

Appendix 11.4: Arboricultural Impact Assessment



THE
ENVIRONMENT
PARTNERSHIP



LAND NORTH OF BRYN LANE

WREXHAM

ARBORICULTURAL IMPACT ASSESSMENT IN SUPPORT OF HYBRID PLANNING

JUNE 2023

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Executive Summary

1. TEP has been commissioned by Net World Sports Ltd to conduct an Arboricultural Impact Assessment of land north of Bryn Lane in Wrexham, comprising a tree survey, a review of designations, policies and other instruments of relevance to arboriculture, and an assessment of effects (known and anticipated) in relation to the proposed development for which hybrid planning permission is being sought.
2. The tree survey recorded 122 individual trees; 17 groups of trees; and 25 hedges were recorded within influencing distance of the application site.
3. Tree cover is predominantly confined to field margins, with the most significant area of continuous tree cover found on the eastern boundary, however trees are common across the application site. Pedunculate oak is the dominant species across the application site, accounting for 90 percent of the individually recorded trees. As a collective, the tree stock provides good amenity, landscape and habitat value and, along with the numerous hedgerows dissecting the application site, forms a valuable component of the rural landscape.
4. The desktop review and site survey of the application site and immediately surrounding area identified 1 offsite tree subject to a Tree Preservation Order; no trees within a Conservation Area; no ancient woodland; 2 veteran trees; no records of Habitats of Principal Importance *Broadleaved, Mixed and Yew Woodland, Wood Pasture and Parkland* or *Traditional Orchard* within influencing distance of the application site. All 25 hedgerows recorded meet the description of Habitats of Principal Importance *Hedgerow*.
5. The proposed development for which hybrid planning permission is being sought will comprise the demolition of existing buildings, site clearance and preparation work and the construction of up to 135,889 sqm GEA commercial development within both the detailed and outline components, comprising Use Class B1c (light industry appropriate in a residential area), Use Class B2 (general industrial) and Use Class B8 (storage & distribution) uses. Within the outline component, flexibility is being sought for up to 16,150 sqm GEA ancillary retail/drive thru facilities and potential for a hotel and petrol filling station (Use Classes A1, A3, C1, sui generis). Access and parking provision, including new access junctions, internal roads, service yards and cycle and pedestrian links would also be provided as well as landscaping.
6. Approximately 0.36ha of tree cover, recorded as 25 individual trees and 4 tree groups, and 1,355m of hedgerow would be removed to facilitate the detailed components of the proposed development. The majority of the individual trees are middle-aged to mature oak trees. The groups are lower growing shrubby species forming dense thickets.
7. A substation access junction is proposed in the south-eastern corner of the application site within the construction exclusion zone of an off-site veteran tree. This can be constructed without causing physical harm to the tree due to separation by an existing road and would create no significant additional noise, lighting or pollution effects to the tree beyond those that already exist.

8. The landscaping strategy for the outline component (including tree removal and retention) will be determined at the Reserved Matters stage. The Proposed Masterplan demonstrates how the landscaping could be delivered. However, anticipated effects in these areas have been based on a worst-case assessment of the Parameters Plan, with the assumption that all trees located internally within development zones A1, A2 and B would be removed.
9. If the outline elements of the proposed development were developed in broad accordance with the Parameters Plan, approximately 14 individual trees; 3 tree groups; and 7 hedges are anticipated to require removal in full or part.
10. A scheme of new planting would deliver approximately 1.26ha of replacement canopy cover 20 years post construction, via the planting of circa 644 new trees. Development would therefore result in a net increase of circa 0.9ha of tree canopy cover within a reasonable timeframe, but the new trees would take in excess of 60 years to attain a similar stature as those being removed.
11. Mixed native hedgerow planting would deliver approximately 2,568 linear metres once established, connected and maturing as managed hedgerows and would therefore result in a net increase of 1,213m within a reasonable timeframe. A considerable amount of shrub and thicket/scrub planting would also be provided.
12. A Tree Protection Plan is provided at Drawings 6 and 7. It shows the arrangement of temporary protection measures, for aspects applied for in full, that would be installed prior to the commencement of any works, including ground investigation, setting out, compound establishment or delivery of any plant or materials.
13. An Arboricultural Clerk of Works (ACoW) should be appointed to ensure effective delivery of tree protection measures throughout the demolition and construction phases for aspects applied for in full. They should also be present during the vacuum excavation and root pruning shown on Drawings 6 and 7.

1.0 Scope

- 1.1 TEP has been commissioned by Net World Sports Ltd to conduct an arboricultural survey of land north of Bryn Lane in Wrexham and to make an assessment in accordance with BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations.
- 1.2 This report has been produced to support a hybrid planning application. It describes the findings of field and desktop surveys; the *known* and *anticipated* effects that the proposed development (part detailed and part outline) would have on arboriculture; and measures that are and/or should be incorporated in the proposed development.

Survey

- 1.3 The survey was undertaken in February 2022, March 2022 and March 2023 in accordance with BS 5837 by a qualified arboriculturist. The survey method is included at Appendix B. The survey area is shown on Drawings 1 to 3.
- 1.4 A topographical survey was used to record the position of trees and vegetation (drawing reference: 10670/1B). Where trees were not shown on the topographical survey, their locations were estimated¹.
- 1.5 Trees on private land outside the application boundary, and at inaccessible locations² were surveyed insofar as was practicable. Whilst reasonable effort has been made to ensure the accuracy and comprehensiveness of such records, it cannot be guaranteed.

Limitation

- 1.6 This report relates to a specific development proposal and should not be interpreted as advice in any other circumstance, including but not limited to the promotion or assessment of alternative schemes; the design of foundations; management of tree risk; and tree-related subsidence.
- 1.7 This report constitutes a valid basis for the evaluation of impacts on trees resulting from detailed aspects of the proposed development for a period not exceeding 2 years from the date of the first survey. After this, it would be necessary to review baseline data and conclusions to ensure reliability. Conclusions are drawn based on professional judgement, experience and the information provided. If the proposed development changes, the conclusions of this report may cease to be reliable.
- 1.8 Where the recommendations of this report have been followed, any future deterioration in tree condition shall not be attributable to the development.

¹ Estimated feature locations are marked on Drawings 2 and 3

² Limitations to the survey are described at Appendix A

2.0 Baseline

- 2.1 The application site is in the Borough of Wrexham, lying immediately north of Wrexham Industrial Estate. It is centred on National Grid Reference (NGR) SJ38557 51096 and bound to the north by Francis' Lane; to the east by existing field boundaries and a public right of way; to the south by Bryn Lane; and to the west by Hugmore Lane/Industrial Estate Road.
- 2.2 The application site is 37.21ha in size and predominantly comprises arable land, separated into 8 fields by intact and defunct hedgerows lined with intermittent trees. A cluster of buildings and associated hardstanding is located in the central southern part of the application site, adjacent to Bryn Lane. This includes a residential property and barn structures, which are currently in use. An access road linking these buildings with Bryn Lane is also present in the south of the application site.
- 2.3 A residential property is located within the central northern part of the application site, located off Francis' Lane. The application site also includes an area of publicly accessible highway around the Bryn Lane/Industrial Estate Road as well as small areas of the adjacent verge. The redline boundary plan is shown in Figure 1 below, together with the extents of the components to be submitted in detail (red hatched line) and outline (blue hatched line).

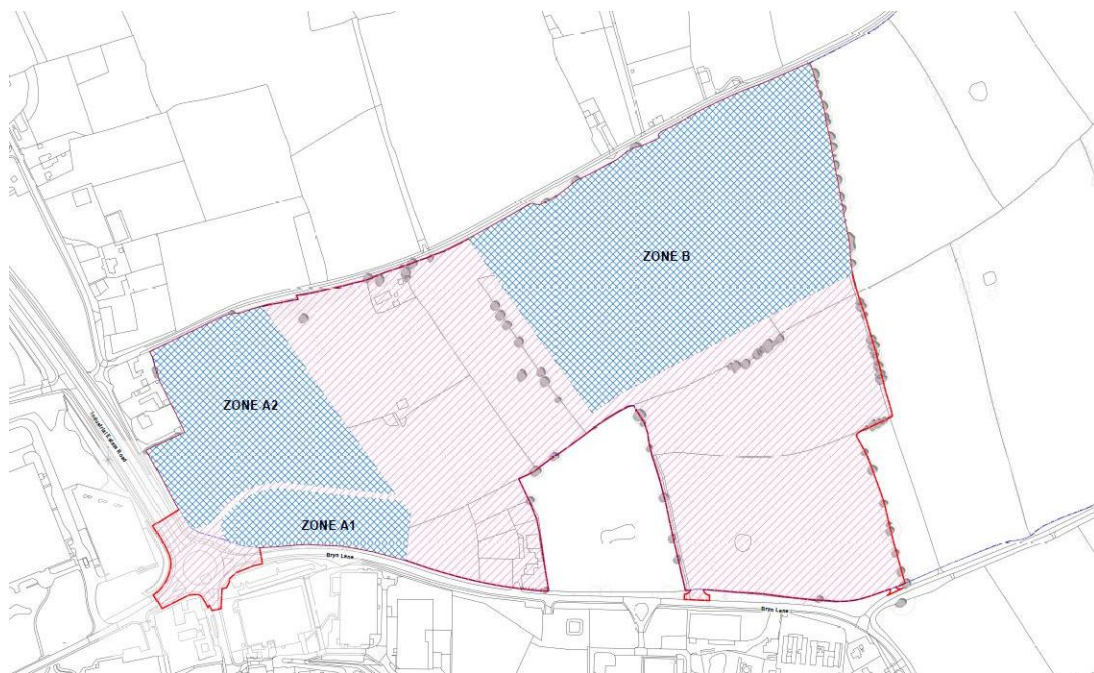


Figure 1 Redline boundary with outline (blue) and detailed (red) areas

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Tree Survey

- 2.4 122 individual trees (T1-T122); 17 groups of trees (G1-G17); and 25 hedges (H1-H25) were recorded within influencing distance of the application site. Influencing distance is defined as branch overhang, root encroachment or falling distance and is based on professional judgement and individual tree attributes.
- 2.5 Feature locations, their quality categories, canopy spreads and root protection areas are shown on Drawings 2 and 3. Table 1 provides the total canopy area for mapped trees and the total length of mapped hedgerow on Drawings 2 and 3. In some cases this may be more than the absolute area of cover due to canopy overlap between adjacent features.

Table 1 Existing canopy coverage

Trees	Groups	Woodland	Hedgerow
0.9802ha	0.5675ha	0ha	4,834m

- 2.6 All arboricultural information recorded during the survey is presented at Appendix A.

Overview

- 2.7 Tree cover is predominantly confined to field margins, with trees located internally being relatively rare. The most significant area of continuous tree cover is found on the eastern boundary, however trees are commonly found across the application site. Typically, the tree stock is in fair or good condition, with occasional dead trees or those in poor condition. As a collective, the tree stock provides good amenity, landscape and habitat value and, along with the numerous hedgerows dissecting the application site, forms a valuable component of the rural landscape.
- 2.8 Pedunculate oak (*Quercus robur*) is the dominant species across the application site with 110 of the 122 individual trees being oak. Other individual tree species found are sessile oak (1; *Quercus petraea*); common ash (3; *Fraxinus excelsior*); 4 types of willow comprising crack (2; *Salix fragilis*), goat (3; *Salix caprea*), white (1; *Salix alba*) and golden weeping (1; *Salix x chrysocoma*); and rowan (1; *Sorbus aucuparia*). Typically these trees, in particular the oaks, are large, middle aged and mature trees; some with open grown forms, such as T88 and T109 (see Figure 2 below), and others growing more closely together on field boundaries but of equal prominence and value to open grown specimens, such as T30 to T32. Collectively these individual trees form a well-established tree stock, providing a high quality arboricultural and habitat value and is in keeping with the surrounding rural landscape.



Figure 2 Example of typical open grown pedunculate oak trees across the site (T102)

- 2.9 Occasional groups are found around some of the several scattered ponds within the application site, such as G2, G10 and G13 (see Figure 3 below). These typically include a mixture of willow (goat, crack and white) but also blackthorn (*Prunus spinosa*), common hawthorn (*Crataegus monogyna*) and pedunculate oak. Many of these have multi-stemmed form and are growing close together, forming dense thickets. Some of the groups contain trees with failed limbs and stems, characteristic of willow as a species.



Figure 3 Dense, predominantly willow group (G10) around pond

- 2.10 Ornamental and non-native trees are found in and around the residential buildings and barn structures within the application site. This includes a mature golden weeping willow (T94) and smaller ornamental species including varieties of apple (*Malus sp.*) and cherry (*Prunus sp.*) and variegated holly (*Ilex x altaclerensis*; G11) around the residential dwelling to the north; Leyland cypress (*Cupressocyparis leylandii*; G7) just off Bryn Lane in front of a residential property to the south; and a dense Lawson cypress group (*Chamaecyparis lawsoniana*; G8) providing screening to an adjacent third-party property to the north-west.
- 2.11 Hedgerows are prevalent across the application site, dissecting the fields and forming typical boundary features characteristic of the agricultural landscape. These comprise native species, predominantly common hawthorn but also blackthorn, dog rose (*Rosa canina*), holly (*Ilex aquafolium*) and elder (*Sambucus nigra*). Management is variable across the application site, with some maintained regularly and others that have become outgrown and are beginning to lapse.

Tree Quality

- 2.12 Under BS 5837 trees are objectively assigned one of four categories to describe their quality. Tables 2 and 3 below show the split of BS 5837 categorisation by number of features and by total canopy area of each. Table 3 also provides a description of each category. This information is presented by canopy area to allow comparison between features of varying size and maturity. Hedgerows have not been categorised.

Table 2 Summary of BS 5837 categorisation by number of features

Feature	Number of features			
	Category A	Category B	Category C	Category U
Trees	26	66	26	4
Groups	0	7	10	0
Woodland	0	0	0	0
Total number	26	73	36	4

Table 3 Summary of BS 5837 quality categorisation³ by canopy area

Category	Description	Total existing
A	Trees of high quality, typically with a long remaining life expectancy; and with clear and identified merit as specimens, visually, culturally or for conservation.	0.3158ha (20%)
B	Trees of moderate quality, typically with at least a medium remaining life expectancy; with remediable defects only; or low quality but with collective merit.	0.8148ha (53%)
C	Trees of low quality, typically with at least a short remaining life expectancy; unremarkable trees; young or small trees that could be replaced.	0.4116ha (27%)
U	Trees that cannot realistically be retained in the current land use for 10 years; with serious and irreparable defects, pathogens or decline.	0.0055ha (<1%)

- 2.13 The largest proportion of canopy cover within influencing distance of the application site is of moderate quality (Category B) and predominantly comprises individual trees (66) and a small number of tree groups (7). Category B tree groups have been predominantly categorised as such due to their collective function and landscape benefits, including habitat provision. Individual trees have been categorised as such due to their individual merit as well-established standalone trees, but where remediable defects or reduced longevity prevent them attaining higher quality.
- 2.14 Low quality (Category C) canopy cover is the second largest proportion and comprises predominantly groups of trees (10), including some reasonably large and dense groups. It also includes 26 individual trees which are largely either small trees or those with significant and irreparable defects. Category C trees tend to have some limited landscape and habitat value.
- 2.15 High quality (Category A) trees form a fifth of the total canopy area, comprising 25 individually recorded oak trees and a single golden weeping willow (T94). These trees are typically large, middle age to mature specimens with good arboricultural and landscape value. This also includes 2 veteran trees that have irreplaceable habitat value.
- 2.16 The smallest proportion of tree cover (approximately 1%) has been categorised as poor quality (Category U). This comprises 4 individual trees that are in decline or are already dead. They are trees whose safe retention should be regularly reviewed and in light of any proposed development, and whose value predominantly resides in their ecological value, often as deadwood habitat provision.

³ Refer to Appendix B for the full table

Root Protection Areas

- 2.17 Using the results of the field survey a Root Protection Area (RPA) has been calculated in accordance with BS 5837 using each tree's stem diameter at 1.5 metres⁴. The RPA represents the minimum area around each tree that must be left undisturbed to ensure its survival.
- 2.18 Where a tree's rooting pattern is considered to have been influenced by site conditions the RPA has been adjusted or offset to most accurately represent the likely spread of roots⁵. In respect of the application site, influences on root morphology are considered to be existing roads to the north and south of the application site; ponds; and current and historic agricultural practices.

Policy, designations and protection

Planning Policy

- 2.19 All trees are a material consideration in the planning process. Effects on trees will therefore be considered by the consenting authority. Adverse effects that cannot be mitigated and which are not acceptable on balance against other benefits may weigh against the granting of planning permission.
- 2.20 There should be a common sense ambition to limit tree loss to that which is strictly required to facilitate the proposal, and to achieve a good design. Trees which are retained should not be harmed and the proposal should present a reasonable account of the prospects for tree retention in accordance with BS 5837.

Planning Policy Wales

- 2.21 Planning Policy Wales⁶ states that 'Planning authorities should protect trees, hedgerows, groups of trees and areas of woodland where they have ecological value, contribute to the character or amenity of a particular locality, or perform a beneficial and identified green infrastructure function'⁷.
- 2.22 There is a strong policy presumption against loss or deterioration of irreplaceable natural resources such as semi-natural woodlands, ancient woodland and individual ancient, veteran or heritage trees. These trees should be afforded protection from development which would result in their loss or deterioration unless there are significant and clearly defined public benefits⁸.

Local Planning Policy

- 2.23 Wrexham County Borough Council (Wrexham CBC) has a Unitary Development Plan (adopted February 2005) that contains policy EC4 which is of relevance to trees and this application site. It states:

⁴ Refer to Appendix A for RPA area calculations

⁵ See Drawings 2 and 3 for RPA shapes

⁶ Planning Policy Wales, Edition 11, February 2021

⁷ Planning Policy Wales paragraph 6.4.25

⁸ Planning Policy Wales paragraph 6.4.26

Policy EC4 - Hedgerows, Trees and Woodland

Development proposals should provide for the conservation and management of hedgerows, trees, orchards, woodland, wildlife and other natural landscape and water features, and include new planting in order to enhance the character of the landscape and townscape. Development which results in the loss or significant damage to valuable trees, important hedgerows or ancient woodland sites will not be permitted.

Emerging Local Plan

- 2.24 Wrexham CBC are preparing a Local Development Plan (LDP) which will replace the current adopted Unitary Development Plan. The LDP is a land use plan that sets out the planning requirements for achieving sustainable development in the Borough over the period 2013-2028. WCBC has decided not to adopt the plan at this stage, however it remains a material consideration with significant weight, as it has been found sound by a Planning Inspector. Of relevance to trees and this application site are draft policies NE3 Trees, Woodlands and Hedgerows and SP15 Natural Environment which state:

Draft Policy NE3 - Trees, Woodlands and Hedgerows

Development will only be permitted where it does not cause unacceptable harm to trees, woodlands and hedgerows of significant public amenity, natural or cultural heritage value or those that provide important ecosystem services.

