	110	1.5	1.5	1.5	1.5	0	Mature	Fair	Ditch to East.	Maintain at current size	20+	B3	5
H02	Blackthorn; Hawthorn	1.5	75	2	2	2	2	0	Mature	Fair		Maintain at current size	20+	B3	3
T01	Ash	11	250 300	5	5	5	5	2	Mature	Fair	Damaged roots / cultivation. Moderate deadwood snags. Major bark wound. Moderate branch socket cavity. Twin stemmed. Corrected/trunk lean. Basal sweep. Codominant stems. Regrown pollard. Bark crack/split. Trunk defect present/suspected. Decay entry points present. Lean to East.	No immediate works required	20+	C1	58
T02	Ash	12	350 300 310	5	7	5	4	2	Mature	Fair	Damaged roots/cultivation. Minor deadwood snags. Minor bark wound. Minor branch socket cavity. Multi stem. Basal sweep. Codominant stems. Regrown pollard.	No immediate works required	20+	B3	96

Tree Survey in accordance with BS5837:2012

Estimated dimensions (for offsite or otherwise inaccessible trees where accurate data cannot be recovered).

Tree / Group Number	Common Name	Height (m)	Stem(s) Diameter (mm)	Branch Spread (m)				Canopy Height (m) / First Significant Branch	Life Stage	Physiological Condition	Structural Condition	Preliminary Management Recommendations	Remaining Contribution (years)	Category Grading	Root Protection Area (m2)
				N	E	S	W								
T03	Ash	18	650	7	8	5	5	3	Mature	Fair	Damaged roots/cultivation. Moderate deadwood snags. Compression fork/included bark. Basal or trunk epicormic growth. Codominant stems.	No immediate works required	20+	B3	191
T04	Ash	11	320	5	8	5	3	2	Mature	Poor	Damaged roots/cultivation. Major deadwood snags. Moderate branch socket cavity. Twin stemmed. Corrected/trunk lean. Crown dieback. Compression fork / included bark. Codominant stems.	Monitor every 3 years	20+	B3	46
T05	Ash	20	300 300	5	5	5	5	7	Mature	Fair	Damaged roots/cultivation. Twin stemmed. Regrown pollard. Very tall and strong growing from ditch.	No immediate works required	20+	B3	54
T06	Field maple	7	150 200 180 150	3	3	3	3	1	Semi mature / mature	Fair	Damaged roots/cultivation. Minor deadwood snags. Minor bark wound. Minor branch socket cavity. Multi stem. Codominant stems. Regrown pollard.	No immediate works required	20+	C1	53
G01	Ash x 8 Elm x 1	17	350	5	8	5	5	2	Mature	Fair	Minor deadwood snags, random past surgery and some signs of dieback	Remove elm from group	20+	B1	55

Tree Survey in accordance with BS5837:2012

Estimated dimensions (for offsite or otherwise inaccessible trees where accurate data cannot be recovered).

Tree / Group Number	Common Name	Height (m)	Stem(s) Diameter (mm)	Branch Spread (m)				Canopy Height (m) / First Significant Branch	Life Stage	Physiological Condition	Structural Condition	Preliminary Management Recommendations	Remaining Contribution (years)	Category Grading	Root Protection Area (m2)
				N	E	S	W								
T07	Ash	19	500	7	7	7	7	2	Mature	Fair	Minor deadwood snags	No immediate works required	20+	B3	113
W02	Ash; Elm; Field maple; Blackthorn	18	350	5	5	5	5	2	Mature	Fair	Damaged roots/cultivation. Moderate deadwood snags. Minor bark wound. Minor branch socket cavity.	Outside of site so not able to fully examine but no immediate works required.	20+	B1	55
G02	Oak; Beech; Ash	17	400	7	7	8	8	2	Mature	Fair	Damaged roots/cultivation. Moderate deadwood snags. Moderate bark wound. Moderate branch socket cavity. Ivy or climbing plant.	No immediate works required	40+	A3	72
T08	Oak	20	900	7	7	7	7	2	Mature	Fair	Damaged roots/cultivation. Major deadwood snags. Ivy or climbing plant. Growing at top of bank next to road.	No immediate works required	40+	A2	366
T09	Ash	12	300	5	4	4	4	3	Mature	Fair	Minor deadwood snags. Moderate bark wound. Minor branch socket cavity. Physical damage. Hedge pruning damage.	No immediate works required	20+	B1	41
W03	Ash; Oak; Elm; Field maple	18	450	7	7	7	7	2	Mature	Fair	Outside of site and thus unable to fully examine trees	No immediate works required	40+	A1	92
H03	Blackthorn; Elder; Hawthorn; Field maple	1.5	100 75	1	1	1	1	0	Mature	Fair	Damaged roots/cultivation. Major pruning wounds. Ditch to South. Old hedge.	This is an old hedge which has been laid a long time. May be worth trying to relay it to fill gaps	20+	B3	

Tree Survey in accordance with BS5837:2012

Estimated dimensions (for offsite or otherwise inaccessible trees where accurate data cannot be recovered).

Tree / Group Number	Common Name	Height (m)	Stem(s) Diameter (mm)	Branch Spread (m)				Canopy Height (m) / First Significant Branch	Life Stage	Physiological Condition	Structural Condition	Preliminary Management Recommendations	Remaining Contribution (years)	Category Grading	Root Protection Area (m2)
				N	E	S	W								
H04	Blackthorn; Hawthorne	1.2	100	1	1	1	1	0	Mature	Poor	Gappy hedge to east side of ditch . Poor	This is and old hedge which has been laid a long time. May be worth trying to relay it to fill gaps	20+	B3	5
T10	Ash	11	500	8	9	5	4	4	Over mature	Poor	Major deadwood snags. Major bark wound. Moderate branch socket cavity. Damaged roots/cultivation. Trunk defect present / suspected. Decay entry points present. Internal decay present/suspected.	No immediate works required	20+	C1	113
T11	Ash	15	500	8	8	9	8	1	Over mature	Poor	Damaged roots/cultivation. Major deadwood snags. Major bark wound. Major branch socket cavity. Crown dieback. Compression fork / included bark. Basal or trunk epicormic growth. Codominant stems. Regrown pollard. Congested crown. Grown on N/S of ditch.	No immediate works required	20+	B2	113

Tree Survey in accordance with BS5837:2012

Estimated dimensions (for offsite or otherwise inaccessible trees where accurate data cannot be recovered).