Development affecting all existing and new proposed woodlands should:

- *Support proposals which assist in the respectful and appropriate use and protection of woodlands and boundary edges,*
- *Promote sustainable management to deliver multiple benefits, and*
- *Support the relevant aims and objectives of the Wrexham Tree & Woodland Strategy 2016-2026 and all subsequent amendments.*

Where adverse effects cannot be avoided and sustainable integration is not possible then adequate mitigation will be required. In such cases development should include proposals for the planting of new trees, woodlands, and hedgerows within the site, ensuring connectivity between proposed and existing green infrastructure.

Draft Policy SP15 Natural Environment

Development will only be permitted where it seeks to protect, conserves and enhance the natural environment including:

(Inter alia)

- *Natural landscape features and Green Infrastructure such as trees, hedges and woodland which contribute to the quality and diversity of the natural environment and play an important role in mitigating the impact of climate change.*
- *Habitats and species of principal importance to Wales.*

- 2.25 In addition, the council has published supplementary information that gives guidance on the interpretation and application of local planning policy. In particular, Local Planning Guidance Note 17 is of relevance and is intended to amplify and support policy EC4 and assist with policy interpretation. It details the Wrexham CBC's stance on the importance of trees within proposed development and what will be expected of anyone developing a site containing trees including requirements for additional protection in relation to significant ancient, veteran and/or historic champion trees (BS5837 Category A3 trees).
- 2.26 Wrexham CBC has also published a Tree and Woodland Strategy (2016-2026) which provides further information on the stance and views of Wrexham CBC on trees and woodland within the borough.

Tree Preservation Orders

- 2.27 A check with the local authority was undertaken on 18th April 2023. Jon Brewin, Wrexham CBC's Arboricultural Officer (Planning), confirmed that no trees within the application site boundary are protected by Tree Preservation Order (TPO), however 1 tree is subject to a TPO and is located in close proximity to the south-eastern corner of the application site and is within influencing distance. This is detailed in Table 4 below.

Table 4 Tree Preservation Orders

Order name	Order feature reference	Survey feature reference
Tree Preservation Order No. 60, 1991	T1	T120

- 2.28 Works to TPO trees must only be undertaken with the written consent of the Local Authority, given in the form of a planning permission (other than an outline planning permission), discharge of reserved matters, or via a TPO application.
- 2.29 In the context of a planning application, the presence of a TPO is material but it does not necessitate the retention of protected trees within proposed development. Equally, the lack of a TPO does not mean that removal of any particular tree would be without significant impact. The existence of a TPO may indicate the local authority's view regarding priorities for tree retention and amenity value. BS 5837 recommends that TPOs should be considered in the design process.

Conservation Areas

- 2.30 A check with the local authority was undertaken on 18th April 2023. Jon Brewin confirmed that no trees within or adjacent to the application site are within a Conservation Area.

Ancient Woodland

- 2.31 Ancient Woodland is defined in Wales as sites that have been continuously wooded since before 1600AD⁹ and is regarded as 'irreplaceable'¹⁰. The distribution of Ancient Woodland has been assessed on the basis of Natural Resources Wales Ancient Woodland Inventory 2021 via DataMapWales (gov.wales)¹¹.
- 2.32 There is no ancient woodland within or adjacent to the application site.

Veteran Trees

- 2.33 Veteran trees are defined as those which, because of great age, size or condition, are of exceptional value culturally, within the landscape, or for wildlife¹². All ancient trees are veteran trees. Not all veteran trees are ancient, though they tend to be relatively old for the species. Ancient and veteran trees are regarded as 'irreplaceable'¹³.
- 2.34 There is no comprehensive national register of veteran trees. The Woodland Trust maintains an inventory of significant trees which includes some ancient and veteran individuals¹⁴. At the time of writing, the inventory contained 1 record of relevance to the application site; a veteran oak tree (T120 of the tree survey¹⁵).
- 2.35 An assessment of each tree was made by a qualified arboriculturist as part of the tree survey. 2 veteran trees were identified. Tree T101 is located centrally within the application site at the edge/within a seasonally wet pond (see Figure 4). Tree T120 is located offsite on the south side of Ridley Wood Road, located on the south side of Ridley Wood Lane outside of the application site, but within influencing distance of the boundary (see Figure 5). Table 5 below provides details of veteran characteristics associated with each tree.

⁹ Woodlands for Wales: Glossary (p.52)

¹⁰ Planning Policy Wales paragraph 6.4.26

¹¹ [New map | DataMapWales \(gov.wales\)](https://gov.wales/data-map-wales)

¹² Woodlands for Wales: Glossary (p.55)

¹³ Planning Policy Wales paragraph 6.4.26

¹⁴ <https://ati.woodlandtrust.org.uk/>

¹⁵ See Appendix A

Table 5 Veteran trees

Survey reference ¹⁶	Species	Veteran characteristics
T101	Pedunculate oak	Stem hollowing; cavities; hazard beams; large decay pockets and rot sites; extensive brown rot; large deadwood up to 150mm diameter; canopy retrenchment; flaking bark
T120	Pedunculate oak	Large stem diameter; cavities; deadwood; broken limbs and deadwood; squat retrenching form



Figure 4 Veteran pedunculate oak tree T101 at edge of/within seasonal pond

¹⁶ See Appendix A



Figure 5 Veteran pedunculate oak tree T120 on south side of Ridley Wood Road

- 2.36 Not all mature trees or those of high habitat interest are veterans. Trees with individual or simple assemblages of features typically associated with veteran trees were also noted¹⁷. Such trees may become veterans but should not be treated as such for the purposes of impact assessment.
- 2.37 To comply with planning policy¹⁸, development must not result in loss or deterioration of ancient and veteran trees unless there are significant and clearly defined public benefits. In practice, harm to such trees would constitute grounds for refusal of the majority of planning applications that cannot demonstrate the public benefits would outweigh the loss or harm of these trees.
- 2.38 No prescriptive guidance is provided with regards to protection of ancient and veteran trees within national planning policy. Therefore all protection recommendations, with the central objective being the avoidance of harm to ancient and veteran trees, are based on professional judgement, experience and relevant guidance.
- 2.39 Wrexham CBC has published supplementary planning guidance note number 17¹⁹ that recommends that veteran trees, in amongst other trees of importance, should have an extra Construction Exclusion Zone (CEZ) in addition to their standard RPA. This should be calculated at 15 times the stem diameter of the tree (measured at 1.5m) or a distance of 2m from the canopy edge, whichever is the greater²⁰.
- 2.40 In accordance with Wrexham CBC's guidance note number 17, a CEZ has been applied to both veteran trees, the location and extents of which are shown on Drawings 1 to 7.

¹⁷ See Appendix A

¹⁸ Planning Policy Wales paragraph 6.4.26

¹⁹ [Local Planning Guidance Note No 17 - Trees and Development \(wrexham.gov.uk\)](https://www.wrexham.gov.uk/local-planning-guidance-note-no-17-trees-and-development)

²⁰ Local Planning Guidance Note No 17 - Trees and Development, Section 3.3 (B) (p.3)

Habitats of Principal Importance

- 2.41 A list²¹ of habitats which are of principal importance for the purpose of maintaining and enhancing biodiversity is published by Welsh Ministers²², the definitions of which appear to be based on the UK Biodiversity Action Plan (UK BAP)²³. The list includes habitat types that are defined by woody vegetation, which are listed below. All features surveyed have been assessed against these definitions and those that meet the definition of a Habitat of Principal Importance have been listed in accordance with their habitat type below.
- 2.42 Habitats of Principal Importance provide a means of evaluating effects on biodiversity, and thereby a metric to demonstrate the discharge of this duty. In the context of planning, adverse effects on Habitats of Principal Importance that cannot be mitigated are material to decision making.
- 2.43 There is no mapping available of Habitats of Principal Importance for Wales. Habitat surveys were not completed as part of the tree survey but were considered as part of a separate ecological assessment that informed the Environmental Statement Chapter 11: Biodiversity.

Broadleaved, Mixed and Yew Woodland

- 2.44 Five distinct types of woodland²⁴ are amalgamated in the Section 7 list of Habitats of Principal Importance²⁵ under the habitat type 'Broadleaved, Mixed and Yew Woodland'.
- 2.45 No surveyed features appear to fit the definition of a Broadleaved, Mixed and Yew Woodland at the application site.

*Wood Pasture and Parkland*²⁶

- 2.46 Wood-pasture and parkland are mosaic habitats valued for their trees, especially veteran and ancient trees, and the plants and animals that they support. They are exclusively associated with some species of insects, lichens and fungi which depend on dead and decaying wood. Grazing animals and continuity of management are fundamental to the existence of the habitat and it can be a type of ancient woodland.
- 2.47 No surveyed features appear to fit the definition of Wood Pasture and Parkland at the application site.

*Traditional Orchards*²⁷

- 2.48 Traditional orchards are defined, for priority habitat purposes, as groups of fruit and nut trees planted on vigorous rootstocks at low densities in permanent grassland; and managed in a low intensity way. Habitat structure rather than vegetation type, topography or soils, is the defining feature of the habitat.

²¹ <https://www.biodiversitywales.org.uk/File/57/en-GB>

²² Environment (Wales) Act 2016, 7 (1)

²³ <http://jncc.defra.gov.uk/page-5706>

²⁴ Upland oak woodland; Lowland beech and yew woodland; Upland mixed ash woodland; Wet woodland; Lowland mixed deciduous woodland

²⁵ <https://www.biodiversitywales.org.uk/File/57/en-GB>

²⁶ http://jncc.defra.gov.uk/docs/UKBAP_BAPHabitats-65-WoodPastureParkland2011.doc

²⁷ http://jncc.defra.gov.uk/Docs/UKBAP_BAPHabitats-56-TraditionalOrchards.doc

- 2.49 No surveyed features appear to fit the definition of Traditional Orchard at the application site.

*Hedgerow*²⁸

- 2.50 Hedgerow is any boundary line of trees or shrubs over 20m long and less than 5m wide, and where any gaps are less than 20m wide. It may include banks, walls, ditches, herbaceous vegetation, climbing plants or trees within 2m of the centre line. All hedgerows which comprises at least 80% woody native species are included.
- 2.51 The survey identified 25 hedgerows²⁹ all of which meet the definition of Hedgerow.

Protected Species

- 2.52 No assessment of the presence of protected species has been made during the production of this report, however the assessment of potential impacts to protected species is reported within ES Chapter 11: Biodiversity, with the full assessments detailed in the associated technical appendices.

²⁸ http://incc.defra.gov.uk/Docs/UKBAP_BAPHabitats-17-Hedgerows.doc

²⁹ See Appendix A

3.0 Effects

Proposed development

3.1 The proposed development is commercial in nature and comprises:

- Detailed Component:
 1. Demolition of existing buildings, site clearance and preparation works, including removal of vegetation and reprofiling of topsoil, where necessary;
 2. Construction of a new warehouse unit, providing 33,595 sqm Gross External Area (GEA) for B1c (light industry appropriate in a residential area), B2 (general industrial) and B8 (storage & distribution) uses (Unit 2);
 3. Construction of 8 new smaller units (Units 3-7; 14-16), providing a total of 29,659 sqm GEA for B1c (light industry appropriate in a residential area), B2 (general industrial) and B8 (storage & distribution) uses;
- Outline Component:
 1. Construction of up to 72,635 sqm GEA for employment uses (B1c (light industry appropriate in a residential area), B2 (general industrial) and B8 (storage & distribution) uses), ancillary retail/drive thru facilities and potential for a hotel and petrol filling station (A1, A3, C1 or sui generis). The overall quantum of A1, A3, C1 or sui generis use would not exceed 16,150 sqm GEA;
 2. The proposed buildings will be up to 28.5m in height above ground level;
- Site Wide
 1. Access and parking provision, including new access junctions, internal roads, service yards and car and HGV parking. Two new junctions are proposed (in detail) providing vehicular access, as well as cycle and pedestrian access, from Bryn Lane/Industrial Estate Road with an additional access road for a substation. Car parking spaces, HGV trailer spaces and HGV lorry spaces are proposed across the application site;
 2. Retention and enhancement of some existing on-site green spaces and provision of landscaping around the application site; and
 3. Implementation of drainage/attenuation measures.

Types of Effect

- 3.2 In simple terms, the effects on arboriculture comprises an account of which existing trees, groups of trees, hedgerow and woodland would not be retained within the proposed development; what significance they have; and whether adverse effects would or can be mitigated or offset.
- 3.3 This report supports a hybrid planning application. Tree removal for outline parts of the site and retention is a reserved matter and would not be determined by this application, except for tree removal that is necessary to facilitate works applied for in full within this application.
- 3.4 To reflect the varying levels of detail that are available for the detailed components and outline components, this report describes the types of effect on arboriculture as follows:
- (i) **Known effects** are those that can be described in detail now and would occur, pending the discharge of any pre-commencement conditions. The consenting of this hybrid planning application by the Local Planning Authority would determine them;
 - (ii) **Anticipated effects** are those that can be inferred from the preliminary design and type of development that is proposed, based on professional judgement and experience. It is reasonable to assume that similar effects would arise but the particulars would not be determined or secured by this application.

Known Effects

- 3.5 The known effects are associated with the proposed demolition of existing buildings and construction a new warehouse unit (Unit 2) and 8 smaller units (Units 3-7 and Units 14-16) with associated access and car parking. The proposed layout is shown on Drawings 4 to 7 and is based on the Proposed Masterplan (drawing ref: 22136-SGP-ZZ-ZZ-DR-A-111006, Rev F) provided by SGP Architects and Masterplanners.
- 3.6 External works plans showing the detail and arrangement of surface water drainage, earthworks and finished levels were available to inform the production of this assessment. These were as follows:
- Cut & Fill Analysis Earthworks (ref: T_21_2486-52-01, Rev P03);
 - Proposed Ground Contours & Levels Layout (ref: T_21-2486_60, Rev P03);
 - Proposed Surface Water Drainage Strategy (ref: T-21-2486-55-02, Rev P02); and
 - Proposed Foul Water Drainage Strategy (ref: T_21_2468-55-01, Rev P03)
- 3.7 No external works plans showing the detail of retaining structures, foul water drainage or other utilities were available to inform this assessment.
- 3.8 Approximately 0.36ha of tree cover, recorded as 25 individual trees and 4 tree groups, and 1,355m of hedgerow would be removed to accommodate the detailed aspects of the proposed development.
- 3.9 The majority of the individual trees are middle-aged to mature oak trees. The groups are lower growing shrubby species forming dense thickets.

- 3.10 Tree removal is largely a function of road layout and the nature of the proposed development, comprising large indivisible industrial units. The former would necessitate the removal of a single high quality (Category A) oak tree and 8 out of the 18 moderate quality (Category B) trees proposed for removal. The majority of these are in or adjacent to the footprint of the main spine road running west to east, as well as the spur leading south to Bryn Lane. The remaining moderate quality trees to be removed are all within the footprint of the proposed industrial units or their associated carparks/service yards.
- 3.11 Trees to be removed for detailed components and their locations in respect to the application site redline boundary are shown in Table 6 below.

Table 6 Reference number & feature location that would be removed for detailed components

	Trees	Groups	Woodland	Hedgerow
Remove (on-site)	T46; T55; T62; T63; T64; T65; T67; T70; T73; T74; T75; T76; T77; T78; T79; T80; T85; T89; T90; T91; T92; T99; T114; T116; T117	G10; G11; (G12)	-	(H5); (H6); (H8); (H9); (H12); (H13); (H14); (H15); (H16); (H20); H21; (H22)
Remove (off-site)	T68; T69	G6	-	-

(Features in brackets are those of which a part would be removed and part retained)

- 3.12 The removal of trees that are not wholly within the application boundary will require the permission of the landowner. This applies to 2 trees (T68 and T69) and 1 group (G6) which are located on a shared boundary.
- 3.13 Table 7 provides an overview of the quantity and the percentage of trees that would be removed and a breakdown of the number of instances of removal by quality category. It uses canopy area to describe effects on Trees, Groups and Woodland. The reported areas may be higher than the absolute area of tree cover on the application site due to overlap between adjacent features.

Table 7 Quantity and percentage of trees to be removed for detailed components

Feature	Number of features affected				
	Category A	Category B	Category C	Category U	Hedges
Trees	1	18	4	2	12
Groups	0	0	4	0	
Woodland	0	0	0	0	
Total loss	0.0084ha	0.1599ha	0.1924ha	0.0041ha	1,355m
Proportion of existing	2.66%	19.63%	46.75%	74.83%	28.04%
Proportion of total canopy	23.58%				N/A

Root Pruning

- 3.14 The installation of roads or hard surfacing is proposed within or immediately adjacent to the RPA of retained trees listed in the table below. In order to disconnect the root structure within the area of excavation from the roots that will be retained in a controlled manner, vacuum excavation and root pruning should be undertaken; this will prevent further damage being caused to retained root parts during mechanical excavation for the wider construction. A method for root pruning is provided in Section 4 and on Drawing 6.

Table 8 Trees recommended for root pruning prior to construction of detailed elements

Feature reference
T2; T12; T49; T56; T59; T71; T72; T83

Effects on Veteran Trees

- 3.15 Veteran trees T101 and T120 would both be retained without harm or deterioration to their condition.
- 3.16 Tree T101 would be retained within a service yard designed specifically to avoid the trees canopy, RPA and additional veteran CEZ. The service yard will be enclosed in secure palisade fencing to prevent accidental vehicle incursion into the buffer. Surrounding tree cover and water bodies to the east of the tree will also be retained, preserving the immediate environment around the tree and avoiding changes to existing shelter, shading and hydrology.

- 3.17 Tree T120 is located on the southern side of the existing carriageway of Ridley Wood Road. An access junction to a substation is proposed south of Unit 2 within the CEZ of the tree. The access will be used infrequently for maintenance and would add no significant additional noise, lighting or pollution effects beyond those that already exist by the presence of Ridley Wood Road. The presence of the road will have also limited the spread of roots from the tree to the north and therefore no harm to T120 from the proposed construction would occur.

Effects on Tree Preservation Orders

- 3.18 The proposed development would not result in the removal of TPO tree T120 and would not result in an increased likelihood of applications to prune or remove TPO tree T120 in the future.

Effects on Habitats of Principal Importance

- 3.19 Loss of or harm to a Habitat of Principal Importance, without mitigation, constitutes an adverse effect that is likely to be regarded by the consenting authority as contrary to its duty to conserve biodiversity.