Tree / Group Number	Common Name	Height (m)	Stem(s) Diameter (mm)	Branch Spread (m)				Canopy Height (m) / First Significant Branch	Life Stage	Physiological Condition	Structural Condition	Preliminary Management Recommendations	Remaining Contribution (years)	Category Grading	Root Protection Area (m2)
				N	E	S	W								
T12	Ash	11	250 300	5	5	5	5	1	Mature	Fair	Damaged roots/cultivation. Minor deadwood snags. Compression fork / included bark. Codominant stems @1m Internal decay present / suspected. Congested crown.	No immediate works required	20+	C2	68
T13	Ash	20	1200	11	11	11	11	2	Mature	Fair	Damaged roots/cultivation. Moderate deadwood snags. Moderate branch socket cavity. Twin stemmed. Compression fork/included bark. Codominant stems.	No immediate works required	20+	B1	651
T14	Ash	14	300	6	6	6	6	2	Mature	Fair	Damaged roots/cultivation. Minor deadwood snags. Minor bark wound. Minor branch socket cavity. Codominant stems @ 6m.	No immediate works required	20+	B3	41
T15	Ash	10	280	6	6	6	6	2	Mature	Fair	Damaged roots/cultivation. Compression fork / included bark. Codominant stems.	No immediate works required	20+	C1	35
W04	Sycamore; Ash; Oak	24	900	10	10	10	10	2	Over mature	Good	Woodland outside of boundary and unable to fully examine.	No immediate works required	40+	A2	366

Tree Survey in accordance with BS5837:2012

Estimated dimensions (for offsite or otherwise inaccessible trees where accurate data cannot be recovered).

Tree / Group Number	Common Name	Height (m)	Stem(s) Diameter (mm)	Branch Spread (m)				Canopy Height (m) / First Significant Branch	Life Stage	Physiological Condition	Structural Condition	Preliminary Management Recommendations	Remaining Contribution (years)	Category Grading	Root Protection Area (m2)
				N	E	S	W								
T16	Ash	10	600	4	4	4	4	2	Over mature	Poor	Damaged roots/cultivation. Major deadwood snags. Major bark wound. Major branch socket cavity. Crown dieback. Basal or trunk epicormic growth. Bark crack/split. Trunk defect present/suspected. Basal decay/basal sweep. Decay entry points present. Internal decay present/suspected. Lost main trunk at 4m .	If safe to do so keep for ecological reasons or if not remove to ground level.	<10	U	163
G04	Ash	17	500	5	5	5	5	2	Over mature	Poor	Damaged roots. Ivy or climbing plant. Major deadwood snags. Major bark wound. Major branch socket cavity. Crown dieback. Compression fork/included bark. Decay entry points present. Internal decay present/suspected. Canker / Gall/Bark exudation. Fungal fruiting body evident.	If safe to do so keep for ecological reasons or if not remove to ground level.	<10	U	113
T17	Ash	6	220	3	3	3	3	2	Semi mature	Good	Damaged roots/cultivation.	No immediate works required	20+	C1	22
H05	Apple; Elm; Blackthorn	1.5		1.5	1.5	1.5	1.5	0	Mature	Fair	Ditch to East.	Maintain at current size	20+	B3	0

Tree Survey in accordance with BS5837:2012

Estimated dimensions (for offsite or otherwise inaccessible trees where accurate data cannot be recovered).

Tree / Group Number	Common Name	Height (m)	Stem(s) Diameter (mm)	Branch Spread (m)				Canopy Height (m) / First Significant Branch	Life Stage	Physiological Condition	Structural Condition	Preliminary Management Recommendations	Remaining Contribution (years)	Category Grading	Root Protection Area (m2)
				N	E	S	W								
T18	Ash	18	700	8	8	8	8	2	Mature	Fair	Damaged roots/cultivation. Minor deadwood snags. Minor bark wound. Minor branch socket cavity.	No immediate works required	20+	B2	222
T19	Ash	10	650	9	4	5	6	2	Over mature	Poor	Major deadwood snags. Major bark wound. Major branch socket cavity. Damaged roots/cultivation. Ivy or climbing plant. Crown dieback. Bark crack/split. Trunk defect present / suspected. Decay entry points present. Internal decay present/suspected.	If safe to do so keep for ecological reasons or if not remove to ground level.	<10	U	191
T20	Ash	17	750	10	10	10	10	2	Over mature	Poor	Damaged roots/cultivation. Major deadwood snags. Major bark wound. Major branch socket cavity. Crown dieback. Compression fork / included bark. Basal or trunk epicormic growth. Trunk defect present/suspected. Decay entry points present. Internal decay present / suspected.	If safe to do so keep for ecological reasons or if not remove to ground level.	10+	U	254

Tree Survey in accordance with BS5837:2012

Estimated dimensions (for offsite or otherwise inaccessible trees where accurate data cannot be recovered).

Tree / Group Number	Common Name	Height (m)	Stem(s) Diameter (mm)	Branch Spread (m)				Canopy Height (m) / First Significant Branch	Life Stage	Physiological Condition	Structural Condition	Preliminary Management Recommendations	Remaining Contribution (years)	Category Grading	Root Protection Area (m2)
				N	E	S	W								
T21	Ash	15	1200	11	11	11	11	2	Over mature	Poor	Damaged roots/cultivation. Ivy or climbing plant. Major deadwood snags. Major bark wound. Major branch socket cavity. Crown dieback. Compression fork/included bark. Basal or trunk epicormic growth. Bark crack/split. Trunk defect present/suspected. Decay entry points present. Internal decay present / suspected. Canker/Gall/Bark exudation. Fungal fruiting body evident.	If safe to do so keep for ecological reasons or if not remove to ground level.	<10	U	651
T22	Ash	14	700	7	7	7	9	2	Over mature	Fair	Damaged roots/cultivation. Moderate deadwood snags. Moderate bark wound. Moderate branch socket cavity. Crown dieback. Decay entry points present. Internal decay present/suspected.	No immediate works required	10+	C1	222

Tree Survey in accordance with BS5837:2012

Estimated dimensions (for offsite or otherwise inaccessible trees where accurate data cannot be recovered).

Tree / Group Number	Common Name	Height (m)	Stem(s) Diameter (mm)	Branch Spread (m)				Canopy Height (m) / First Significant Branch	Life Stage	Physiological Condition	Structural Condition	Preliminary Management Recommendations	Remaining Contribution (years)	Category Grading	Root Protection Area (m2)
				N	E	S	W								
T23	Ash	13	880	9	9	5	9	2	Over mature	Poor	Damaged roots/cultivation. Major deadwood snags. Major bark wound. Major branch socket cavity. Crown dieback. Compression fork / included bark. Codominant stems. Trunk defect present / suspected. Decay entry points present. Internal decay present/suspected.	If safe to do so keep for ecological reasons or if not remove to ground level.	<10	U	350
T24	Ash	18	800	11	11	7	9	5	Over mature	Poor	Damaged roots/cultivation. Major deadwood snags. Major bark wound. Major branch socket cavity. Twin stemmed. Crown dieback. Decay entry points present. Internal decay present / suspected. Lost one main limb at 5m.	If safe to do so keep for ecological reasons or if not remove to ground level.	10+	U	290

Tree Survey in accordance with BS5837:2012

Estimated dimensions (for offsite or otherwise inaccessible trees where accurate data cannot be recovered).

Tree / Group Number	Common Name	Height (m)	Stem(s) Diameter (mm)	Branch Spread (m)				Canopy Height (m) / First Significant Branch	Life Stage	Physiological Condition	Structural Condition	Preliminary Management Recommendations	Remaining Contribution (years)	Category Grading	Root Protection Area (m2)
				N	E	S	W								
T25	Ash	5	1000	2	2	2	2	2	Over mature	Poor	Root plate displacement. Major deadwood snags. Major branch socket cavity. Crown dieback. Basal or trunk epicormic growth. Trunk defect present/suspected. Decay entry points present. Internal decay present / suspected. Lost main trunk at 4m.	If safe to do so keep for ecological reasons or if not remove to ground level.	<10	U	452
T26	Ash	11	600	8	5	7	3	2	Over mature	Poor	Root plate displacement. Moderate deadwood snags. Major bark wound. Major branch socket cavity. Crown dieback. Major lesion/fracture on limb. Trunk defect present / suspected. Decay entry points present. Internal decay present/suspected. Lost one side of main trunk.	If safe to do so keep for ecological reasons or if not remove to ground level.	<10	U	163
H06	Sycamore; Hawthorn; Ash; Field maple	1.2	100	1.2	1.2	1.2	1.2	0	Mature	Fair	Very old.	Maintain at current size and if appropriate relay hedge to improve density and to fill gaps	20+	B3	5

Tree Survey in accordance with BS5837:2012

Estimated dimensions (for offsite or otherwise inaccessible trees where accurate data cannot be recovered).

Tree / Group Number	Common Name	Height (m)	Stem(s) Diameter (mm)	Branch Spread (m)				Canopy Height (m) / First Significant Branch	Life Stage	Physiological Condition	Structural Condition	Preliminary Management Recommendations	Remaining Contribution (years)	Category Grading	Root Protection Area (m2)
				N	E	S	W								
H07	Blackthorn; Elm	1.5	100	1.5	1.5	1.5	1.5	0	Young	Fair	Typical of young clipped hedge	Maintain at current size and if appropriate relay hedge to improve density and to fill gaps	20+	C3	5
T27	Ash	20	800	8	8	8	8	3	Mature	Good	Damaged roots/cultivation. Moderate deadwood snags. Minor bark wound. Minor branch socket cavity. Crown dieback.	No immediate works required	20+	B1	290
T28	Ash	16	500	9	6	4	7	2	Mature	Fair	Minor deadwood snags. Minor bark wound. Minor branch socket cavity. Root plate displacement. Corrected / trunk lean.	No immediate works required	10+	B3	113
T29	Ash	18	700	8	8	8	8	2	Mature	Fair	Moderate deadwood snags. Minor bark wound. Minor branch socket cavity. Bottle Butt	No immediate works required	20+	B1	222
T30	Ash	12	600	5	5	5	5	2	Over mature	Poor	Moderate deadwood snags. Moderate bark wound. Moderate branch socket cavity. Root plate displacement. Crown dieback. Trunk defect present / suspected. Decay entry points present. Canker/Gall/ Bark exudation. Fungal fruiting body evident.	No immediate works required	10+	C1	163

Tree Survey in accordance with BS5837:2012

Estimated dimensions (for offsite or otherwise inaccessible trees where accurate data cannot be recovered).