Hedgerow

- 3.20 The proposed development would result in loss of 1,355m of Hedgerow.
- 3.21 The proposed development would not result in harm to remaining Hedgerow provided suitable controls are put in place during demolition and construction.

Effects on Protected Species

- 3.22 The effects of the proposed development on protected species and significance thereof is considered by the relevant ecology reports including the Bat Roost Survey report (ref: 9134.005).

Anticipated Effects

- 3.23 The anticipated effects are derived from the Proposed Masterplan (drawing ref: 22136-SGP-ZZ-ZZ-DR-A-111006, Rev F) and the Parameters Plan (ref: 22136-SGP-ZZ-ZZ-DR-A-111004, Rev F), provided by SGP Architects and Masterplanners, and based on professional judgement. Separate reserved matters applications would be required to develop elements applied for in outline (Zones A1, A2 and B) as shown on Drawings 4 and 5.
- 3.24 If the outline elements of the proposed development were developed in broad accordance with the Proposed Masterplan and Parameters Plan, approximately 14 individual trees; 3 tree groups; and 7 hedges would be removed in full or part. The anticipated removals are detailed within Table 8 below.

Table 9 Anticipated tree removals (subject to detailed design through future reserved matters applications)

	Trees	Groups	Woodland	Hedgerow
Remove	T39; T40; T41; T42; T43; T44; T45; T81; T86; T87; T106; T107; T108; T109	G2; G4; G5	-	(H4); H5; (H12); (H13); (H14); (H20); (H23)

(Features shown in brackets are anticipated to be part removed and part retained)

Table 10 Quantity and percentage of trees anticipated for removal (subject to detailed design through future reserved matters applications)

Feature	Anticipated number of features to be affected				
	Category A	Category B	Category C	Category U	Hedges
Trees	2	9	3	0	7
Groups	0	1	2	0	
Woodland	0	0	0	0	
Total loss	0.0296ha	0.1161ha	0.0536ha	0ha	785m
Proportion of existing	9.37%	14.25%	13.01%	0%	16.23%
Proportion of total canopy	12.87%				N/A

4.0 Mitigation

- 4.1 This section describes opportunities to mitigate or offset adverse effects described in the previous section. It summarises measures that are part of the proposed development and which are relied upon by this report, and measures that are not proposed but could be secured by planning condition or agreement. Conclusions are drawn regarding overall effects, and the requirements that should be imposed in order to secure the outcomes described.
- 4.2 The table below provides an overview of **known effects** on the receptors described in the preceding sections. Within it, Column (1) describes the outcome for each receptor without mitigation; Column (2) reflects whether any mitigation would be secured by the current application; Column (3) represents whether predicted effects are (or could be rendered) neutral or positive; and Column (4) defines the outcome in simple terms.

Table 11 Summary of known effects and mitigation

Receptor	(1) Adverse effect*	(2) Mitigation proposed	(3) Mitigation possible	(4) Residual effect
Tree cover	Yes	Yes	Yes	Positive
Tree condition ³⁰	Yes	Yes	Yes	Neutral
Ancient Woodland	No	N/A	N/A	Neutral
Veteran Trees	No	N/A	N/A	Neutral
Broadleaved, Mixed and Yew Woodland	No	N/A	N/A	Neutral
Wood Pasture and Parkland	No	N/A	N/A	Neutral
Traditional Orchard	No	N/A	N/A	Neutral
Hedgerow	Yes	Yes	Yes	Positive

**Without mitigation*

- 4.3 **Positive** residual effects represent benefits that would be delivered by the proposed development.
- 4.4 **Neutral**³¹ residual effects are those that should have no weight in decision making.

³⁰ In this context, whether there would be a risk of harm to existing trees during development (without protection)

³¹ Including negligible and non-material effects

- 4.5 **Negative** residual effects cannot be mitigated or offset and represent adverse effects of the proposed development. They may be acceptable in the planning balance on consideration of other benefits delivered by the proposed development.
- 4.6 **Pending** residual effects are those for which mitigation or offsetting can be secured after consent has been granted, typically by planning condition. It is assumed by this report that they would be.
- 4.7 Mitigation and offsetting measures would not be determined in full by the current application, partly because the required scope cannot yet be established. However, it is reasonable to assume that an appropriate level of mitigation in the form of tree and hedgerow planting could be provided. All mitigation for anticipated effects will be included within a Reserved Matters or full planning application.
- 4.8 Anticipated effects are a forecast and may change within the final scheme. They may assist the consenting authority in its understanding of the proposed development and inform planning conditions.

Proposed measures

- 4.9 The following measures are proposed and would be secured by a planning permission referencing and requiring compliance with this report:

Layout

- 4.10 The retention of trees that has been assessed as possible within the proposed layout for aspects applied for in full would be observed by the developer and all appointed contractors; tree removal would be limited to that illustrated on Drawings 4 and 5 as *known effects*.

Level changes

- 4.11 Level changes would be as per the Proposed Ground Contours & Levels Layout (ref: T_21-2486_60, Rev P03) and the Cut & Fill Analysis Earthworks (ref: T_21_2486-52-01, Rev P03). No level changes are proposed that would harm any retained tree.

Utilities and drainage

- 4.12 The installation of surface water and foul water drainage would be as per Proposed Surface Water Drainage Strategy (ref: T-21-2486-55-02, Rev P02) and as per the Proposed Foul Water Drainage Strategy (ref: T_21_2468-55-01, Rev P03). No surface water drainage is proposed that would harm any retained tree.

Tree Protection

- 4.13 A Tree Protection Plan is provided at Drawings 6 and 7. These drawings show the arrangement of temporary protection measures that would be installed prior to the commencement of any works, including ground investigation, setting out, compound establishment or delivery of any plant or materials.
- 4.14 Temporary tree protection measures consist of heras fencing, the specification for which is provided at Drawing 8.

- 4.15 Temporary protection measures would be maintained as shown during the construction process for each phase and would not be removed or realigned until all buildings, structures, hard surfaces, utilities, drainage, demolition and the removal of scaffolding, plant, compounds and surplus material within the relevant phase has been completed.
- 4.16 Root pruning should be undertaken in locations shown on Drawings 6 and 7 by a thick green line. Root pruning should be completed under an arboricultural watching brief by an Arboricultural Consultant and in accordance with the methodology highlighted in the 'Arboricultural Clerk of Works' section below and detailed on Drawing 6.

Arboricultural Clerk of Works

- 4.17 An Arboricultural Clerk of Works (ACoW) should be appointed to ensure effective delivery of tree protection measures throughout the demolition and construction phases of the development.
- 4.18 The ACoW role should be provided by one or more qualified arboriculturists, holding all of the necessary relevant qualifications to access the site and advise on the operation in question. In particular, they should provide a site presence to monitor and advise on:
- (i) The correct implementation of tree removal according to this AIA;
 - (ii) The correct installation of tree protection fencing with reference to Drawing 7 of this AIA prior to construction commencement;
 - (iii) The vacuum excavation and root pruning shown on Drawings 6 and 7. The purpose will be to monitor the level of necessary root loss according to the size and density of roots and make an on-site recommendation according to the following findings:
 - No roots - Continue without constraint
 - Minor roots - Continue to monitor
 - Moderate roots - Prune roots neatly at trench face
 - Major roots - Works cease to review specification and tree management
 - (iv) Regular tree protection compliance checks (monthly or bimonthly)
 - (v) Provide progress reports to the LPA following site attendance, if required by the LPA

Planting

4.19 The planting of 649 trees is proposed on the on the Detailed Component Planting Plan and Specification (ref: 22-2628, Revision V1.1) produced by Nicholsons. Average projected canopy area can be calculated by estimating branch spread for each species after a defined period. For this assessment, 20 years of growth is considered to be a reasonable projection. An average canopy diameter of 5m at this point in time is therefore estimated across all species, but it is likely that some individuals will exceed this projected canopy size over time and that some may not attain it.

4.20 Table 12 provides a comparison between tree loss and replacement planting by area.

Table 12 Tree canopy loss and provision comparison

Attribute	Quantity
Pre-development canopy area	1.5477ha
Proposed tree removal canopy area	0.3648ha
Total canopy area post-development	1.1829ha
Proposed tree planting (644 trees at 19.63m ² each)	1.2642ha
Total canopy area 20 years post-development	2.4471ha
Net-effect of development on canopy area after 20 years	+0.8994ha

4.21 Table 13 below provides a comparison between hedgerow loss and replacement planting by length.

Table 13 Hedgerow loss and provision comparison

Attribute	Quantity (m)
Pre-development hedgerow	4,834
Proposed hedgerow removal	1,355
Total hedgerow post-development	3,479
Proposed native hedgerow planting	2,568
Total hedgerow 20 years post-development (once planting is established)	6,047
Net-effect of development on hedgerow length	+1,213

- 4.22 The planting scheme includes a greater range of species than would be removed and therefore would enhance biodiversity in this respect.
- 4.23 The average mature size of tree species on the site would be unaffected by the proposed development and planting scheme, but the new trees would take in excess of 60 years to attain a similar stature as those being removed.
- 4.24 The distribution of tree cover would be reduced, as the existing field network would be simplified to create large development plots, but overall peripheral connectivity would be improved by the proposed planting scheme.
- 4.25 The planting scheme includes 2,568m linear metres of native hedgerow planting. This would result in a net gain of approximately 1,213m post-development once hedgerow planting is well-established, connected and maturing as managed hedgerow.
- 4.26 The planting scheme also includes a considerable amount of shrub and thicket/scrub planting.

Tree works

- 4.27 Tree works to facilitate the development proposals and any further recommended made at Appendix A³² for retained trees would be undertaken by a qualified contractor in accordance with British Standard 3998:2010 Tree work – Recommendations.

Recommended measures

- 4.28 The following measures should be secured by planning condition or other agreement:

Arboricultural Impact Assessment

- 4.29 In areas that have not yet been detailed, the layout should seek to avoid or minimise all adverse effects that would not be determined by this application (including those described by this report as **anticipated effects**).
- 4.30 The effects of a detailed layout on arboriculture should be assessed as part of an Arboricultural Impact Assessment within future reserved matters applications for that phase of development. This should be produced in accordance with BS5837 and should describe the effects in a contemporary assessment of all aspects of the arboricultural baseline described in Section 2.0.
- 4.31 As a minimum, the Arboricultural Impact Assessment should include:
 - (i) Details of the proposed layout, including buried services, utilities, ground works and any other construction element that could affect trees;
 - (ii) A Tree Works Plan clearly establishing which trees would be retained, removed or pruned;
 - (iii) A specification for any pruning works that are proposed;
 - (iv) Details of any mitigation or offsetting measures that are relied upon by the assessment;

³² Other than those relating to trees that would be removed

(v) Detailed proposals or a Heads of Terms for the protection of retained trees; and

(vi) Conclusions regarding the cumulative net effects on arboriculture from this report and future Reserved Matters applications.

4.32 The Arboricultural Impact Assessment should be presented in the form of a report with supporting drawings.

APPENDIX A: Arboricultural Survey Data



Surveyor Angus Blankenstein & Will Fitzpatrick
 Survey Date 16.02.2022, 02.03.2022 & 20.03.2023
 Site Land North of Bryn Lane, Wrexham
 Drawing Ref D9134.01.200-203

Italicised Feature Ref: Inspection of this feature was restricted
Italicised Values: Feature value was estimated

APPENDIX A: Arboricultural Survey Data Sheets

Ref	Species	Height	Canopy Ground Clearance	Stem Diameter (or range)	No. of stems/ individuals	Crown Spread North	Crown Spread South	Crown Spread East	Crown Spread West	Lowest Branch Height	Lowest Branch Direction	Maturity	Condition	Comments on form, condition, health and significant defects	Management recommendations in current context	BS 5837 Quality Category	Estimated Remaining Contribution
		(m)	(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(N,S,E,W)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran			A,B,C,U (1,2,3)	Long, Medium, Short, Very Short
Trees																	
T1	Pedunculate oak	8.0	2.0	690	1	5.5	6.0	5.0	6.0	2.0	E	Middle Age	Fair	Field boundary tree. Ditch to south. Deadwood throughout. Various small cavities and tears. Light ivy on main stem.		B ,1, 2, 3	Long
T2	Pedunculate oak	8.0	1.5	700	1	5.0	6.5	5.0	4.0	2.0	S	Middle Age	Fair	Field boundary tree. Deadwood throughout. Various small cavities and tears. Light ivy on main stem and into crown.		B ,1, 2, 3	Long
T3	Pedunculate oak	8.0	1.5	480	1	4.0	5.0	4.0	4.5	2.0	N	Middle Age	Good	Field boundary tree. Deadwood throughout including occasional larger pieces. Various small cavities and tears. Fusing stems at 4m.		B ,1, 2, 3	Long
T4	Pedunculate oak	10.0	2.0	1100	1	4.5	6.0	5.0	5.0	2.0	W	Mature	Fair	Very large hedgerow tree. Bifurcate at 2m. Large cavity at union with cubic brown rot and hollowing extending into eastern stem. Further wounds and decay in upper part of this stem. Large dead and well decayed limb to north. Suspended deadwood in western part of canopy. Large cavity with string occlusion to north at 2m. Some waterlogging at base.		B ,2, 3	Long
T5	Pedunculate oak	6.0	3.0	450	1	2.5	3.0	4.0	2.0	3.5	W	Middle Age	Poor	Declining hedgerow tree. Most of crown dead. Some cavity formation. Inspection restricted by very dense hedge.		C ,3	Short
T6	Pedunculate oak	7.0	1.5	460	1	3.5	4.5	5.0	4.5	2.0	NW	Middle Age	Fair	Hedgerow tree. Dense ivy into canopy with thick stems. Some deadwood in crown. Numerous longitudinal wounds on outer branches. Inspection restricted by dense hedgerow.		B ,2, 3	Long
T7	Pedunculate oak	8.0	1.5	570	1	5.0	6.0	6.5	5.0	3.0	S	Middle Age	Good	Hedgerow tree. Large torn branch to west with some splitting and decay. Some small cavities. Waterlogging at base. No major defects.		B ,1, 2	Long
T8	Pedunculate oak	6.0	2.0	550	1	4.0	4.0	4.0	4.0	2.0	W	Middle Age	Fair	Hedgerow tree. Epicormic growth throughout crown - signs of stress. Waterlogging at base. Deadwood in crown including some large pieces. Large main stem cavity to east.		C ,1, 2	Long
T9	Pedunculate oak	7.0	3.0	510	1	3.5	2.0	3.0	3.0	2.5	W	Middle Age	Poor	Hedgerow tree. Bifurcate above 1.5m. In decline with less than 30% live canopy present. Large areas of bark loss to both stems. Major deadwood throughout.		C ,3	Medium
T10	Pedunculate oak	11.0	1.5	680	1	6.5	7.0	3.5	5.5	4.0	S	Middle Age	Good	Large hedgerow tree. Part of a small collective. Slightly suppressed to east. Some large dead limbs with advanced decay. Some small cavities forming.		B ,1, 2, 3	Long
T11	Pedunculate oak	10.0	1.5	590	1	5.0	6.0	7.0	4.0	3.0	N	Middle Age	Good	Large hedgerow tree. Part of a small collective. Slightly suppressed to west. Some large dead limbs with advanced decay. Some small cavities forming.		B ,1, 2	Long
T12	Pedunculate oak	6.0	1.5	400	1	3.5	5.0	4.0	3.5	2.0	N	Middle Age	Fair	Smaller hedgerow tree. Suppressed to east by T11. Some dead wood in canopy. Large well occluded wound to north where secondary leader failed in past.		B ,2, 3	Long
T13	Pedunculate oak	10.0	2.0	670	1	3.0	8.0	7.0	6.5	3.0	S	Middle Age	Good	Large hedgerow tree. Part of linear group of closely spaced trees. Some deadwood in canopy. Numerous small cavities particularly associated with stubs. Suppressed to north. No major defects.		A ,1, 2	Long
T14	Pedunculate oak	11.0	3.0	660	1	4.5	5.0	6.0	6.0	6.0	W	Middle Age	Fair	Large hedgerow tree. Part of linear group of closely spaced trees. Some deadwood in canopy. High crown form. Several lost limbs with large wounds. Split and decaying stub in upper canopy to north.		B ,1, 2	Long
T15	Pedunculate oak	6.0	1.5	664	2	5.0	5.0	6.0	5.0	2.5	W	Middle Age	Fair	Twin stemmed hedgerow tree. Part of linear group. Western stem has vertical split from ground level to 5m with twisting and cavity formation. Deadwood throughout canopy. Good vigour.		B ,2, 3	Long
T16	Pedunculate oak	4.0	2.0	370	1	3.0	1.5	3.0	4.5	2.0	E	Middle Age	Fair	Small stunted tree with twisted main stem. Split on main stem from ground level to 2m with some hollowing. Deadwood throughout. Good vigour.		C ,2, 3	Medium
T17	Pedunculate oak	10.0	2.0	600	1	3.5	4.0	4.0	4.5	3.5	SE	Middle Age	Fair	Hedgerow tree. Part of linear group. Twisted form. Slightly sparse crown. Some small cavities. Early stag heading to east.		B ,1, 2, 3	Long
T18	Pedunculate oak	10.0	1.5	500	1	3.5	3.5	3.0	5.0	2.5	NE	Middle Age	Fair	Hedgerow tree. Part of linear group. Bifurcate at 2m. Twisted form. Epicormic growth throughout canopy - signs of stress. Suppressed to south by T17. Some deadwood in crown.		B ,1, 2, 3	Long



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 Survey Date 16.02.2022, 02.03.2022 & 20.03.2023
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APPENDIX A: Arboricultural Survey Data Sheets