Tree / Group Number	Common Name	Height (m)	Stem(s) Diameter (mm)	Branch Spread (m)				Canopy Height (m) / First Significant Branch	Life Stage	Physiological Condition	Structural Condition	Preliminary Management Recommendations	Remaining Contribution (years)	Category Grading	Root Protection Area (m2)
				N	E	S	W								
T31	Ash	18	500 500	10	10	10	10	3	Mature	Fair	Damaged roots/cultivation. Minor deadwood snags. Minor bark wound. Minor branch socket cavity. Twin stemmed. Codominant stems. Random past pruning / surgery. Bottle Butt	No immediate works required	20+	B1	269
T32	Ash	18	800	9	9	9	9	3	Over mature	Poor	Damaged roots/cultivation. Minor deadwood snags. Minor bark wound. Minor branch socket cavity. Trunk defect present/suspected. Decay entry points present. Internal decay present / suspected. Fungal fruiting body evident.	If safe to do so keep for ecological reasons or if not remove to ground level.	<10	U	290
T33	Ash	18	800	9	9	11	11	3	Over mature	Poor	Minor pruning wounds. Minor deadwood snags. Moderate bark wound. Moderate branch socket cavity. Codominant stems @ 3m. Trunk defect present/suspected. Decay entry points present. Internal decay present/suspected. Fungal fruiting body evident.	If safe to do so keep for ecological reasons or if not remove to ground level.	<10	U	290

Tree Survey in accordance with BS5837:2012

Estimated dimensions (for offsite or otherwise inaccessible trees where accurate data cannot be recovered).

Tree / Group Number	Common Name	Height (m)	Stem(s) Diameter (mm)	Branch Spread (m)				Canopy Height (m) / First Significant Branch	Life Stage	Physiological Condition	Structural Condition	Preliminary Management Recommendations	Remaining Contribution (years)	Category Grading	Root Protection Area (m2)
				N	E	S	W								
T34	Ash	18	650	11	6	9	6	3	Over mature	Poor	Damaged roots/cultivation. Minor deadwood snags. Moderate bark wound. Moderate branch socket cavity. Trunk defect present / suspected. Random past pruning/surgery. Decay entry points present. Internal decay present/suspected. Fungal fruiting body evident.	If safe to do so keep for ecological reasons or if not remove to ground level.	<10	U	191
T35	Ash	18	700	5	6	8	6	2	Mature	Fair	Major deadwood snags. Major branch socket cavity.	No immediate works required	20+	B2	222
T36	Ash	18	1200	11	11	12	11	2	Mature	Fair	Damaged roots/cultivation. Moderate deadwood snags. Moderate bark wound. Moderate branch socket cavity. Crown dieback. Compression fork/included bark. Basal or trunk epicormic growth. Major lesion/fracture on limb. Bark crack/split. Trunk defect present / suspected. Decay entry points present. Fungal fruiting body evident.	No immediate works required	20+	C1	651

Tree Survey in accordance with BS5837:2012

Estimated dimensions (for offsite or otherwise inaccessible trees where accurate data cannot be recovered).

Tree / Group Number	Common Name	Height (m)	Stem(s) Diameter (mm)	Branch Spread (m)				Canopy Height (m) / First Significant Branch	Life Stage	Physiological Condition	Structural Condition	Preliminary Management Recommendations	Remaining Contribution (years)	Category Grading	Root Protection Area (m2)
				N	E	S	W								
T38	Ash	15	800	11	11	11	11	2	Over mature	Poor	Major deadwood snags. Major bark wound. Major branch socket cavity. Crown dieback. Major lesion/fracture on limb. Bark crack/split. Trunk defect present / suspected. Decay entry points present. Internal decay present/suspected. Fungal fruiting body evident.	If safe to do so keep for ecological reasons or if not remove to ground level.	<10	U	290
T37	Ash	15	700	7	9	9	4	2	Over mature	Poor	Damaged roots/cultivation. Major deadwood snags. Major bark wound. Major branch socket cavity. Crown dieback. Bark crack/split. Trunk defect present / suspected. Decay entry points present. Internal decay present/suspected.	If safe to do so keep for ecological reasons or if not remove to ground level.	<10	U	222
T39	Ash	15	600	5	?	5	5	3	Mature	Fair	Damaged roots/cultivation. Moderate deadwood snags. Moderate bark wound. Major lesion/fracture on limb. Bark crack/split. Random past pruning/surgery.	No immediate works required	10+	C1	163

Tree Survey in accordance with BS5837:2012

Estimated dimensions (for offsite or otherwise inaccessible trees where accurate data cannot be recovered).

Tree / Group Number	Common Name	Height (m)	Stem(s) Diameter (mm)	Branch Spread (m)				Canopy Height (m) / First Significant Branch	Life Stage	Physiological Condition	Structural Condition	Preliminary Management Recommendations	Remaining Contribution (years)	Category Grading	Root Protection Area (m2)
				N	E	S	W								
T40	Ash	10	520	5	3	4	6	2	Mature	Fair	Damaged roots/cultivation. Minor deadwood snags. Moderate bark wound. Moderate branch socket cavity. Ivy or climbing plant. Roadside. Signs of woodpecker holes	No immediate works required	20+	B3	122
T41	Ash	15	700	8	8	8	8	3	Mature	Fair	Damaged roots/cultivation. Ivy or climbing plant. Moderate deadwood snags. Moderate bark wound. Compression fork/included bark. Random past pruning/surgery. Unable to fully examine due to extent of ivy	Sever ivy to reduce wind loading	20+	B3	222
T42	Ash	14	450	9	6	4	4	3	Mature	Fair	Major deadwood snags. Moderate bark wound. Moderate branch socket cavity. Ivy or climbing plant. Crown dieback. Compression fork/included bark. Basal or trunk epicormic growth. Unable to fully examine due to extent of ivy	Sever ivy to reduce wind loading	20+	B3	92

Tree Survey in accordance with BS5837:2012

Estimated dimensions (for offsite or otherwise inaccessible trees where accurate data cannot be recovered).

Tree / Group Number	Common Name	Height (m)	Stem(s) Diameter (mm)	Branch Spread (m)				Canopy Height (m) / First Significant Branch	Life Stage	Physiological Condition	Structural Condition	Preliminary Management Recommendations	Remaining Contribution (years)	Category Grading	Root Protection Area (m2)
				N	E	S	W								
T43	Ash	17	800	13	12	12	11	3	Mature	Fair	Moderate deadwood snags. Minor bark wound. Moderate branch socket cavity. Compression fork/included bark.	No immediate works required	20+	B2	290
G04	Ash; Elm; Field maple	14	250	5	5	5	5	1	Over mature	Poor	Major deadwood snags. Major bark wound. Major branch socket cavity. Crown dieback. Compression fork / included bark. Trunk defect present/suspected. Decay entry points present. Located around pond	If safe to do so keep for ecological reasons or if not remove to ground level.	20+	C1	28
T44	Ash	12	900	8	8	8	8	2	Over mature	Poor	Damaged roots/cultivation. Moderate deadwood snags. Moderate bark wound. Moderate branch socket cavity. Crown dieback. Compression fork/included bark. Bark crack/split. Trunk defect present/suspected. Decay entry points present. Internal decay present / suspected. Fungal fruiting body evident.	If safe to do so keep for ecological reasons or if not remove to ground level.	<10	U	366

Tree Survey in accordance with BS5837:2012

Estimated dimensions (for offsite or otherwise inaccessible trees where accurate data cannot be recovered).

Tree / Group Number	Common Name	Height (m)	Stem(s) Diameter (mm)	Branch Spread (m)				Canopy Height (m) / First Significant Branch	Life Stage	Physiological Condition	Structural Condition	Preliminary Management Recommendations	Remaining Contribution (years)	Category Grading	Root Protection Area (m2)
				N	E	S	W								
T45	Oak	12	800	7	7	7	9	3	Mature	Fair	Ivy or climbing plant. Moderate deadwood snags. Minor bark wound. Minor branch socket cavity. Unable to fully examine due to extent of ivy	Sever ivy to reduce wind loading	40+	B1	290
T46	Oak	14	900	8	7	8	8	3	Mature	Fair	Major deadwood snags. Major bark wound. Major branch socket cavity. Ivy or climbing plant. Storm damage. Decay entry points present. Unable to fully examine due to extent of ivy. Large rip out to East.	No immediate works required	40+	B3	366
T47	Ash	13	500	7	5	7	9	3	Mature	Fair	Damaged roots/cultivation. Ivy or climbing plant. Minor deadwood snags. Unable to fully examine due to extent of ivy	Sever ivy to reduce wind loading	10+	B3	113
T48	Ash	19	700	9	8	9	9	3	Mature	Fair	Ivy or climbing plant. Minor deadwood snags. Minor branch socket cavity. Unable to fully examine due to extent of ivy	Sever ivy to reduce wind loading	20+	B2	222

Tree Survey in accordance with BS5837:2012

Estimated dimensions (for offsite or otherwise inaccessible trees where accurate data cannot be recovered).

Tree / Group Number	Common Name	Height (m)	Stem(s) Diameter (mm)	Branch Spread (m)				Canopy Height (m) / First Significant Branch	Life Stage	Physiological Condition	Structural Condition	Preliminary Management Recommendations	Remaining Contribution (years)	Category Grading	Root Protection Area (m2)
				N	E	S	W								
T49	Oak	17	1000	9	9	9	9	3	Mature	Fair	Ivy or climbing plant. Moderate deadwood snags. Moderate bark wound. Unable to fully examine due to extent of ivy	Sever ivy to reduce wind loading	40+	B1	452
T50	Ash	19	800	7	6	7	7	3	Over mature	Poor	Moderate deadwood snags. Moderate bark wound. Ivy or climbing plant. Crown dieback. Basal or trunk epicormic growth. Trunk defect present/suspected. Decay entry points present. Internal decay present / suspected. Unable to fully examine due to extent of ivy	Monitor every 3 years	10+	C3	290
T51	Ash	18	500	7	7	7	7	3	Mature	Fair	Ivy or climbing plant. Moderate deadwood snags. Moderate bark wound. Moderate branch socket cavity. Crown dieback. Unable to fully examine due to extent of ivy	No immediate works required	10+	C3	113
T52	Ash	13	200 300	5	5	5	5	3	Mature	Fair	Ivy or climbing plant. Twin stemmed. Compression fork / included bark. Codominant stems. Unable to fully examine due to extent of ivy	No immediate works required	20+	C1	44

Tree Survey in accordance with BS5837:2012

Estimated dimensions (for offsite or otherwise inaccessible trees where accurate data cannot be recovered).

Tree / Group Number	Common Name	Height (m)	Stem(s) Diameter (mm)	Branch Spread (m)				Canopy Height (m) / First Significant Branch	Life Stage	Physiological Condition	Structural Condition	Preliminary Management Recommendations	Remaining Contribution (years)	Category Grading	Root Protection Area (m2)
				N	E	S	W								
G05	Goat willow; Ash	10	200 300 200 200	4	4	4	4	1	Mature	Fair	Ivy or climbing plant. Typical for species. Unable to fully examine due to extent of ivy	Sever ivy to reduce wind loading	20+	C3	95
G06	Ash x 2; Field maple	10	300	4	4	4	4	1	Mature	Fair	Ivy or climbing plant. Eccentric growth. Compression fork / included bark. Codominant stems. Unable to fully examine due to extent of ivy	No immediate works required	20+	B3	41
T53	Ash	10	300	9	5	7	4	2	Mature	Fair	Minor deadwood snags. Minor bark wound. Minor branch socket cavity. Codominant stems.	No immediate works required	20+	C3	41
T54	Ash	10	200 200	4	4	4	4	2	Mature	Fair	Minor deadwood snags. Twin stemmed. Compression fork / included bark. Codominant stems.	No immediate works required	20+	C3	54
T55	Ash	14	600	8	8	8	8	2	Mature	Good	Moderate deadwood snags. Minor bark wound. Moderate branch socket cavity. Crown dieback.	No immediate works required	20+	C1	163
T56	Ash	8	800	2	2	2	2	2	Over Mature	Poor	Major deadwood bark wound and branch socket cavity. Crown die back. Eccentric growth. Bark split Basal decay. Decay entry points internal decay. Collapsed tree	If safe to do so keep for ecological reasons or if not remove to ground level.	<10	U	290

Tree Survey in accordance with BS5837:2012

Estimated dimensions (for offsite or otherwise inaccessible trees where accurate data cannot be recovered).