Ref	Species	Height	Canopy Ground Clearance	Stem Diameter (or range)	No. of stems/ individuals	Crown Spread North	Crown Spread South	Crown Spread East	Crown Spread West	Lowest Branch Height	Lowest Branch Direction	Maturity	Condition	Comments on form, condition, health and significant defects	Management recommendations in current context	BS 5837 Quality Category	Estimated Remaining Contribution
		(m)	(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(N,S,E,W)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran			A,B,C,U (1,2,3)	Long, Medium, Short, Very Short
T19	Pedunculate oak	9.0	2.0	850	1	6.0	5.0	8.0	6.0	2.5	SW	Mature	Good	Large squat hedgerow tree. Part of linear group. Burred main stem. Deadwood throughout crown including well decayed pieces. Small cavities and some woodpecker holes. Large failed limb to eastern limb with tearout wound.		A , 1, 3	Long
T20	Pedunculate oak	9.0	2.0	450	1	5.0	5.0	6.0	6.0	2.0	N	Middle Age	Fair	Hedgerow tree. Part of linear group. Dieback evident in crown with numerous small dead branches and bark loss. Small cavities throughout. Broken branches and stubs.		C , 1, 3	Medium
T21	Pedunculate oak	6.0	1.5	420	1	3.5	4.5	4.0	3.0	2.0	S	Middle Age	Fair	Hedgerow tree. Squat form. Dieback in crown with dead limbs and broken branches. Epicormic growth throughout canopy - stress. Some small cracks and cavities.		C , 1, 3	Medium
T22	Pedunculate oak	8.0	1.5	680	2	5.0	6.0	6.0	6.0	2.0	W	Middle Age	Fair	Large twin stemmed hedgerow tree. Heavily burred main stem. Epicormic throughout. Numerous small dead branches and stubs.		B , 2, 3	Long
T23	Pedunculate oak	7.0	1.5	500	2	5.0	3.0	5.0	4.0	2.0	N	Middle Age	Fair	Squat hedgerow tree. Heavily burred main stem. Epicormic throughout. Numerous small dead branches and stubs. Some larger dead limbs including well decayed pieces.		C , 2, 3	Medium
T24	Pedunculate oak	11.0	2.0	840	1	5.0	6.5	7.0	7.0	2.5	W	Mature	Good	Large hedgerow tree. Water filled ditch to west. Deadwood in canopy including well decayed pieces. Some pruning wounds and stubs. No major defects.		A , 1	Long
T25	Pedunculate oak	6.0	5.0	610	1	1.0	2.0	3.0	2.0	3.0	W	Middle Age	Dead	Standing dead tree.		U	Very Short
T26	Pedunculate oak	12.0	3.0	850	1	5.0	8.0	5.0	5.5	6.0	W	Mature	Good	Large field boundary tree. Water filled ditch to west. Bifurcate at 3m. Recent total failure of eastern stem with very large wound. Some deadwood in crown. Some small cavities. Good vigour and no other major defects.		B , 1	Long
T27	Pedunculate oak	11.0	3.0	750	1	6.5	8.0	6.0	8.0	5.0	S	Middle Age	Good	Large field boundary tree. Water filled ditch to west. Main leader recently failed in storms. Some deadwood in crown. Some small cavities. Good vigour and no other major defects.		A , 1	Long
T28	Pedunculate oak	10.0	2.0	740	1	6.0	8.0	5.5	6.0	2.0	SW	Middle Age	Good	Large hedgerow tree. Bifurcate at 2m with broad spreading crown. Deadwood throughout. Some small cavities. Cavity to southern stem at 2m with hollowing - good habitat. Good vigour. No major defects.		A , 1, 3	Long
T29	Pedunculate oak	9.0	5.0	490	1	2.0	3.5	4.5	4.5	4.0	N	Middle Age	Fair	Hedgerow tree. Dense ivy on main stem and into crown. Small high crown. Deadwood throughout.		C , 2, 3	Long
T30	Pedunculate oak	12.0	3.0	860	1	5.0	8.5	8.5	7.0	4.0	W	Mature	Good	Large hedgerow tree. Deadwood throughout canopy including some large and well decayed pieces. Large decaying stub to east. Occasional cavities and decay pockets. Good vigour. No major defects.		A , 1, 2	Long
T31	Pedunculate oak	12.0	3.0	770	1	6.5	6.5	7.5	6.5	4.0	W	Middle Age	Good	Large hedgerow tree. Deadwood throughout canopy including some large and well decayed pieces. Crooked and bulbous lower stem. Occasional cavities and decay pockets. Good vigour. No major defects.		A , 1, 2	Long
T32	Pedunculate oak	10.0	3.0	720	1	5.0	6.0	6.5	5.5	4.5	NE	Middle Age	Good	Large hedgerow tree. Deadwood throughout canopy. Ivy on main stem and into crown. Occasional cavities and decay pockets. Good vigour. No major defects.		A , 1, 2	Long
T33	Pedunculate oak	9.0	3.0	710	1	5.0	4.5	4.5	7.0	3.0	N	Middle Age	Fair	Large hedgerow tree. Bifurcate at 3m. Deadwood throughout canopy. Woodpecker hole at 1.5m to north. Large limb failures with cavity formation to west. Large tearout wound to east of main leader with possible decay and hollowing into main stem.		B , 2, 3	Long
T34	Pedunculate oak	11.0	3.0	710	1	7.0	6.0	6.0	6.0	4.0	N	Middle Age	Good	Large hedgerow tree. Bifurcate at 4m. Deadwood throughout canopy. Ivy on main stem and into canopy. Good vigour. No major defects.		A , 1, 2	Long
T35	Pedunculate oak	7.0	3.0	700	1	4.5	6.0	3.5	3.5	2.5	SW	Middle Age	Fair	Squat hedgerow tree. Gnarled and twisted form. Deadwood throughout canopy. Some broken branches and stubs.		B , 1, 2	Long
T36	Pedunculate oak	7.0	2.0	540	1	2.0	6.0	4.0	5.0	2.0	E	Middle Age	Fair	Squat hedgerow tree. Gnarled and twisted form. Deadwood throughout canopy. Some broken branches and stubs. Large limb to south with bark loss and decay. Cavity to main stem east.		C , 1, 2, 3	Long
T37	Pedunculate oak	14.0	3.0	900	1	8.0	8.0	6.5	7.0	4.0	NE	Mature	Good	Large hedgerow tree. Good form and vigour. Dead wood in canopy including some large well decayed pieces. Some bark wounds to stem. No major defects		A , 1, 2	Long



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APPENDIX A: Arboricultural Survey Data Sheets

Ref	Species	Height	Canopy Ground Clearance	Stem Diameter (or range)	No. of stems/ individuals	Crown Spread North	Crown Spread South	Crown Spread East	Crown Spread West	Lowest Branch Height	Lowest Branch Direction	Maturity	Condition	Comments on form, condition, health and significant defects	Management recommendations in current context	BS 5837 Quality Category	Estimated Remaining Contribution
		(m)	(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(N,S,E,W)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran			A,B,C,U (1,2,3)	Long, Medium, Short, Very Short
T38	Pedunculate oak	10.0	2.5	600	1	4.5	6.0	6.0	6.0	4.0	S	Middle Age	Good	Hedgerow tree. Ivy in main stem and into canopy. Deadwood throughout. Some broken branches and stubs.		B ,1, 2	Long
T39	Pedunculate oak	10.0	3.0	640	1	5.0	8.0	6.5	7.0	4.0	W	Middle Age	Good	Hedgerow tree. Ivy in main stem and into canopy. Deadwood throughout. Some broken branches and stubs. Crooked main stem. Several mechanical wounds to east of stem. Water filled ditch to east.		B ,1, 2	Long
T40	Pedunculate oak	12.0	3.0	1128	4	9.0	7.0	7.5	8.0	3.0	SE	Mature	Good	Hedgerow tree. Multi-stemmed form. Deadwood throughout. Some broken branches and stubs. Several mechanical wounds to east of stem. Water filled ditch to east. Southernmost stem failed at 3m with low canopy part of hedge. Northernmost stem has large cavity with decay extending upwards. Unusual form.		B ,1, 2, 3	Long
T41	Pedunculate oak	7.0	3.0	590	1	2.0	4.0	4.5	4.0	3.0	W	Middle Age	Poor	Hedgerow tree. Small remaining canopy. Large wound on main stem with hollowing. Decayed fungal fruiting body at base. Numerous dead stubs.		C ,1, 3	Short
T42	Pedunculate oak	11.0	2.0	650	1	7.0	8.5	6.0	8.0	3.5	NW	Middle Age	Fair	Large hedgerow tree. Broad spreading crown. Water filled ditch to east. Twisted upper canopy. Large amount of deadwood in crown. Some cavities at base of stubs.		B ,1, 2, 3	Long
T43	Pedunculate oak	10.0	2.0	736	2	6.0	8.0	5.5	6.0	2.0	NE	Mature	Good	Hedgerow tree. Twin stemmed with further bifurcations above. Deadwood throughout. Twisted upper limbs. Some cavities and decay pockets. Ditch to east.		B ,1, 2, 3	Long
T44	Pedunculate oak	9.0	2.5	900	1	5.0	4.0	3.5	5.0	3.0	NE	Mature	Fair	Squat hedgerow tree. Large cavity to south with hollow main stem. Deadwood throughout canopy. Ivy on main stem and into crown. Waterlogged to base.		B ,2, 3	Long
T45	Pedunculate oak	8.0	2.0	750	1	5.0	7.0	6.0	6.0	3.0	N	Mature	Fair	Hedgerow tree. Large wound with what appears to be fire damage to main stem. Around 40% wood decayed. Good occlusion but structurally weak. Deadwood throughout canopy. Waterlogged to base.		C ,2, 3	Short
T46	Pedunculate oak	6.0	3.0	700	1	3.0	4.0	3.5	3.0	3.0	SW	Mature	Fair	Hedgerow tree. Heavily burred and twisted main stem. Cavities and hollowing to main stem with cubical brown rot. Small canopy with reasonable vigour. Waterlogging to base. Interesting form.		B ,3	Medium
T47	Pedunculate oak	10.0	2.0	700	1	6.0	4.5	5.0	5.0	2.0	W	Middle Age	Fair	Part of linear group. Large cavity at 1m to south-east, likely hollowing into main stem. Small cavity at 4m. Deadwood throughout crown. Wet ditch to south. Inspection restricted by dense vegetation.		B ,2, 3	Long
T48	Pedunculate oak	7.0	2.0	390	1	2.5	3.5	2.5	3.0	2.0	N	Middle Age	Poor	Small stunted tree within linear group. Large area of bark loss to main stem. Deadwood and decay in small canopy.		C ,3	Short
T49	Pedunculate oak	12.0	2.0	900	1	8.0	8.5	6.0	7.0	3.5	S	Mature	Good	Large tree within linear feature. Historic large limb failure to north with slow decay. Deadwood throughout canopy. Some small cavities and decay pockets. Wet ditch to south. Good vigour. No major defects.		A ,1, 2	Long
T50	Pedunculate oak	8.0	2.5	650	1	5.0	5.0	4.5	2.5	5.0	SW	Middle Age	Poor	Boundary tree within linear group. Large leaders dead and decaying. Numerous woodpecker holes. Heavily burred main stem. Ditch to south.		C ,3	Short
T51	Pedunculate oak	12.0	1.5	550	1	6.0	6.5	5.0	6.5	3.0	S	Middle Age	Good	Part of linear group. Water filled ditch to south. Minor deadwood in crown. Some small cavities present. Good vigour. No major defects.		A ,1, 2	Long
T52	Pedunculate oak	11.0	2.0	620	1	5.0	6.5	5.0	5.5	3.0	N	Middle Age	Good	Part of linear group. Water filled ditch to south. Minor deadwood in crown. Burred stem. Cavity in side limb at 7m to west. Good vigour. No major defects.		A ,1, 2	Long
T53	Pedunculate oak	10.0	2.0	560	1	6.0	7.0	6.5	4.0	3.0	S	Middle Age	Good	Part of linear group. Water filled ditch to south. Deadwood in crown. Slightly burred stem. Good vigour. No major defects.		B ,1, 2	Long
T54	Pedunculate oak	7.0	2.5	540	1	3.0	5.0	2.5	3.5	3.0	SW	Middle Age	Fair	Smaller field boundary tree. Dieback in crown. Deadwood throughout. Some small cavities. Water filled ditch to south.		C ,1, 2	Medium
T55	Pedunculate oak	7.0	1.5	550	1	4.0	6.0	4.5	5.0	3.0	NW	Middle Age	Fair	Smaller field boundary tree. Deadwood throughout. Some small cavities. Epicormic growth throughout canopy. Ditch to south.		B ,1, 2	Long



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		(m)	(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(N,S,E,W)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran			A,B,C,U (1,2,3)	Long, Medium, Short, Very Short
T56	Pedunculate oak	11.0	2.0	900	1	8.0	6.0	8.0	7.0	4.0	N	Mature	Fair	Large field boundary tree. Water filled ditch to west. Dieback in crown with large amount of deadwood. Epicormic growth over much of main canopy structure. Woodpecker holes and other cavities present.		B ,1, 2, 3	Medium
T57	Pedunculate oak	6.0	2.0	600	1	3.5	4.0	2.5	4.0	3.0	N	Middle Age	Fair	Squat boundary tree. Water filled ditch to west. Dense ivy on main stem and into crown. Twisted form. Deadwood present.		B ,1, 2	Long
T58	Pedunculate oak	8.0	2.0	580	1	4.0	4.0	3.5	3.5	3.0	SW	Middle Age	Fair	Squat boundary tree. Water filled ditch to west. Dense ivy on main stem and into crown. Deadwood present.		B ,1, 2	Long
T59	Pedunculate oak	10.0	2.0	580	1	4.5	6.0	6.5	5.0	3.0	SW	Middle Age	Good	Boundary tree. Ditch to west. Dense ivy on main stem and into crown. Deadwood present including large well decayed pieces. Some small cavities.		B ,1, 2	Long
T60	Pedunculate oak	7.0	2.0	550	1	4.5	5.5	3.5	5.0	2.0	S	Middle Age	Fair	Boundary tree. Water filled ditch to west. Dense ivy on main stem and into crown. In decline with visible dieback. Some small cavities.		C ,1, 2	Medium
T61	Pedunculate oak	7.0	2.0	420	1	5.0	5.0	3.5	5.0	2.0	W	Middle Age	Fair	Boundary tree. Ditch to west. In decline with visible dieback and large amount of deadwood in crown. Some small cavities.		C ,1, 2	Medium
T62	Pedunculate oak	9.0	0.5	760	1	5.0	6.0	5.0	7.0	3.5	W	Mature	Fair	Oak in field boundary hedge. Standing water around base. Several large tear outs on northern aspect, one of which looks recent with hung up failed branches. Some inclusion of barbed wire into northern aspect.		B ,1, 2	Long
T63	Pedunculate oak	7.0	1.5	570	1	4.0	5.0	5.0	6.0	2.5	W	Middle Age	Good	Squat but well formed oak in field boundary hedge. Standing water around base and some barbed wire inclusion on northern aspect. No significant defects of note.		B ,1, 2	Long
T64	Pedunculate oak	6.0	2.0	480	1	5.0	5.0	3.0	3.0	2.5	W	Middle Age	Fair	Squat, scrubby oak with reduced vigour. Some stag-heading at branch terminals in upper canopy and thinning. Standing water at base where livestock pass by stem base through hedge.		B ,1, 2	Medium
T65	Goat willow	8.0	0.0	775	15	6.0	7.0	7.0	6.0	0.0	E	Mature	Good	Multi-stemmed goat willow growing in centre of field pond. Form characteristic of species.		B ,1	Long
T66	Pedunculate oak	7.0	1.5	460	1	4.5	3.5	5.0	5.0	3.0	S	Middle Age	Fair	Hedgerow tree. Scrubby growth form with considerable dysfunctional bark and deadwood throughout. Difficult to assess for cracks and cavities due to ivy cladding. Basal cavity on northern aspect with potentially remains of desiccated fungal fruiting body. Inspection to base restricted by dense hedge. Some wounding to stem on northern aspect likely due to failing hedge.	Sever and remove ivy. Re-inspect tree once ivy removed for potential structural defects (i.e. cracks in stem, cavity, hazard beams).	B ,1, 2, 3	Medium
T67	Pedunculate oak	10.0	3.0	810	1	7.0	7.0	8.0	8.0	2.0	W	Mature	Fair	Oak growing out of north side of field boundary ditch. Heavily stag-heading throughout with lots of deadwood and ivy cladding to inner scaffold. Some wire fence inclusion of wire into northern aspect of stem.		B ,1, 2	Long
T68	Common ash	8.0	3.0	410	1	5.0	5.0	5.0	5.0	3.5	N	Middle Age	Good	Healthy looking ash with attractive doming canopy form growing in between fields and road in scrubby grass. Some lower canopy deadwood as to be expected and pruning wounds over field access. No significant defects or signs of ash dieback.		B ,1	Long
T69	Pedunculate oak	6.0	1.5	800	1	2.0	1.5	5.0	0.5	3.0	E	Mature	Poor	Large oak that has recently had total stem failure at c.3.5m falling to south. Evidence of large cavity with brown rot in centre of stem. Crack down almost to base. Evidence of wildlife burrowing under roots on northern aspect.	Suitable in current context, but should be reduced to 4m if context changed.	C ,3	Medium
T70	Pedunculate oak	7.0	2.5	610	1	5.0	6.0	6.0	6.0	3.0	E	Mature	Good	Field boundary oak set in hedge. Some ivy cladding of inner scaffold and expected deadwood. No significant defects of note. Slightly squat form.		B ,1, 2	Long
T71	Pedunculate oak	8.0	2.0	590	1	5.0	5.0	5.0	5.0	2.0	W	Middle Age	Fair	Field boundary tree in hedge. Some minor cavities throughout. Hung up branch failure in northern outer scaffold. Some wire fence inclusion on northern aspect of stem.		B ,1, 2	Long
T72	Sessile oak	12.0	2.5	770	1	6.0	6.0	7.0	7.0	2.0	W	Mature	Good	Well formed oak in field boundary. Some wire fence inclusion into northern aspect of stem. Expected deadwood throughout. No obvious significant defects.		A ,1, 2	Long
T73	Pedunculate oak	7.0	2.0	600	1	4.5	5.0	5.5	6.0	2.5	E	Middle Age	Good	Field boundary tree in hedge. Squat form with no major structural defects observable. Remnants of tree house within inner scaffolds. Ivy cladding of stem.		B ,1, 2	Long