Tree / Group Number	Common Name	Height (m)	Stem(s) Diameter (mm)	Branch Spread (m)				Canopy Height (m) / First Significant Branch	Life Stage	Physiological Condition	Structural Condition	Preliminary Management Recommendations	Remaining Contribution (years)	Category Grading	Root Protection Area (m2)
				N	E	S	W								
T57	Ash	13	500	5	5	5	5	1	Over mature	Poor	Crown die back. Eccentric growth. Bark split Basal decay. Decay entry points internal decay.	If safe to do so keep for ecological reasons or if not remove to ground level.	<10	U	113
T58	Elm	7	200	3	3	3	3	1	Mature	Poor	Twin stem. Eccentric growth. Congested crown	If safe to do so keep for ecological reasons or if not remove to ground level.	10+	C3	18
T59	Ash	10	800	5	6	9	5	2	Over mature	Poor	Major deadwood bark wound and branch socket cavity. Crown die back. Eccentric growth. Bark split Basal decay. Decay entry points internal decay. Fungal fruiting body	If safe to do so keep for ecological reasons or if not remove to ground level.	<10	U	290
T60	Ash	12	500	7	4	7	7	2	Mature	Fair	Minor pruning wounds and deadwood snags	No immediate works required	10+	C2	113
T61	Ash	7	600	5	5	5	3	2	Over mature	Poor	Major deadwood bark wound and branch socket cavity. Crown die back. Eccentric growth. Bark split Basal decay. Decay entry points internal decay. Fungal fruiting body evident.	If safe to do so keep for ecological reasons or if not remove to ground level.	<10	U	163
T62	Oak	20	800	4	11	12	11	2	Mature	Fair	Damaged roots / cultivation. Moderate deadwood snags. Major bark wound. Moderate branch socket cavity. Decay entry points. Large scar at base of trunk to north	No immediate works required	40+	B3	290

Tree Survey in accordance with BS5837:2012

Estimated dimensions (for offsite or otherwise inaccessible trees where accurate data cannot be recovered).

Tree / Group Number	Common Name	Height (m)	Stem(s) Diameter (mm)	Branch Spread (m)				Canopy Height (m) / First Significant Branch	Life Stage	Physiological Condition	Structural Condition	Preliminary Management Recommendations	Remaining Contribution (years)	Category Grading	Root Protection Area (m2)
				N	E	S	W								
T63	Ash	14	600	7	7	7	7	2	Mature	Fair	Bottle butt, damaged rooting environment.	No immediate works required	20+	B3	163
T64	Apple	12	700	6	6	6	6	1	Mature	Fair	Damaged roots, codominant stems congested crown.	No immediate works required	20+	B3	222
T65	Ash	15	600	9	11	9	9	1	Mature	Fair	Moderate deadwood snags, bark wound, branch socket cavity. Crown dieback.	No immediate works required	20+	B3	163
T66	Ash	18	800	7	7	7	7	1	Over mature	Poor	Major deadwood bark wound and branch socket cavity. Crown die back. Eccentric growth. Bark split Basal decay. Decay entry points internal decay. Fungal fruiting body evident.	If safe to do so keep for ecological reasons or if not remove to ground level.	<10	U	290

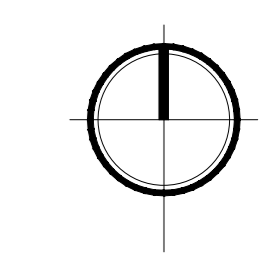
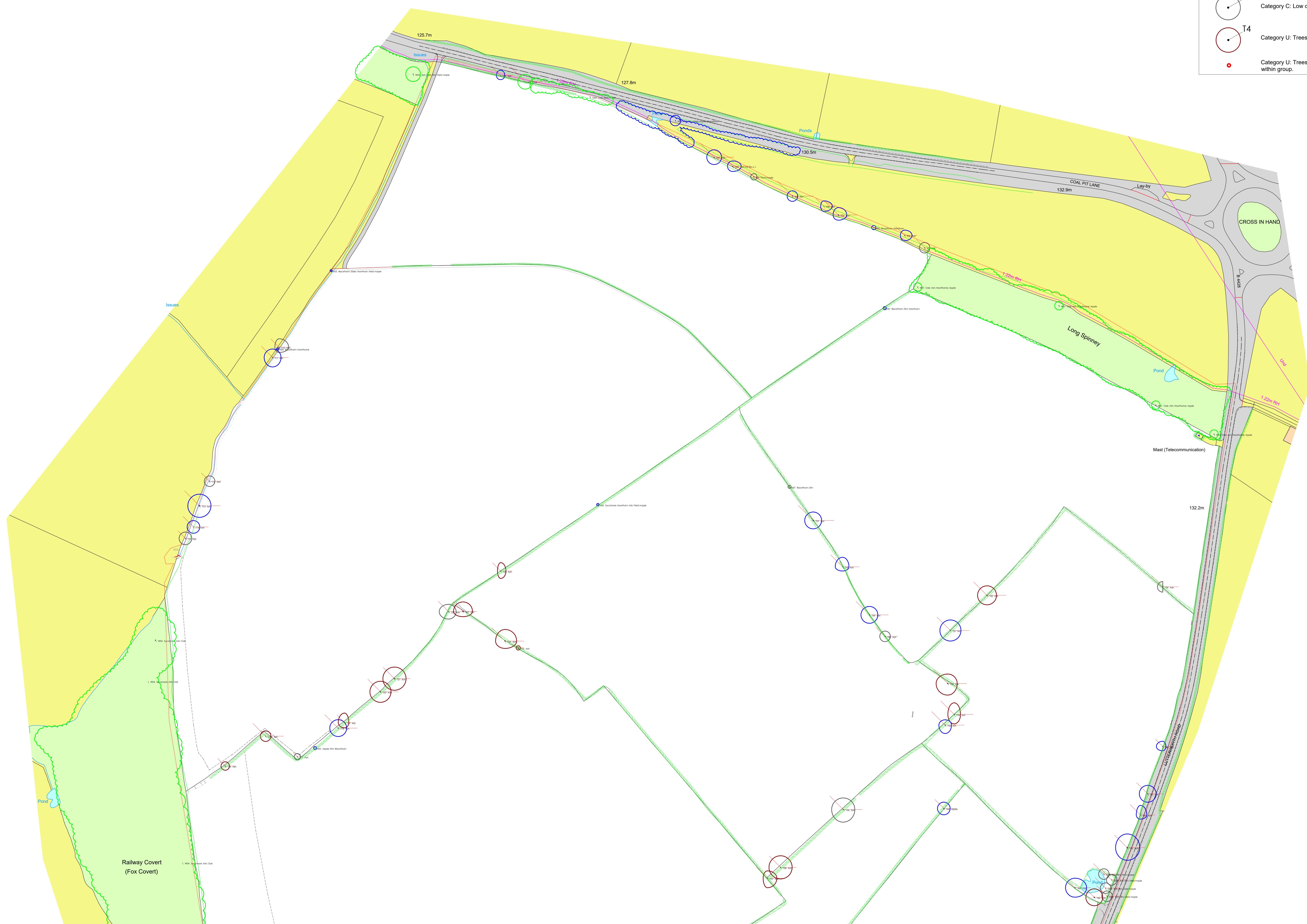
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- T4 Category U: Trees unsuitable for retention.
- Category U: Trees unsuitable for retention within group.



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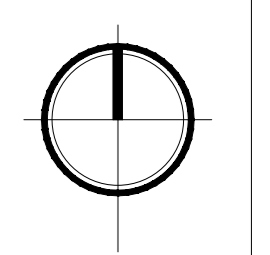
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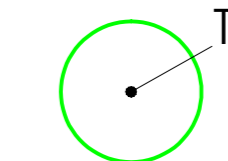
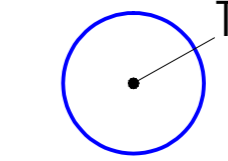
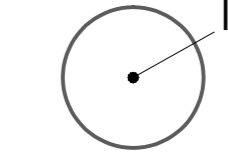
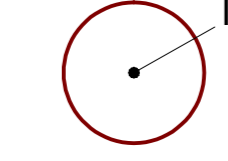
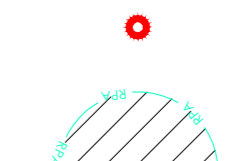
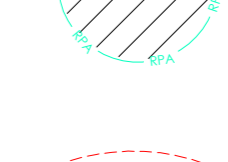
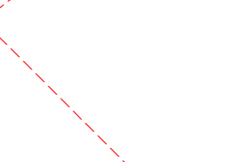
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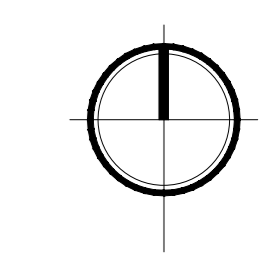
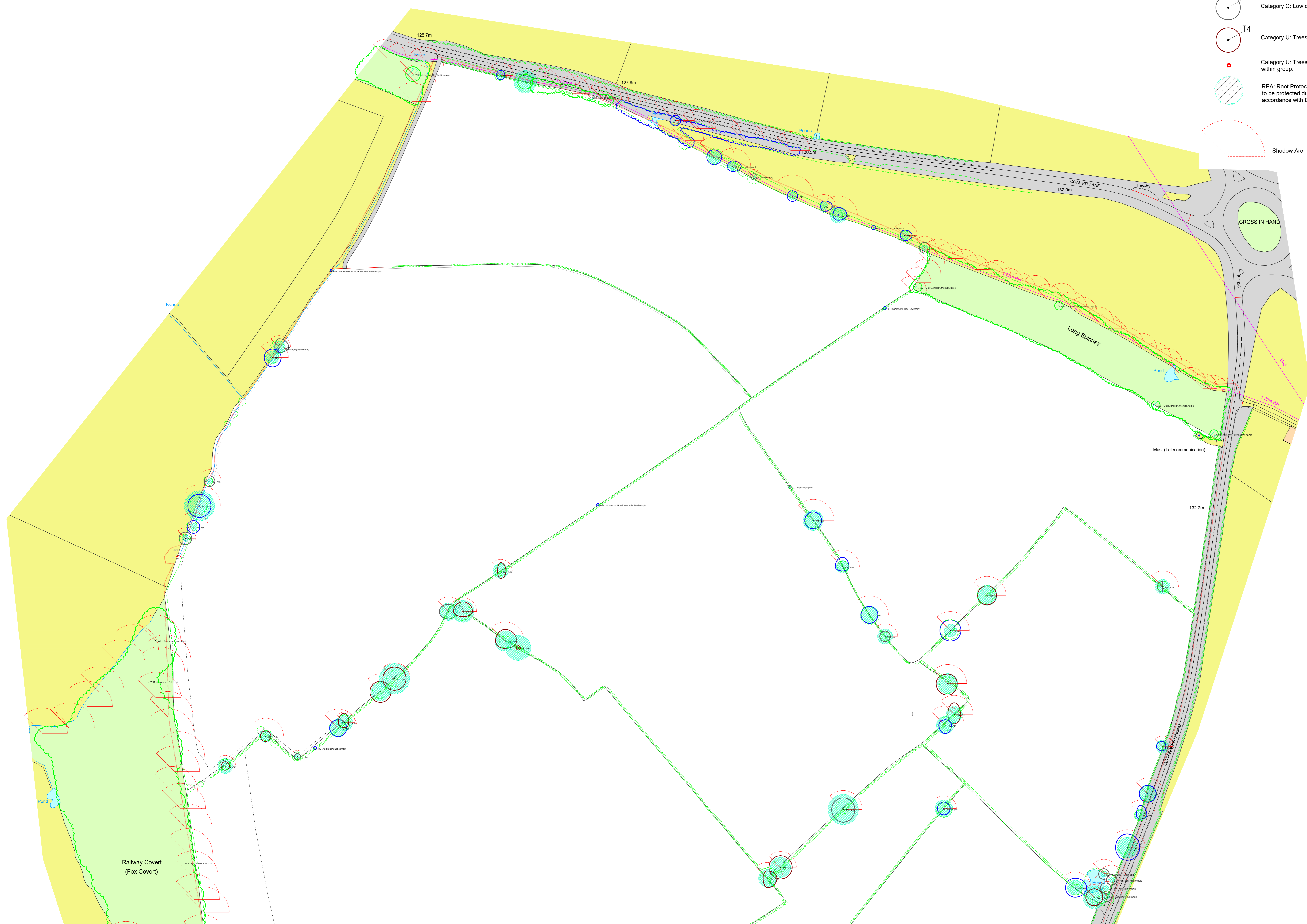
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-  Category U: Trees unsuitable for retention within group.
-  RPA: Root Protection Area: minimum area to be protected during construction in accordance with BS 5837:2012.
-  Shadow Arc