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		(m)	(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(N,S,E,W)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran			A,B,C,U (1,2,3)	Long, Medium, Short, Very Short
T74	Pedunculate oak	8.0	2.0	610	1	3.0	6.0	4.0	2.0	3.0	N	Middle Age	Fair	Squat oak with reduced vigour and thin canopy. Heavily ivy clad. Difficult to assess but minor cavities throughout stem and basal cavity associated with root buttress decay on northern aspect.		C ,2, 3	Medium
T75	Pedunculate oak	10.0	1.0	620	1	5.0	6.0	4.0	6.0	3.0	S	Mature	Fair	Hedgerow tree growing out of top of south facing ditch. Basal cavity on northern aspect of stem. Epicormic growth and swelling at c.2m circumferentially around stem. Considerable deadwood throughout. Barbed wire fence around stem and becoming included.		B ,1, 2	Long
T76	Pedunculate oak	7.0	1.5	550	1	6.0	5.0	5.5	5.0	4.0	W	Middle Age	Fair	Slightly squat growth form. Tree in field hedge. Large wound down whole stem from c.4m to base on northern aspect with some root decay observable. Inspection inhibited by brambles.		B ,1, 2	Long
T77	Pedunculate oak	9.0	3.0	820	1	4.5	6.0	6.0	5.0	4.5	E	Mature	Good	Oak in field with slightly squat form. Some historic root trauma to northern roots but occluded. Canopy slightly weighted to south. Evidence of livestock compaction around base.		A ,1	Long
T78	Pedunculate oak	8.0	2.5	510	1	5.0	5.0	4.0	5.0	2.0	N	Middle Age	Fair	Slightly reduced vigour in crown. Small amount of stem damage on southern aspect. Considerable deadwood in lower northern canopy.		B ,1	Long
T79	Pedunculate oak	8.0	2.0	710	1	5.5	6.0	5.5	5.0	3.0	W	Mature	Fair	Slightly windblown profile. Tree leaving slightly to north-east. Well formed tree. Cavity associated with old and nearly occluded wound visible through small hole in western aspect at c.1.5m that has habitat potential. Waterlogged around tree in field.		B ,1, 2	Long
T80	Pedunculate oak	7.0	2.0	450	1	5.0	4.5	3.5	5.5	2.5	E	Middle Age	Fair	Hedgerow tree. Squat form and slightly weighted crown to west. No obvious significant defects.		B ,1, 2	Long
T81	Pedunculate oak	11.0	3.0	850	1	6.0	6.0	6.5	6.0	3.0	E	Mature	Good	Large, healthy looking, and well formed oak in hedgerow. No obvious significant defects. Expected deadwood throughout canopy. Some light ivy cladding to stem and inner scaffolds.		A ,1, 2	Long
T82	Pedunculate oak	9.0	3.5	550	1	5.0	4.0	5.0	5.0	5.5	W	Middle Age	Fair	Hedgerow tree growing from edge of disused horse enclosure. Slightly reduced vigour of canopy. Stem heavily ivy clad. Leaning to north.		B ,1, 2	Long
T83	Goat willow	8.0	1.0	612	6	5.0	7.0	4.0	5.0	0.5	S	Mature	Fair	Scrubby multi-stemmed goat willow. Some cracks forming and lifting of concrete drive which runs to base on western aspect.		B ,1	Long
T84	Pedunculate oak	6.0	2.0	400	1	3.0	3.0	3.0	3.0	2.5	S	Middle Age	Fair	Hedgerow tree with reduced vigour and extensive deadwood for tree of this size and age. Heavy ivy cladding.		C ,1, 2	Medium
T85	Pedunculate oak	10.0	1.5	600	1	5.5	5.5	5.5	5.5	3.0	NW	Middle Age	Good	Well formed tree in hedgerow with doming canopy. Large lower canopy limb in north-west canopy with extensive decay.		B ,1, 2	Long
T86	Pedunculate oak	11.0	1.0	780	1	7.0	5.0	3.0	5.0	3.5	NW	Mature	Fair	Large oak at end of hedgerow. Heavily ivy clad throughout stem and scaffolds. Small cracks and cavities within canopy but difficult to assess due to ivy. Wire fence tacked into stem on south western base.		B ,1, 2, 3	Long
T87	Goat willow	7.0	0.0	465	6	5.0	5.0	5.0	5.0	0.0	N	Middle Age	Good	Goat willow growing characteristically out of field wet slack. No observable significant defects.		C ,1	Long
T88	Pedunculate oak	10.0	3.0	800	1	5.5	5.5	6.0	5.0	3.0	W	Mature	Good	Tree in open field. Attractive doming form. Expected deadwood throughout and some small occluding pruning wounds to lower southern canopy.		A ,1, 2	Long
T89	Pedunculate oak	8.0	1.5	490	1	4.5	3.5	1.0	6.0	5.5	W	Middle Age	Fair	Leader which arises from stem at c.4m was once secondary to larger leader that has historically failed. Evidence of other failures in canopy, a hazard beam, cavities throughout stem and a small basal cavity to south. Potential habitat holes in cavities.		C ,1, 2, 3	Medium
T90	Pedunculate oak	9.0	4.0	650	1	3.0	5.5	3.5	5.0	5.0	S	Mature	Fair	Heavily retrenched individual with lots of deadwood on upper canopy forming classic stag-heading of oak. Small sockets at old pruning and failure sites and a fully occluded basal wound on southern aspect. Some evidence of woodpecker holes.		C ,1, 2, 3	Medium
T91	Pedunculate oak	9.0	4.0	530	1	6.0	5.0	5.0	5.0	5.5	W	Middle Age	Fair	Slightly windblown canopy form. Evidence of occluding pruning wounds in lower canopy. Canopy weighted to south-west. No obvious major defects. Some historic root scalping to east.		B ,1, 2	Long



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		(m)	(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(N,S,E,W)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran			A,B,C,U (1,2,3)	Long, Medium, Short, Very Short
T92	Pedunculate oak	7.0	2.0	490	1	6.5	5.5	5.0	4.0	2.5	NE	Middle Age	Good	Hedgerow tree growing to the east of field drainage ditch with standing water in. No significant defects obvious. Attractive form.		B , 1, 2	Long
T93	Crack willow	14.0	2.5	665	2	5.5	5.5	6.5	5.0	3.0	N	Mature	Good	Willow growing in third party residential property. Some deadwood and failures in upper canopy above road c.100mm in diameter and 9m up.	Remove failed material above road.	B , 1, 2	Medium
T94	Golden weeping Willow	14.0	0.5	700	1	7.0	7.0	5.0	5.0	3.0	N	Mature	Good	Attractive weeping willow in third party residential property. No obvious signs of defects.		A , 1, 2	Long
T95	Common ash	9.0	3.0	341	2	1.5	6.0	4.0	4.0	3.0	NW	Middle Age	Fair	Third party tree. In competition with neighbouring oak. Thin canopy with key retention which may indicate ash dieback.		C , 2	Short
T96	Pedunculate oak	10.0	3.0	750	1	7.0	6.5	5.0	6.0	3.5	N	Mature	Good	Large attractive tree in boundary of third party residential property. Difficult to assess due to access and heavy ivy cladding into upper scaffold but no obvious defects. Large tree house in-situ.		A , 1, 2, 3	Long
T97	Pedunculate oak	12.0	2.0	800	1	6.0	6.0	6.0	6.0	3.0	E	Mature	Fair	Attractive large field boundary oak. Light ivy cladding to inner scaffold. Two large ganoderma sp. fruiting bodies present at base on eastern and northern aspect. No other signs of poor health. Ditch runs along next to base to north.	Biennial inspection to monitor for potential symptoms of decline associated with Ganoderma brackets.	A , 1, 2	Long
T98	Pedunculate oak	9.0	1.0	490	1	3.0	5.5	3.0	4.0	5.0	S	Middle Age	Fair	Tree in hedgerow. Large cavity in eastern stem from c.1m to c.4m. Heavy ivy cladding obstructing view. Tree retrenching and with reduced vigour.		C , 2	Short
T99	Common ash	6.0	6.0	500	1	1.5	1.5	1.5	1.0	5.0	N	Middle Age	Poor	Last branch of moribund tree recently failed. Ivy clad with lots of cracks and holes for habitat. Failed limb still hung up.	Remove or reduce to 4m habitat monolith.	U	Very Short
T100	Pedunculate oak	8.0	3.5	590	1	6.0	6.0	6.0	5.0	3.5	S	Mature	Fair	Some retrenching of upper branch terminals. Difficult to assess due to thick bramble and blackthorn thicket. Woodpecker hole on lower surface of eastern limb in lower canopy.		B , 1, 2, 3	Long
T101	Pedunculate oak	8.0	3.0	920	1	7.0	7.0	6.5	5.0	3.0	NW	Mature	Veteran	Impressive old tree with large cavity running from its base up into the leader. Large hazard beam failure of long lateral branch to south. Cavities and habitat value throughout. Growing out of bank of field pond with eastern base submerged. Large decay pockets and rot sites with extensive brown rot evident. Stem hollow with some occlusion wood evident and hollowing leading up into major southern stem. Large deadwood up to c. 150mm diameter. Historic limb failures with brown rot evident in many failure points. Dieback of central limb. Canopy retrenched with secondary crown formed. Flaking bark with bat potential.		A , 1, 2, 3	Long
T102	Pedunculate oak	10.0	2.0	650	1	6.0	6.0	5.0	5.5	4.0	S	Mature	Good	Good form and vigour. Two substantial tear outs in south-western mid canopy, one of which is still hung up. Otherwise healthy.		A , 1, 2	Long
T103	Pedunculate oak	9.0	1.5	620	1	5.0	5.0	6.0	5.0	3.5	S	Mature	Good	Hedgerow tree. Several mid-sized historic failures and one recent on eastern aspect with remnants on ground. Evidence of wildlife burrows between root buttresses. Some historic root damage on western side.		B , 1, 2, 3	Long
T104	Pedunculate oak	8.0	1.5	570	1	6.0	6.0	5.5	6.0	3.5	N	Mature	Good	Slightly squat hedgerow tree. Some fluting of base with epicormic growth. Expected deadwood throughout.		B , 1, 2	Long
T105	Pedunculate oak	9.0	2.0	560	1	5.5	5.5	5.5	5.5	2.5	N	Mature	Fair	Recent large failure of branch in western mid canopy. Remnants still hung up in tree. Several large holes into internal large central cavity of stem with potential habitat value.		B , 1, 2, 3	Long
T106	Pedunculate oak	9.0	1.5	430		2.5	3.0	5.0	5.5	2.0	N	Middle Age	Fair	Slightly reduced vigour. Hedgerow tree. Crown weighted to west in competition with neighbouring tree. No other significant defects.		B , 1, 2	Long
T107	Pedunculate oak	10.0	2.0	580	1	5.0	6.0	4.5	6.5	3.5	W	Middle Age	Fair	Hedgerow tree. Some cracks and cavities within canopy with potential habitat value. Crown weighted to east.		B , 1, 2, 3	Long
T108	Pedunculate oak	8.0	3.0	580	1	5.0	6.0	5.0	5.0	3.5	S	Middle Age	Fair	Hedgerow tree. Slightly squat growth form with several Ganoderma sp. fruiting bodies around base.	Biennial inspection to monitor for potential symptoms of decline associated with Ganoderma brackets.	B , 1, 2	Long



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Italicised Feature Ref: Inspection of this feature was restricted
Italicised Values: Feature value was estimated

APPENDIX A: Arboricultural Survey Data Sheets

Ref	Species	Height	Canopy Ground Clearance	Stem Diameter (or range)	No. of stems/ individuals	Crown Spread North	Crown Spread South	Crown Spread East	Crown Spread West	Lowest Branch Height	Lowest Branch Direction	Maturity	Condition	Comments on form, condition, health and significant defects	Management recommendations in current context	BS 5837 Quality Category	Estimated Remaining Contribution
		(m)	(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(N,S,E,W)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran			A,B,C,U (1,2,3)	Long, Medium, Short, Very Short
T109	Pedunculate oak	12.0	2.0	1200	1	8.0	8.0	8.0	8.0	3.0	N	Mature	Good	Huge standout tree along field boundary. Bifurcating at c.3m to two very large leaders. Attractive doming canopy. Many historic large tear outs and a recent large tear out from a branch c.200mm thick from the eastern lower canopy (remnants still present in field). Small cavities associated with past small branch sockets. Some root scalping on western aspect.		A , 1, 2	Long
T110	Pedunculate oak	8.0	3.0	640	1	6.0	6.5	5.0	6.0	5.0	E	Middle Age	Fair	Hedgerow tree. Canopy weighted to north-west. Expected deadwood throughout and ivy cladding on inner scaffold.		B , 1, 2	Long
T111	Pedunculate oak	13.0	1.5	930	1	6.5	6.5	5.5	5.5	3.0	NW	Mature	Fair	Large oak with large basal cavity and hollow sounding surrounding wood on southern aspect. Large tear out of major limb at c.5m on same side with cavity showing. Cavity suspected to link up internally. Some bulging on stem on southern aspect. Otherwise impressive and attractive tree.	Annual inspection to monitor progression of decay and hollowing of stem due to proximity to road.	B , 1, 2, 3	Long
T112	Pedunculate oak	6.0	2.0	440	1	4.0	4.0	4.5	6.0	2.5	W	Middle Age	Fair	Slightly squat oak in hedgerow. Some minor deadwood to be expected. Growing out of southern side of ditch.		B , 1, 2	Long
T113	Pedunculate oak	9.0	2.0	900	1	6.0	7.5	7.5	7.0	2.0	E	Mature	Good	Large tree growing out of southern side of field bounding ditch. Large longitudinal cavity extending up eastern major limb with strong rib formation suggesting possible stabilisation. Otherwise expected deadwood throughout for tree of size and age.		A , 1, 2, 3	Long
T114	Pedunculate oak	6.0	2.5	490	1	5.0	3.0	5.0	3.0	3.0	W	Middle Age	Fair	Slightly scrubby looking oak in dense blackthorn thicket next to field pond. Inspection restricted due to thicket.		B , 2	Long
T115	White willow	7.0	0.0	392	6	4.0	2.0	6.0	3.0	1.5	N	Mature	Fair	Regrowth of huge old failed white willow (original DBH over 1000mm). In field boundary.		C , 1, 2	Medium
T116	Pedunculate oak	7.0	2.5	750	1	4.0	3.0	1.0	6.0	4.0	W	Mature	Poor	Tree failed at c.3.5m. Leader of tree in field wet slack area to south.		U	Short
T117	Pedunculate oak	11.0	5.0	520	1	5.5	4.0	5.5	5.5	4.0	SE	Middle Age	Fair	Oak growing out of wet slack area in field. Inspection restricted by dense blackthorn thicket around base. Canopy in competition with southerly group.		B , 2	Long
T118	Crack willow	3.0	0.0	600	9	1.0	1.0	1.0	1.0	1.0	N	Mature	Poor	Recently failed willow in field boundary. Debris in field to south.		U	Very Short
T119	Pedunculate oak	8.0	4.0	490	1	6.0	4.0	5.0	5.0	3.0	W	Middle Age	Fair	Difficult to assess due to being in dense thicket by wet slack. Slightly reduced vigour evident by canopy. Some ivy cladding and deadwood within inner scaffold.		B , 1, 2	Long
T120	Pedunculate oak	9.0	2.5	1400	1	5.0	5.0	6.0	7.5	2.5	E	Mature	Veteran	Tree data from previous survey completed in April 2021. Good form. Balanced crown displaying several veteran features. Multi-stem union at 2m with severe cavity extending up scaffold branches. Minor to moderate deadwood. Previous broken deadwood and limbs. Minor ivy growth. Potential bat habitat. Located within roadside hedge. TPO No. 60, 1991 - T1.		A , 1, 2, 3	Long
T121	Pedunculate oak	9.0	2.5	1000	1	8.5	8.0	7.5	9.0	2.0	S	Mature	Good	Large tree in industrial unit plot. Some large diameter dead wood in crown. Ivy on main stem and into crown. No major defects. Unable to access, surveyed from road.		A , 1, 2	Long
T122	Rowan	5.0	2.0	220	1	3.0	3.0	3.0	3.5	1.5	N	Middle Age	Fair	Small amenity tree in verge. Hardstanding 1m to west. Minor wounds to stem. Some dead branches in crown. Some broken branches and stubs. Congested crown.		C , 1, 2	Long



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		(m)	(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(N,S,E,W)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran			A,B,C,U (1,2,3)	Long, Medium, Short, Very Short
Groups																	
G1	Pedunculate oak	9 to 10	2.0	510 to 620	4							Middle Age	Good	Group of 4 similarly sized trees on field boundary. Water filled ditch to west. Typical of their age and location. Various wounds and small cavities. Deadwood in crowns. Northernmost tree has stem cavity at 1m to West with extensive hollowing into main stem.		B ,1, 2, 3	Long
G2	Goat willow	3 to 4	1.0	75 to 120	15							Middle Age	Fair	Dense group of multi-stemmed willows growing in pond. Unable to access.		C ,2, 3	Medium
G3	Pedunculate oak	11 to 11	2.0	510 to 640	2							Middle Age	Fair	Pair of hedgerow trees forming single crown. Some large pieces of deadwood in canopies. Some small cavities associated with stubs. Burred stems.		B ,2	Long
G4	Pedunculate oak	7 to 9	3.0	420 to 530	3							Middle Age	Poor	Three hedgerow trees in various stages of decline. Large amounts of deadwood throughout. Some cavities and decay. Central tree has woodpecker hole at 3m.		C ,1, 2, 3	Medium
G5	Pedunculate oak	7 to 9	3.0	430 to 650	4							Middle Age	Fair	Group of typical hedgerow trees in similar condition. Some deadwood in crowns. Occasional small cavities. Ditch to east.		B ,2	Long
G6	Common hawthorn, Common ash, Goat willow	3 to 8	0.0	100 to 500	10							Mixed Age	Mixed	Predominantly ash and goat willow. Scrubby trees along roadside in dense bramble thickets bounding the edge of the field ditch. Some dead stems throughout. Three larger trees and rest scrubby natural regeneration. General health fair. Heavy key retention in a couple of ash perhaps indicating ash dieback but difficult to assess due to season.		C ,2	Medium
G7	Leyland cypress	3 to 7	0.0	75 to 250	10							Middle Age	Fair	Cypress ornamental trees planted along boundary of empty property.		C ,2	Medium
G8	Lawson cypress	6 to 7.5	0.5	80 to 190	26							Middle Age	Good	Screening group of cypress trees on third party residential land along private drive. One self-sewn goat willow.		B ,2	Long
G9	Leyland cypress	5 to 7.5	1.5	150 to 230	4							Middle Age	Fair	Cypress trees on third party residential boundary.		C ,2	Long
G10	Blackthorn, Pedunculate oak, White willow, Goat willow, Crack willow	5 to 14	0.0	150 to 500	30							Mixed Age	Mixed	Dense area of scrubby trees around wet slack area. Characterised by white willow in west in generally poor condition with many failed and dead stems. Blackthorn dominates the understorey as thicket. Eastern area of the group goat and crack willow with characteristic failures throughout. Habitat holes and cavities throughout. Bird nests visible in trees.		C ,2, 3	Medium
G11	Common hawthorn, Variegated holly, Apple species, Cherry species	4 to 6.5	0.5	150 to 250	8							Middle Age	Fair	Scrubby fruit and ornamental trees in third party residential garden. Inspection restricted due to access.		C ,2	Medium
G12	Common hawthorn, Apple species, Cherry species	3 to 6	0.5	100 to 200	7							Mixed Age	Mixed	Scrubby fruit and ornamental trees in third party residential garden. Inspection restricted due to access.		C ,2	Medium
G13	Blackthorn, Pedunculate oak, Goat willow	4 to 8	0.0	75 to 400	30							Mixed Age	Mixed	Dense group of scrubby trees. Predominantly goat willow with blackthorn dominating less boggy areas. Situated around field pond. Unable to fully assess due to density. Expected failures and deadwood throughout. Habitat holes likely.		C ,1, 2, 3	Medium
G14	Common alder, Common hazel, Common ash, Wild cherry, Pedunculate oak, Goat willow	4 to 6	2.5	75 to 220	19							Middle Age	Good	Linear group of trees within hedgerow. Wide spacing in places. Some multi-stemmed forms. Minor dead wood in crowns. Some lower branches failed into hedge. Chalara presence unable to be assessed.		B ,2	Long
G15	Crab apple, Wild cherry, Bird cherry, Pedunculate oak	2 to 4.5	0.5	90 to 210	6							Middle Age	Fair	Small amenity trees in industrial unit grounds. Pruned to clear footpath to west. Unable to access.		C ,2	Long
G16	Silver birch, Common hawthorn, Scots pine, Myrobalan Plum	2 to 7	1.0	80 to 320	15							Middle Age	Mixed	Group of amenity trees in verge. Two purple plum to east with numerous structural defects including large limb failure to easternmost tree. Multiple Phellinus pomarius fruiting bodies. Other trees in good condition.		B ,2	Long
G17	Field maple, Silver birch, Downy birch, Hornbeam, Common hazel, Common hawthorn, Scots pine, Bird cherry, Blackthorn, Pedunculate oak	2 to 7	0.5	75 to 180	200							Young to Middle Age	Good	Established screening group with good species diversity. Some multistemmed forms. Occasional failed trees. Stakes, ties and guards still present in some areas. Good feature with good potential.	Inspect staked trees, may require loosening or removal. Clear spiral guards.	B ,2	Long



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		(m)	(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(N,S,E,W)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran			A,B,C,U (1,2,3)	Long, Medium, Short, Very Short
Hedges																	
H1	Common hawthorn, Blackthorn, Dog rose	1.5 to 1.5		n/a	n/a							Middle Age	Good	Well managed field boundary hedge. Recently flailed. Dense and thorny. Blackthorn starting to sucker into field.		n/a	n/a
H2	Common hawthorn, Blackthorn, Elder	1.5 to 2		n/a	n/a							Middle Age	Good	Well managed boundary hedge. Very dense in places. Recently flailed.		n/a	n/a
H3	Common hawthorn, Blackthorn, Elder	1 to 1.5		n/a	n/a							Middle Age	Fair	Maintained hedgerow. Gappy in places.		n/a	n/a
H4	Common hawthorn, Blackthorn	1 to 2		n/a	n/a							Middle Age	Good	Managed hedgerow. Up to 2m high at western end.		n/a	n/a
H5	Common hawthorn, Blackthorn, Dog rose, Elder	1 to 2		n/a	n/a							Middle Age	Good	Variably managed boundary hedge. Gappy in places.		n/a	n/a
H6	Common hawthorn, Blackthorn, Dog rose, Elder	1 to 1.5		n/a	n/a							Middle Age	Good	Variably managed boundary hedge. Gappy in places.		n/a	n/a
H7	Common hawthorn, Blackthorn, Dog rose	1 to 2		n/a	n/a							Middle Age	Fair	Outgrown hedgerow. Very dense.		n/a	n/a
H8	Common hawthorn	2.5 to 3.5		n/a	n/a							Middle Age	Good	Dense, maintained field boundary hedge.		n/a	n/a
H9	Common hawthorn, Blackthorn	2 to 2.5		n/a	n/a							Middle Age to Mature	Good	Very dense field boundary hedge on edge of ditch. Predominantly blackthorn with considerable bramble sporadically.		n/a	n/a
H10	Common hawthorn, Blackthorn	2 to 3		n/a	n/a							Middle Age	Good	Dense field boundary hedge.		n/a	n/a
H11	Common hawthorn, Blackthorn, Dog rose, Goat willow	1 to 5		n/a	n/a							Mixed Age	Fair	Scrubby lapsed hedgerow growing along eastern aspect of disused property. Patchy and thin in places.		n/a	n/a
H12	Common hawthorn, Blackthorn, Dog rose	3.5 to 5.5		n/a	n/a							Middle Age to Mature	Good	Large healthy, predominantly hawthorn, hedge that has not been flailed for several years.		n/a	n/a
H13	Common hawthorn, Blackthorn, Pedunculate oak, Dog rose	2 to 3.5		n/a	n/a							Mixed Age	Good	Predominantly hawthorn and blackthorn hedge. Sporadic areas where thicker to c.3.5m. Occasional self set young oak.		n/a	n/a
H14	Common hawthorn, Blackthorn	2 to 3		n/a	n/a							Middle Age	Good	Dense thorny hedge on field boundary. Bramble sporadic throughout.		n/a	n/a
H15	Common hawthorn, Blackthorn, Dog rose, Elder	1.5 to 2.5		n/a	n/a							Young to Middle Age	Fair	Patchy, slightly scrubby field boundary hedge.		n/a	n/a
H16	Common hawthorn, Blackthorn	1.5 to 2.5		n/a	n/a							Middle Age	Good	Dense thorny hedge along field boundaries.		n/a	n/a
H17	Common hawthorn, Common ash, Blackthorn	2 to 3		n/a	n/a							Middle Age to Mature	Fair	Dense hedge running along field boundary on southern side of ditch.		n/a	n/a
H18	Common hawthorn	3 to 3.5		n/a	n/a							Mature	Good	Dense recently flailed boundary hedge along residential property.		n/a	n/a
H19	Common hawthorn, Blackthorn	1.5 to 2		n/a	n/a							Middle Age	Good	Dense field boundary hedge.		n/a	n/a
H20	Common hawthorn, Blackthorn	1.5 to 2.5		n/a	n/a							Middle Age	Good	Dense field boundary hedge.		n/a	n/a
H21	Common hawthorn, Blackthorn	1.5 to 2.5		n/a	n/a							Middle Age	Good	Dense field boundary hedge.		n/a	n/a
H22	Common hawthorn, Blackthorn, Goat willow	2 to 3.5		n/a	n/a							Middle Age	Good	Predominantly blackthorn but with sporadic bramble and goat willow.		n/a	n/a
H23	Common hawthorn, Blackthorn	1.5 to 2.5		n/a	n/a							Middle Age	Good	Dense field boundary hedge. Predominantly blackthorn. Patches of bramble.		n/a	n/a
H24	Common hawthorn, English holly, Blackthorn	2 to 2		n/a	n/a							Middle Age	Good	Well maintained boundary hedge.		n/a	n/a
H25	Blackthorn	2 to 2		n/a	n/a							Middle Age	Good	Short section of very dense hedge		n/a	n/a

APPENDIX B: Survey Method

Limitation

Trees are dynamic living organisms with a constantly changing structure; even healthy trees can change or decline. Survey information is presented as being correct at the time of survey. Limitations to the reliability of the survey data are noted within Appendix A and the main report text.

Scope

All woody vegetation with a stem diameter exceeding 75mm is recorded. Below this threshold, vegetation may also be recorded at the discretion of the surveyor. The survey includes woody vegetation within a defined boundary, and on adjacent land where the characteristics, location or context of the tree mean that activity within the boundary could affect the tree, or be influenced by it. This is typically up to 15m outside the boundary.

Resolution

Vegetation is recorded as either an individual *Tree*, *Group* of trees, *Woodland*, or *Hedgerow*. This is done at the discretion of the surveyor to provide a useful resolution to the survey data, to differentiate between features with varying attributes and group those with common attributes, and collective value or function.

Typically, *Trees* are recorded where they are arranged separately; different from adjacent trees; or where the assessment would benefit from greater detail. *Groups* are coherent arboricultural features comprising trees with a collective form, function, history or management opportunities. *Woodland* is recorded where areas of tree cover have the qualities of a woodland habitat, including age and species structure, natural regeneration, and associated non-arboreal features. *Hedgerow* describes linear features largely comprising woody vegetation that are under, or could be returned to, regular hedgerow management. It should be noted that these terms are also used in other assessment types, sometimes with different definitions.

Tree locations

The location of trees is based on stem locations and canopy spreads taken from a topographical survey, where available. Where this information is not available, this is noted in Appendix A and locations should be regarded as approximate. Approximate locations are based on one or more of: GPS data captured during the survey; aerial photographs; and measurement from known points of reference. Approximate stem locations are typically accurate to within a few metres. Stem locations are shown for all *Trees*.

Groups, *Woodland* and *Hedges* are principally described in terms of their canopy outline, although stem locations may also be shown. Individual tree canopy outlines are projected on Drawings based on measurements taken as described below (see Crown Spread). *Groups*, *Woodland* and *Hedges* canopy outlines are projected based on the same hierarchy of source data as stem locations.

Tree survey

The survey is conducted from ground level by an arboriculturist, taking account of the tree, and its context. The nature of the soil is not assessed. Non-invasive assessment tools may be used as appropriate, including hypsometer, measuring tape, probe and nylon mallet.

The following attributes are recorded for each feature (see Arboricultural Survey Data Sheets at Appendix A):

Reference Number	A unique code per feature, typically but not necessarily a chronological sequence, in the form <i>Tn</i> for <i>Trees</i> ; <i>Gn</i> for <i>Groups</i> ; <i>Wn</i> for <i>Woodlands</i> ; and <i>Hn</i> for <i>Hedgerows</i>
Species	The common name is given. All species are listed for <i>Groups</i> , <i>Woodland</i> and <i>Hedgerows</i> . The Latin name may also be given if further clarification is required.
Height	Top height recorded in metres, or the range for <i>Groups</i> , <i>Woodland</i> and <i>Hedgerows</i>
Canopy Ground Clearance	The height of the canopy above ground level in metres
Stem Diameter	A measurement taken at 1.5 metres above ground level, or the nearest representative point below, in millimetres. For multi-stemmed trees a single figure is calculated according to BS5837 4.6. For <i>Groups</i> , <i>Woodland</i> and <i>Hedgerows</i> , the range of diameters

No. of Stems / Individuals	The number of stems arising below a height of 1.5 metres, or for <i>Groups</i> , <i>Woodland</i> and <i>Hedgerows</i> an estimate or count of the number of trees
Crown Spread	Radial branch spread in metres at cardinal points (N, S, E, W) from the location of the <i>Tree</i> stem at ground level (for <i>Groups</i> , <i>Woodland</i> and <i>Hedgerows</i> , see <i>Tree Locations</i>)
Lowest Branch Height	The height of the first significant branch at the point of attachment (<i>Trees</i> only)
Lowest Branch Direction	The direction of growth of the first significant branch from the point of attachment (<i>Trees</i> only)
Maturity	Classification describing age relative to the species, and size and growth potential, in order to inform management decisions • Young means small and/or recently planted and could be relocated, or replaced on a like for like basis • Middle Age means established and independent, within the growth stage of life, and with potential to continue increasing in height and/or spread • Mature means having reached ultimate height and/or spread, given the location and surroundings; further increases will be slow or limited • Mixed Age (<i>Groups</i>, <i>Woodland</i> and <i>Hedgerows</i> only) means comprising all three maturity classes
Condition	An overall assessment of a feature's physiological and structural state, informing longevity and quality categorisation, and supported by <i>Comments</i> • Good condition means with vitality and resilience commensurate with species and age, and without significant defects or pathogens • Fair condition means with tolerable reduction of vitality and resilience, and/or remediable or tolerable defects and/or pathogens • Poor condition means with declining or significant loss of vitality and resilience, and/or significant and irreparable defects and/or pathogens • Dead condition means without photosynthetic or metabolic capacity, or moribund and in imminent terminal decline • Mixed (<i>Groups</i> and <i>Woodland</i>) means comprising more than one condition class • Veteran means trees of exceptional value, meeting recognised criteria including age, size and characteristics. Classification is partly informed by the sustained presence of structural defects, physiological decline, and pathogens, and their contribution to biodiversity. Undesirable characteristics in ordinary trees may be desirable in veteran trees, therefore <i>Veteran</i> can be understood as a superlative <i>Condition</i> that supersedes other categories (excluding <i>Dead</i>).
Comments	A description of all significant characteristics of the feature and its context that are not described by other attribute fields; including observations to support the classification of <i>Condition</i> , <i>Quality Category</i> and <i>Estimated Remaining Contribution</i> as appropriate
Management Recommendations	Recommendations for arboricultural works based on the current land use, in the interests of good arboricultural practice. These are incidental to the primary survey purpose, and not a comprehensive schedule in pursuit of any particular objective.
BS 5837 Quality Category	Tree quality assessment based on Table 1 of BS 5837:2012 (see below) comprising quality categories A , B , C and U and sub-categories 1 , 2 and 3
Estimated Remaining Contribution	A forecast of the durability of the feature in its current form and context, and therefore the reliance that can be placed on any benefits or functions it provides. This is influenced by <i>Species</i> and <i>Condition</i>, and is not necessarily a forecast of life expectancy. • Long means more than 40 years • Medium means 20 to 40 years • Short means 10 to 20 years • Very Short means less than 10 years

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 4.5.7.</i>			See Table 2
	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)	See Table 2
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	See Table 2
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	See Table 2

Table 1: Extract from **British Standards Institution (2012) BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations**, page 9

Note on Root Protection Areas:

Data is captured during the survey to inform the design of Root Protection Areas (RPA). These are a design tool, representing the area around a tree in which restrictions to some activities may be required to avoid significant harm, particularly to roots and soil. The RPA is a function of *Stem Diameter*, and additional considerations including management history, barriers to root growth, topography, ground conditions and tree characteristics. These factors are combined by an arboriculturist to produce a buffer zone for each feature from which the exclusion of construction activities would ensure the continued reliability of the survey data at Appendix A, including *Condition*, *BS 5837 Quality Category* and *Estimated Remaining Contribution*.

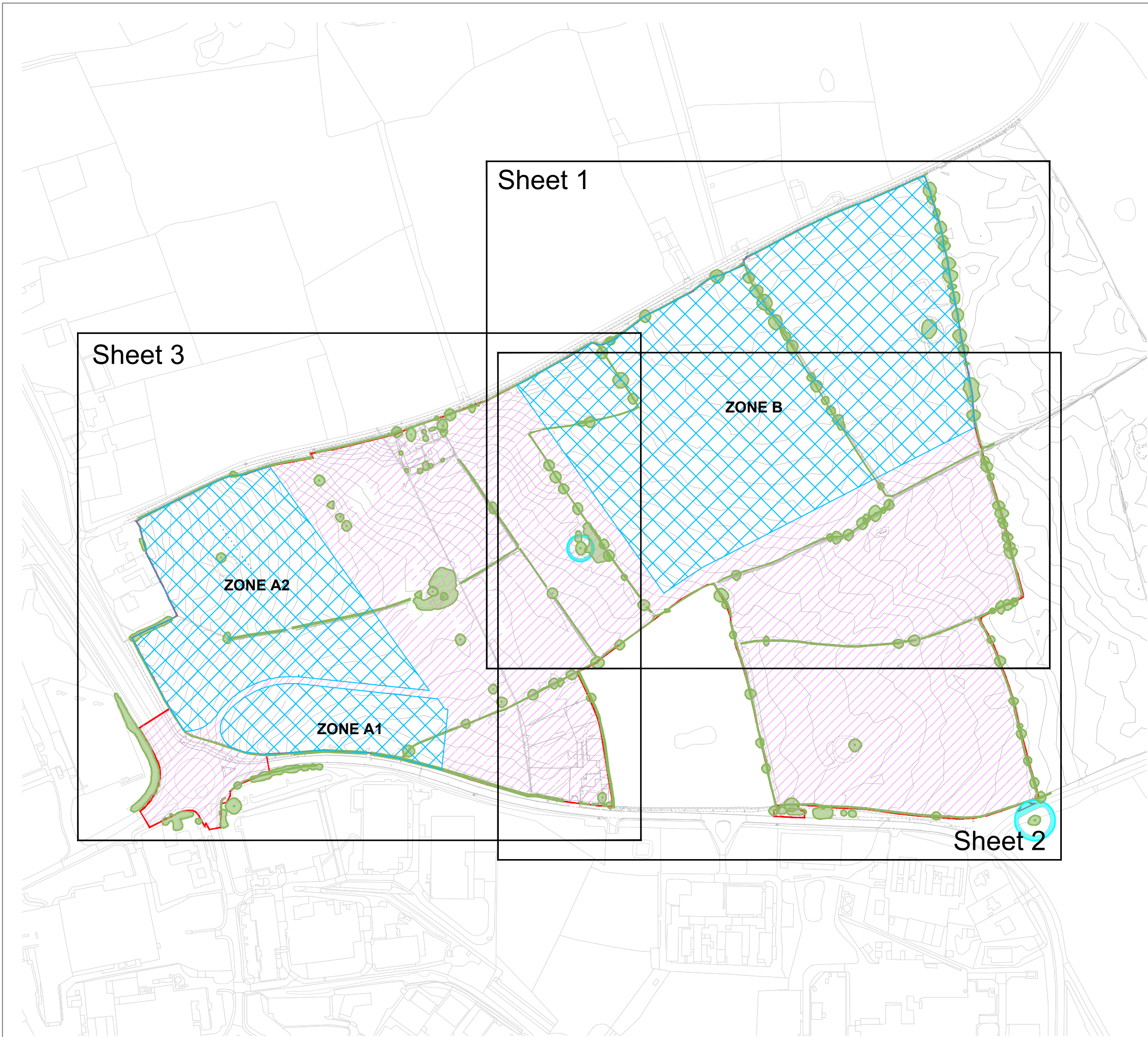
For *Trees*, RPA is defined as a circle with a radius 12 times the *Stem Diameter*, which may be modified to reflect the considerations above.

For *Groups* and *Woodland* RPA is based on the size and location of peripheral constituent trees, and presented as an offset from the canopy edge giving equivalent or greater protection to all trees of any size, or modified to reflect significant variation in constituent tree sizes and/or the considerations above.

For *Hedgerow*, no RPA is shown. Typically, hedgerow requires a smaller stand-off than trees due to reduced crown dimensions. Any stand-off should include sufficient space for access and ongoing management and should therefore normally be based on the canopy spread rather than root spread.