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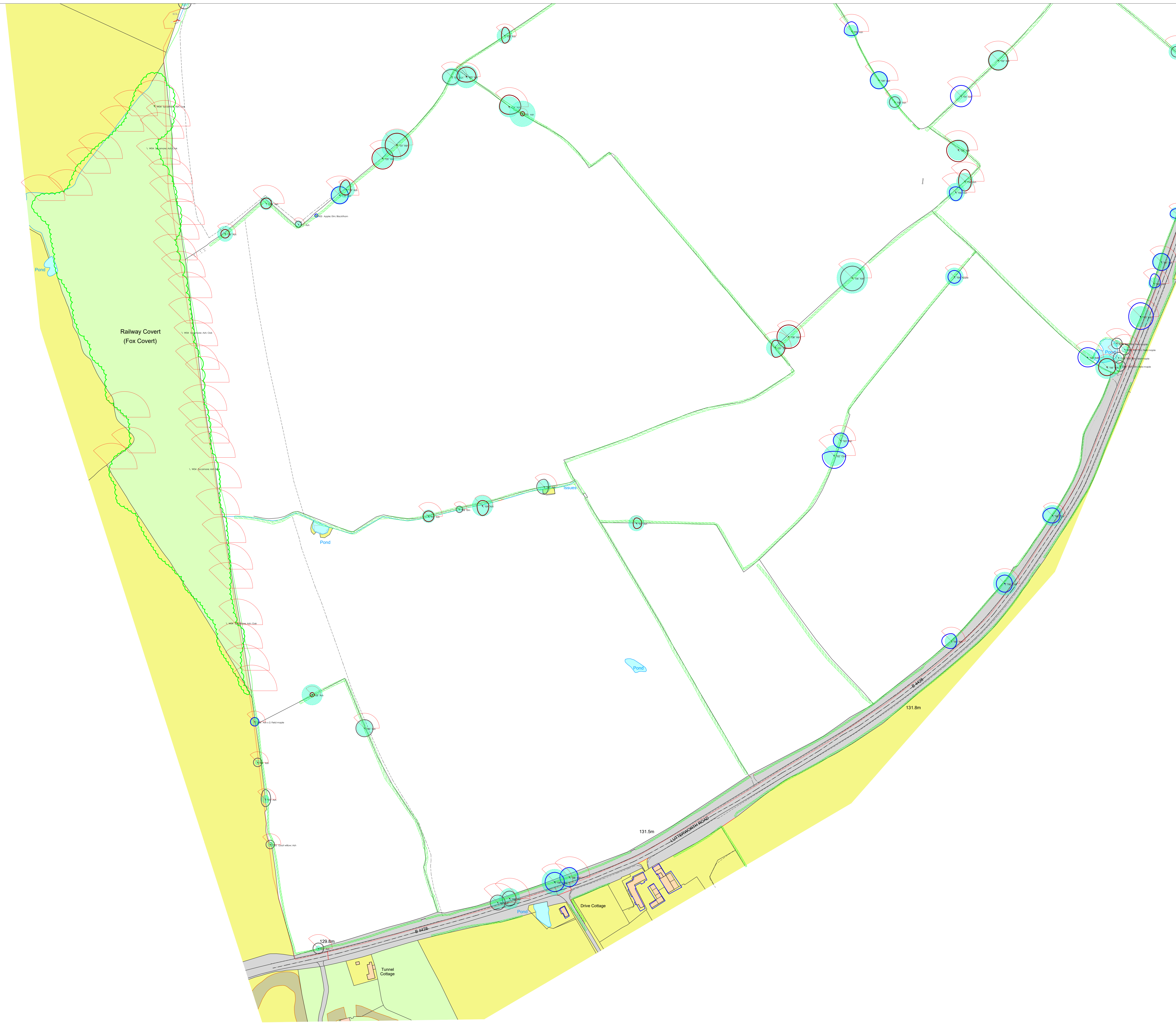
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TREE CONSTRAINTS PLAN
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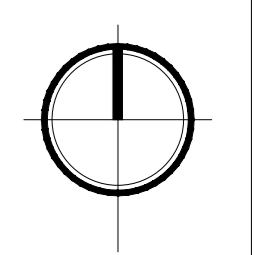
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