DRAWINGS

- Drawing 1 - Site Overview**
- Drawing 2 - Tree Constraints Overview**
- Drawing 3 - Tree Constraints Plan (3 sheets)**
- Drawing 4 - Arboricultural Impacts Overview**
- Drawing 5 - Arboricultural Impacts Plan (3 sheets)**
- Drawing 6 - Tree Protection Overview**
- Drawing 7 - Tree Protection Plan (3 sheets)**
- Drawing 8 - Tree Protection Fencing Specification**



KEY

[This drawing must be reproduced in colour]

-  Existing Trees and Groups
-  Existing Hedgerow
-  Application Boundary
-  Veteran Tree Construction Exclusion Zone
-  Detailed Application Areas
-  Outline Application Areas
-  Inset Frame



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D	Hybrid application boundaries added	HEE	JGS	12.05.2023
C	Updated application boundary; additional survey features	HEE	AAB	12.04.2023
B	Updated veteran tree CEZ for T101	HEE	JGS	21.02.2023
A	Existing trees and hedges layer added for context	HEE	JGS	11.01.2023
Rev	Description	Drawn	Approved	Date



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Project
Land North of Bryn Lane, Wrexham
Arboricultural Impact Assessment in Support of Hybrid Planning
Title
Drawing 1: Site Overview

Drawing Number
D9134.01.100

Drawn	Checked	Approved	Scale	Date
HEE	AAB	JGS	1:4000 @ A3	04/03/2022



KEY
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Trees and Groups

Hedgerow

Root Protection Area (RPA)

Veteran Tree Construction Exclusion Zone
(CEZ equates to 15 x stem diameter at 1.5m in accordance with Wrexham County Borough Council's Local Planning Guidance Note 17)

Application Boundary

Tree Quality Categorisation
(Based on BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations)

Category A
(High quality)

Category B
(Moderate quality)

Category C
(Low quality)

Category U
(Unsuitable for retention)

Hedgerow
(Not categorised)

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B	Updated application boundary; additional features; table 1	HEE	AAB	12.04.2023
A	Updated veteran tree CEZ for T101	HEE	JGS	21.02.2023
Rev	Description	Drawn	Approved	Date

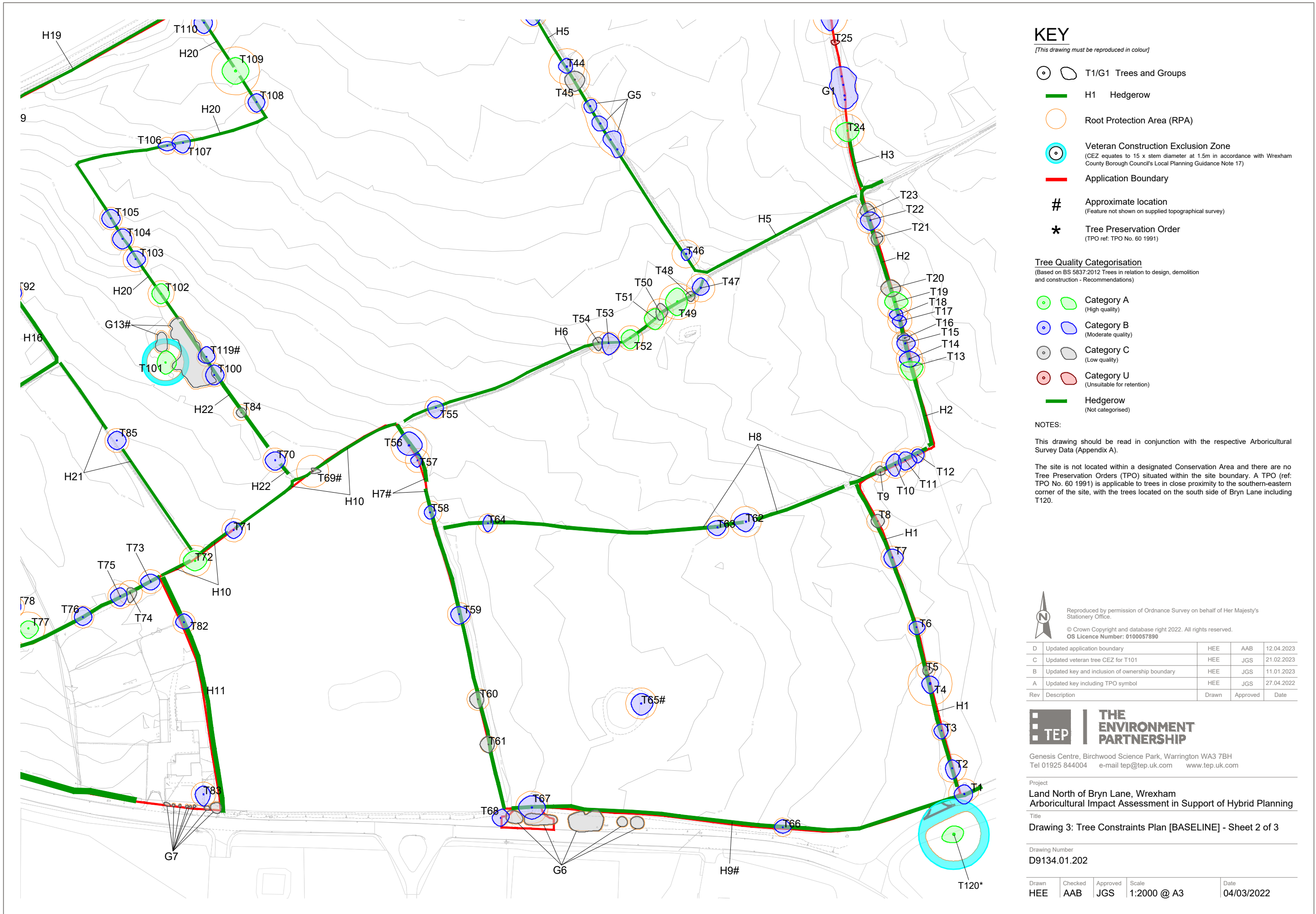
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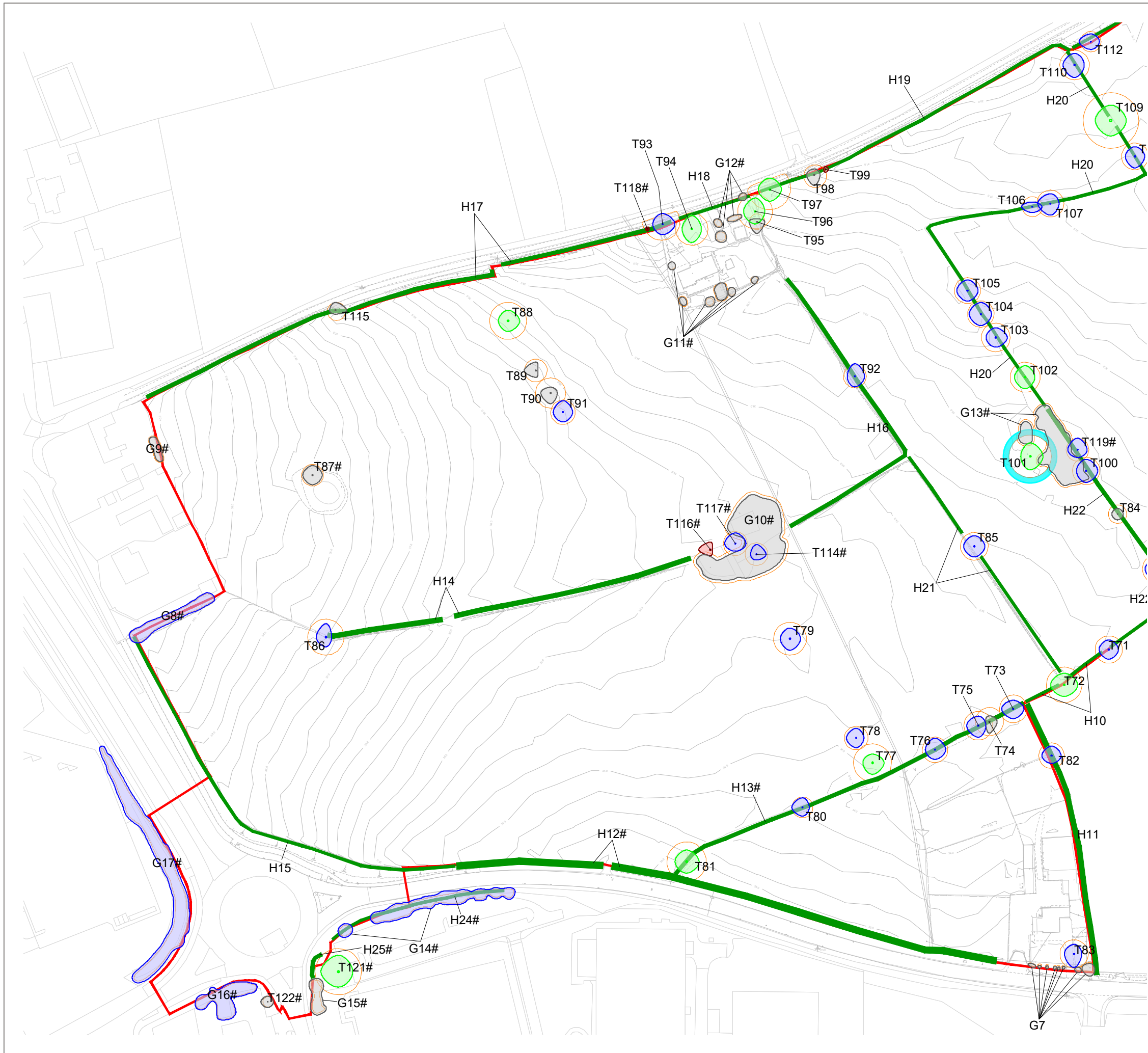
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Title
Drawing 2: Tree Constraints Overview [BASELINE]

Drawing Number
D9134.01.200

Drawn	Checked	Approved	Scale	Date
HEE	RMG	JGS	1:4,000 @ A3	11/01/2023





KEY

[This drawing must be reproduced in colour]

- T1/G1 Trees and Groups
- H1 Hedgerow
- Root Protection Area (RPA)
- Veteran Construction Exclusion Zone
(CEZ equates to 15 x stem diameter at 1.5m in accordance with Wrexham County Borough Council's Local Planning Guidance Note 17)
- Application Boundary
- # Approximate location
(Feature not shown on supplied topographical survey)
- * Tree Preservation Order
(TPO ref: TPO No. 60 1991)

Tree Quality Categorisation

(Based on BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations)

- Category A
(High quality)
- Category B
(Moderate quality)
- Category C
(Low quality)
- Category U
(Unsuitable for retention)
- Hedgerow
(Not categorised)

NOTES:

This drawing should be read in conjunction with the respective Arboricultural Survey Data (Appendix A).

The site is not located within a designated Conservation Area and there are no Tree Preservation Orders (TPO) situated within the site boundary. A TPO (ref: TPO No. 60 1991) is applicable to trees in close proximity to the southern-eastern corner of the site, with the trees located on the south side of Bryn Lane including T120.



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D	Updated application boundary; additional survey features	HEE	AAB	12.04.2023
C	Updated veteran tree CEZ for T101	HEE	JGS	21.02.2023
B	Updated key and inclusion of ownership boundary	HEE	JGS	11.01.2023
A	Updated key including TPO symbol	HEE	JGS	27.04.2022
Rev	Description	Drawn	Approved	Date



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Title
Drawing 3: Tree Constraints Plan [BASELINE] - Sheet 3 of 3

Drawing Number
D9134.01.203

Drawn	Checked	Approved	Scale	Date
HEE	AAB	JGS	1:2000 @ A3	04/03/2022

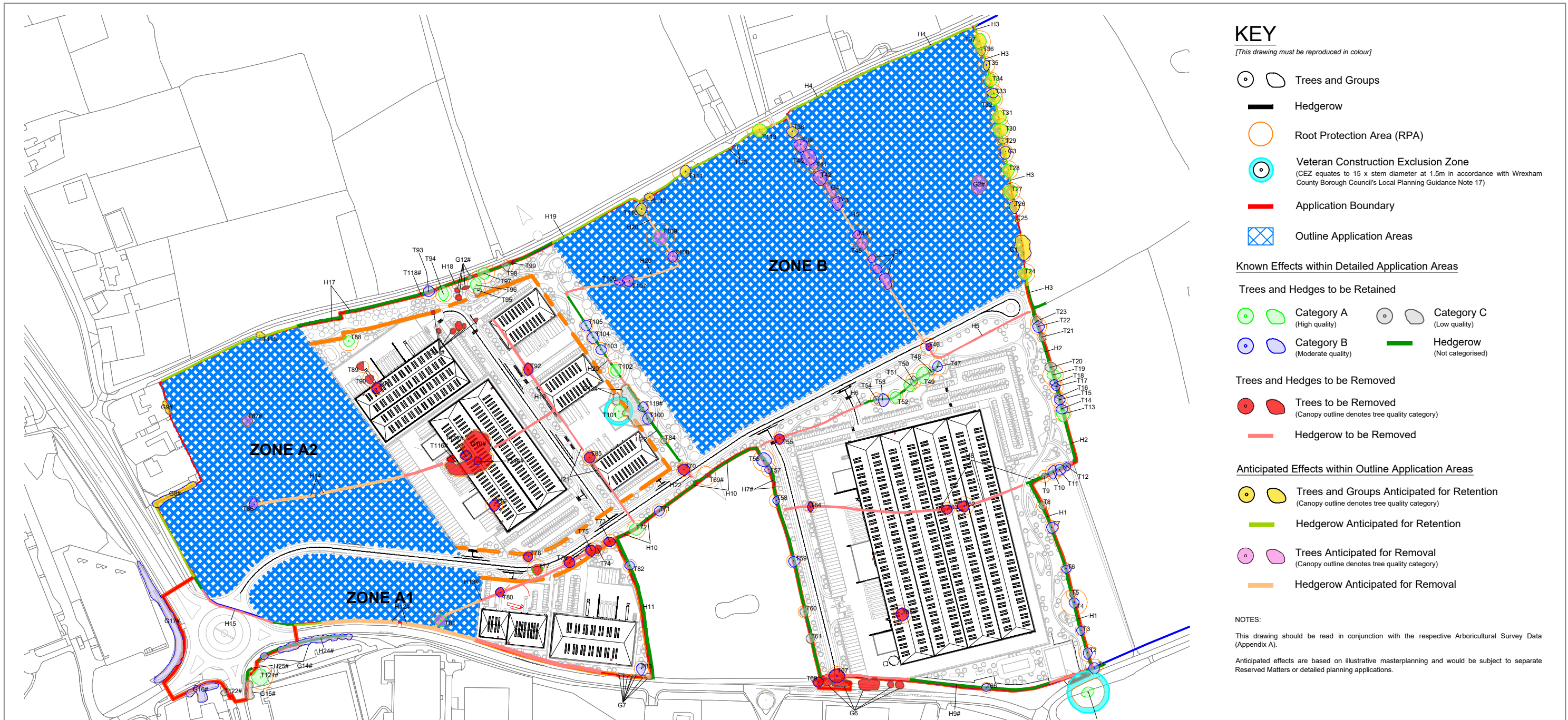


Table 2. Known Effects - Arboricultural Impacts and Works of Detailed Application Areas (Excluding Anticipated Impacts of Outline Areas)

	Category A		Category B		Category C		Category U		Hedgerow (Not Categorised)	
	No. Features	Area (ha)	No. Features	Area (ha)	No. Features	Area (ha)	No. Features	Area (ha)	No. Features	Length (m)
Trees	1	0.0084	18	0.1599	4	0.0147	2	0.0041		
Groups	0	0.0000	0	0.0000	4	0.1777	0	0.0000		
Woodlands	0	0.0000	0	0.0000	0	0.0000	0	0.0000		
Hedges									12	1355
TOTAL	1	0.0084	18	0.1599	8	0.1924	2	0.0041		
Proportion of Existing	2.66%		19.63%		46.75%		74.83%		28.04%	
Proportion of Total Canopy	23.58%									

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A	Updated Proposed Masterplan (Rev D)	HEE	JGS	26.05.2023
Rev	Description	Drawn	Approved	Date

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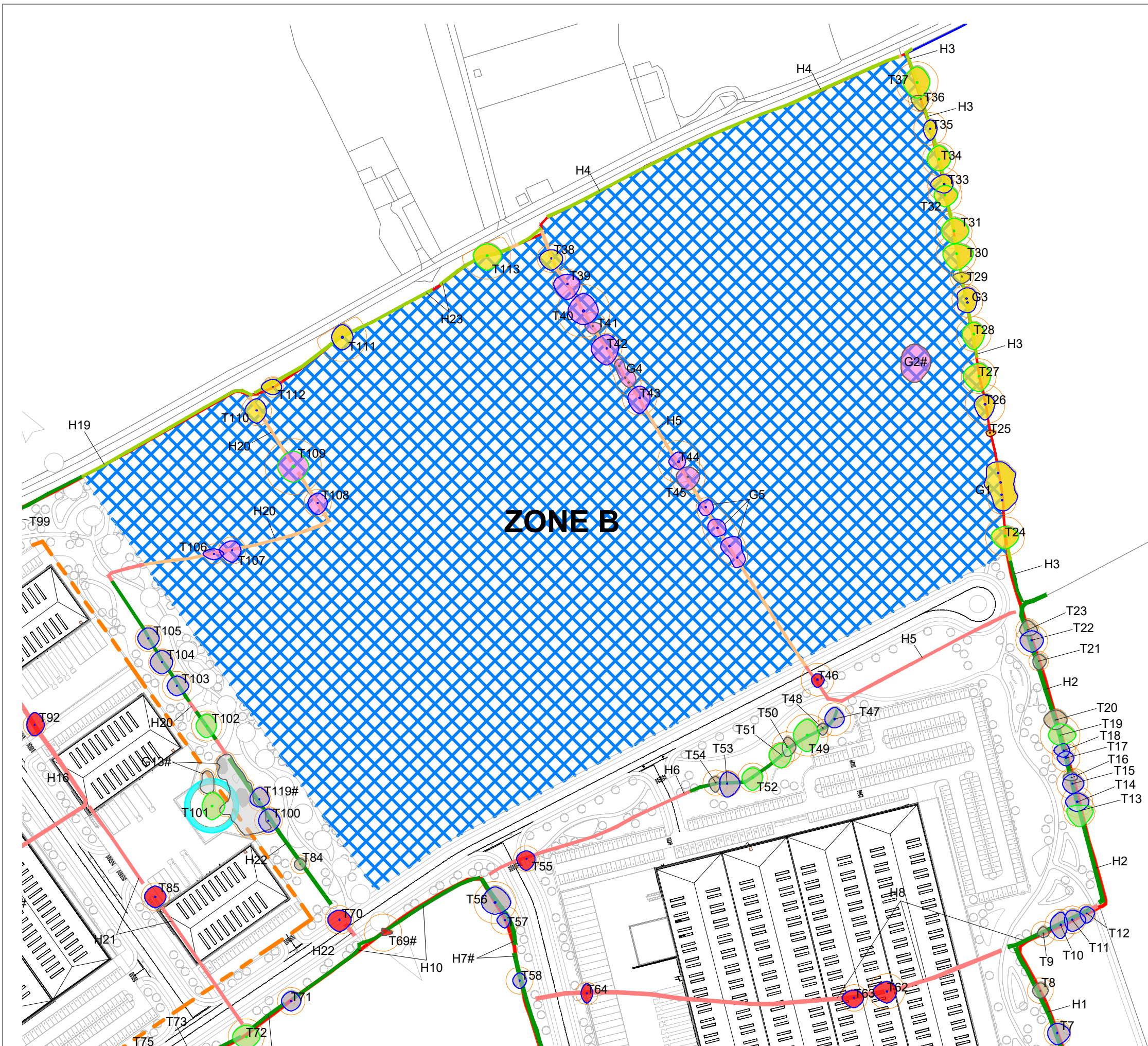
Title

Drawing 4: Arboricultural Impacts Overview [EFFECTS]

Drawing Number

D9134.01.300

Drawn	Checked	Approved	Scale	Date
HEE	RMG	JGS	1:4,000 @ A3	12/05/2023



KEY

[This drawing must be reproduced in colour]

- T1/G1 Trees and Groups
- H1 Hedgerow
- Root Protection Area (RPA)
- Veteran Construction Exclusion Zone
(CEZ equates to 15 x stem diameter at 1.5m in accordance with Wrexham County Borough Council's Local Planning Guidance Note 17)
- Application Boundary
- # Approximate location
(Feature not shown on supplied topographical survey)
- * Tree Preservation Order
(TPO ref: TPO No. 60 1991)
- Outline Application Areas

Known Effects within Detailed Application Areas

Trees and Hedges to be Retained

- Category A (High quality)
- Category B (Moderate quality)
- Category C (Low quality)
- Hedgerow (Not categorised)

Trees and Hedges to be Removed

- Trees to be Removed
(Canopy outline denotes tree quality category)
- Hedgerow to be Removed

Anticipated Effects within Outline Application Areas

- Trees and Groups Anticipated for Retention
(Canopy outline denotes tree quality category)
- Hedgerow Anticipated for Retention
- Trees Anticipated for Removal
(Canopy outline denotes tree quality category)
- Hedgerow Anticipated for Removal

NOTES: This drawing should be read in conjunction with the respective Arboricultural Survey Data (Appendix A).

Anticipated effects are based on illustrative masterplanning and would be subject to separate Reserved Matters or detailed planning applications.



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Rev	Description	Drawn	Approved	Date

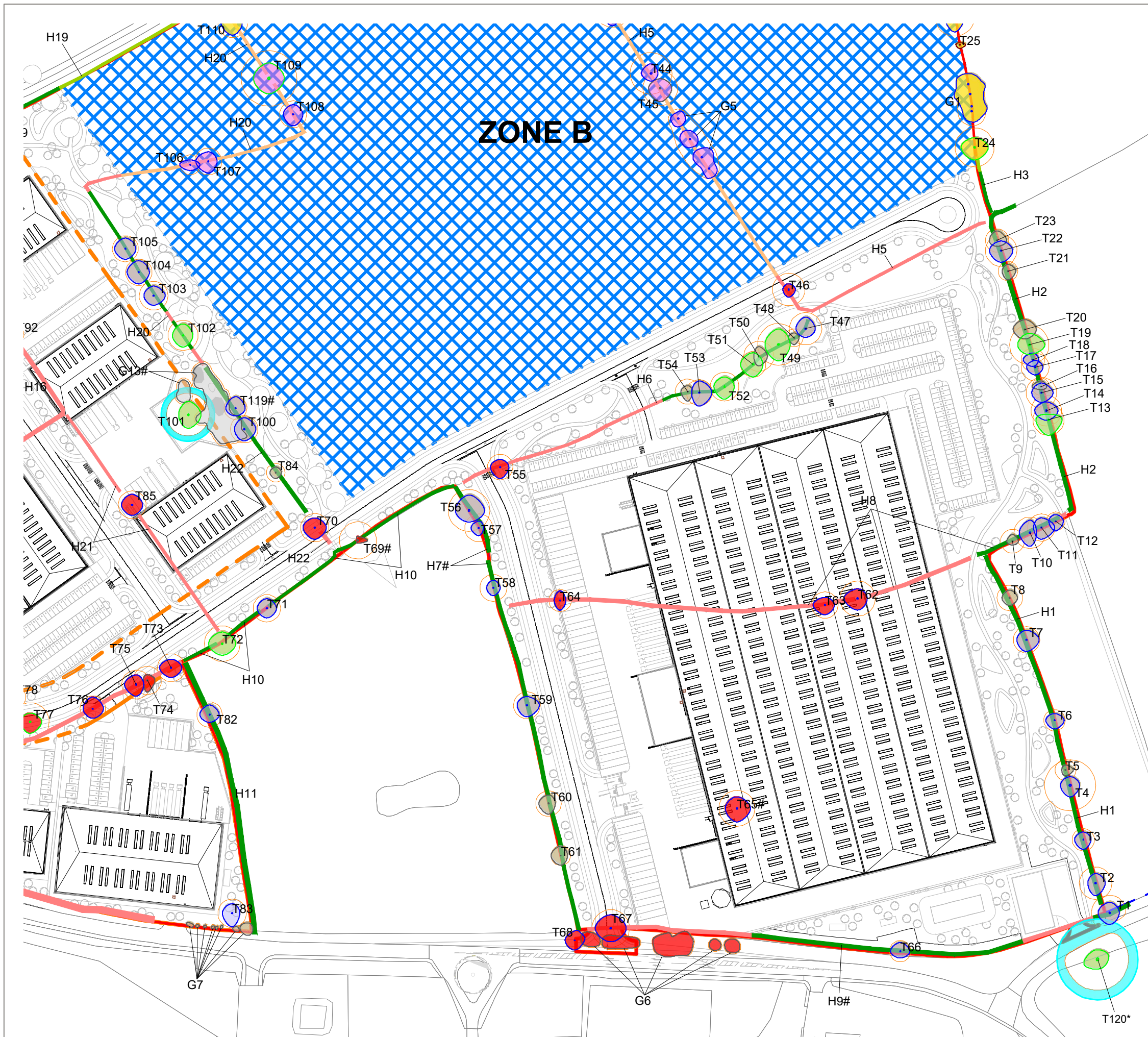


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Arboricultural Impact Assessment in Support of Hybrid Planning
Title
Drawing 5: Arboricultural Impacts Plan [EFFECTS] - Sheet 1 of 3

Drawing Number
D9134.01.301

Drawn	Checked	Approved	Scale	Date
HEE	RMG	JGS	1:2000 @ A3	12/05/2023



KEY

[This drawing must be reproduced in colour]

- T1/G1 Trees and Groups
- H1 Hedgerow
- Root Protection Area (RPA)
- Veteran Construction Exclusion Zone
(CEZ equates to 15 x stem diameter at 1.5m in accordance with Wrexham County Borough Council's Local Planning Guidance Note 17)
- Application Boundary
- # Approximate location
(Feature not shown on supplied topographical survey)
- * Tree Preservation Order
(TPO ref: TPO No. 60 1991)
- Outline Application Areas

Known Effects within Detailed Application Areas

Trees and Hedges to be Retained

- Category A (High quality)
- Category B (Moderate quality)
- Category C (Low quality)
- Hedgerow (Not categorised)

Trees and Hedges to be Removed

- Trees to be Removed
(Canopy outline denotes tree quality category)
- Hedgerow to be Removed

Anticipated Effects within Outline Application Areas

- Trees and Groups Anticipated for Retention
(Canopy outline denotes tree quality category)
- Hedgerow Anticipated for Retention
- Trees Anticipated for Removal
(Canopy outline denotes tree quality category)
- Hedgerow Anticipated for Removal

NOTES: This drawing should be read in conjunction with the respective Arboricultural Survey Data (Appendix A).

Anticipated effects are based on illustrative masterplanning and would be subject to separate Reserved Matters or detailed planning applications.



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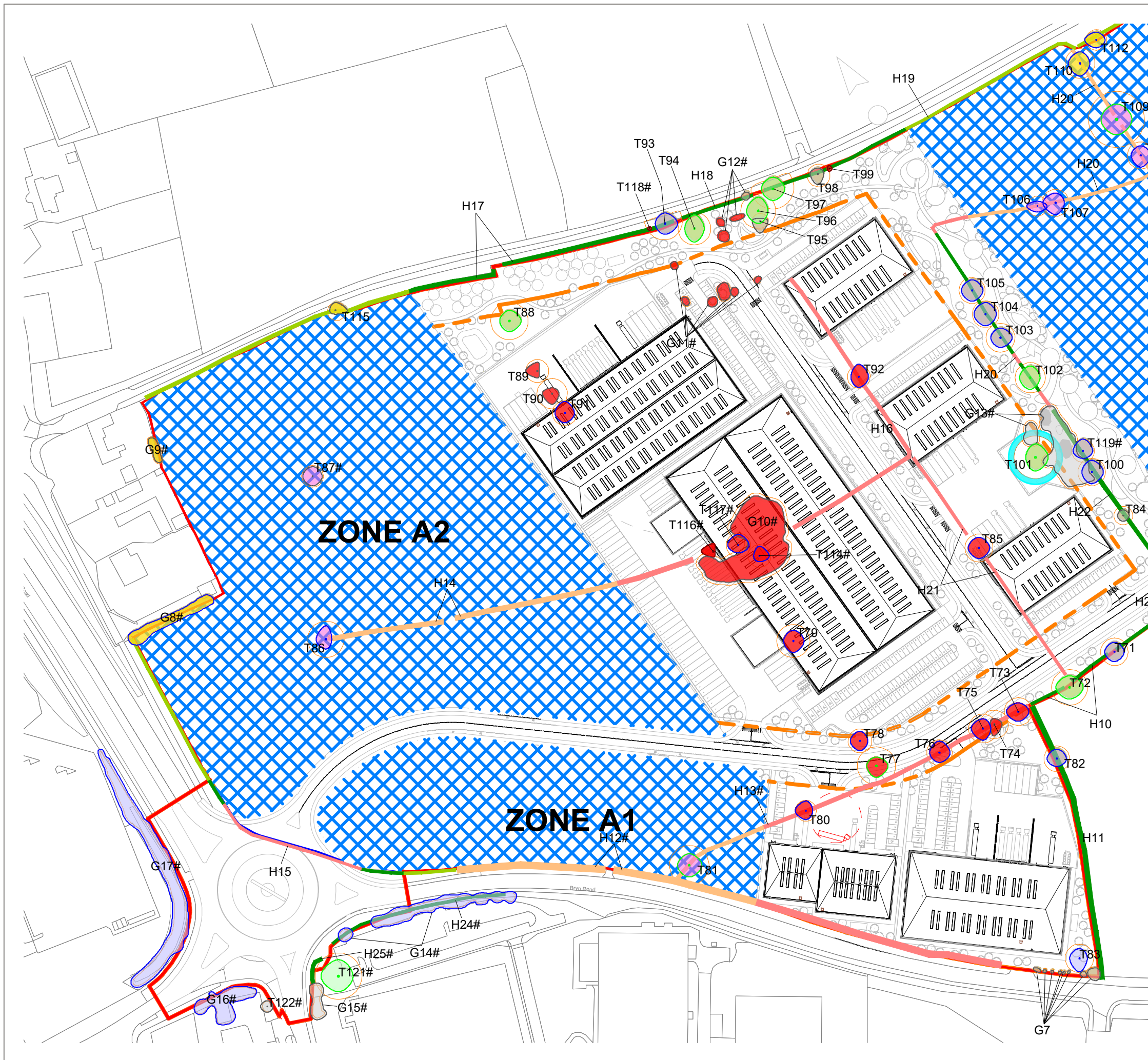
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Project
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Title
Drawing 5: Arboricultural Impacts Plan [EFFECTS] - Sheet 2 of 3

Drawing Number
D9134.01.302

Drawn	Checked	Approved	Scale	Date
HEE	RMG	JGS	1:2000 @ A3	12/05/2023



KEY

[This drawing must be reproduced in colour]

- T1/G1 Trees and Groups
- H1 Hedgerow
- Root Protection Area (RPA)
- Veteran Construction Exclusion Zone
(CEZ equates to 15 x stem diameter at 1.5m in accordance with Wrexham County Borough Council's Local Planning Guidance Note 17)
- Application Boundary
- # Approximate location
(Feature not shown on supplied topographical survey)
- * Tree Preservation Order
(TPO ref: TPO No. 60 1991)
- Outline Application Areas

Known Effects within Detailed Application Areas

Trees and Hedges to be Retained

- Category A (High quality)
- Category B (Moderate quality)
- Category C (Low quality)
- Hedgerow (Not categorised)

Trees and Hedges to be Removed

- Trees to be Removed
(Canopy outline denotes tree quality category)
- Hedgerow to be Removed

Anticipated Effects within Outline Application Areas

- Trees and Groups Anticipated for Retention
(Canopy outline denotes tree quality category)
- Hedgerow Anticipated for Retention
- Trees Anticipated for Removal
(Canopy outline denotes tree quality category)
- Hedgerow Anticipated for Removal

NOTES: This drawing should be read in conjunction with the respective Arboricultural Survey Data (Appendix A).

Anticipated effects are based on illustrative masterplanning and would be subject to separate Reserved Matters or detailed planning applications.

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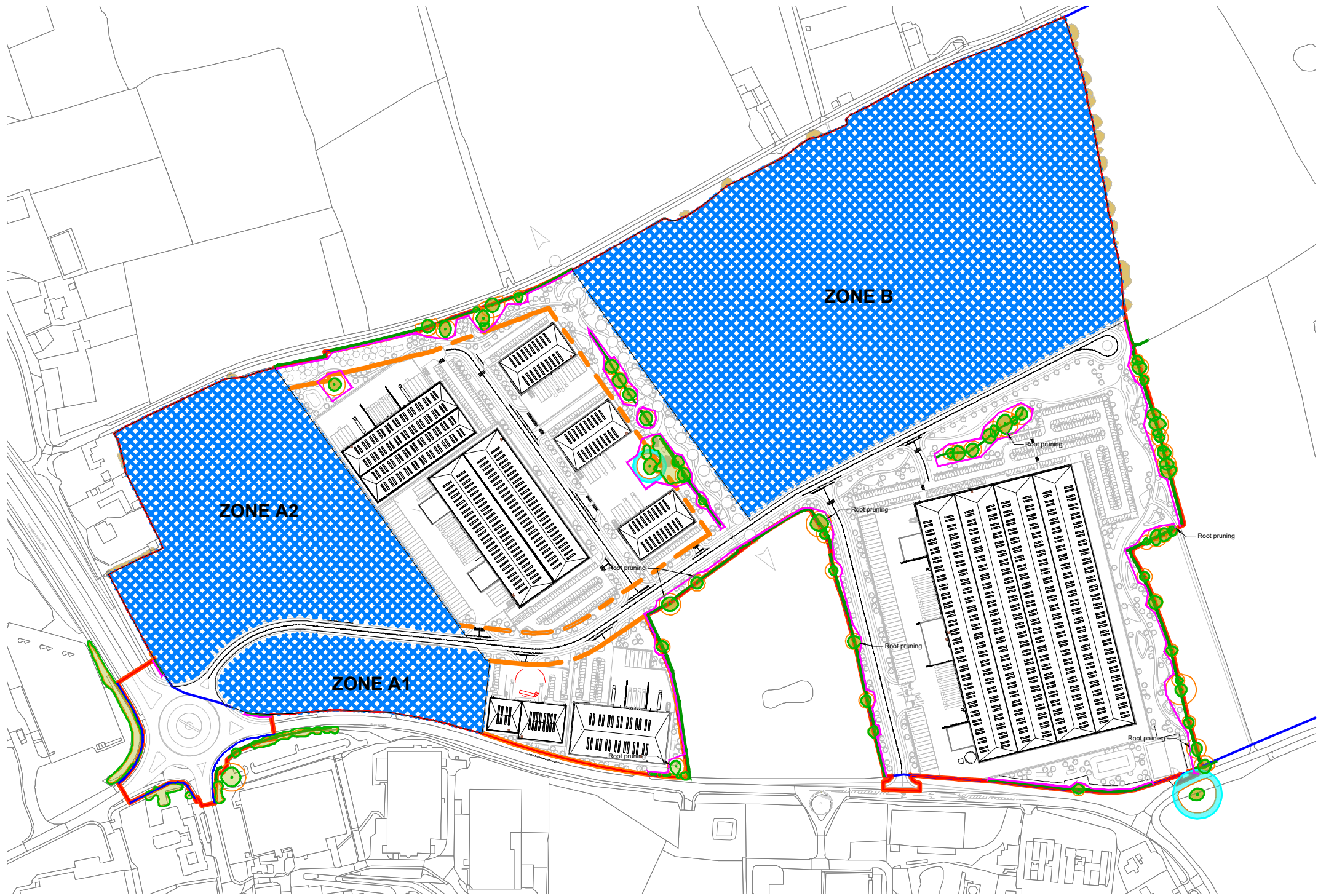
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Title
Drawing 5: Arboricultural Impacts Plan [EFFECTS] - Sheet 3 of 3

Drawing Number D9134.01.303				
Drawn HEE	Checked RMG	Approved JGS	Scale 1:2000 @ A3	Date 12/05/2023



Tree Protection Assumptions

Trees anticipated for retention within outline areas (Zones A1, A2 and B) and are based on illustrative masterplanning and would be subject to separate Reserved Matters or detailed planning applications, therefore no protection measures are included as part of this assessment.

It is therefore assumed that the perimeters of Zones A1, A2 and B will be fenced off using site hoarding during construction of detailed application areas and will not be used as compound areas; site office areas; car parking; or for storage of materials, plant or debris.

Should this not be the case, details of the locations and extents of any of the above named areas must be provided and detailed tree protection measures designed and installed prior to any demolition or construction works.

Root Pruning

In several locations, footpaths; pavements; and car parking are located within the Root Protection Areas of retained trees within detailed application areas. An arboricultural watching brief is therefore required in these areas due to the increased likelihood of tree roots and therefore sensitivity. The watching brief must be performed by an Arboricultural Consultant.

This AMS must be read in conjunction with the following drawings:

- **D9134.01.401-403 Drawing 7: Tree Protection Plan (Known Effects) - Sheet 1 to 3**

WATCHING BRIEF

1. Immediately following the installation of tree protection fencing, the Site Manager will arrange with the Arboricultural Consultant a date to undertake the watching brief for root pruning.
2. The watching brief will be undertaken in locations shown on above and on D9134.01.401 to D9134.01.403 by a **thick green line** and annotated.
3. Root pruning will not be completed during or immediately following heavy rain.
4. Tree protection may be temporarily realigned, at the instruction of the Arboricultural Consultant, to allow root pruning to take place.

5. In each location, a trench will be dug using hand tools or compressed air and soil vacuum to a formation depth of the proposed feature or until, in the opinion of the Arboricultural Consultant, no roots are anticipated. The use of an excavator is prohibited.
6. The Arboricultural Consultant will monitor the level and likelihood of potential root loss, in accordance with the specification detailed below, and will maintain a photographic record of the numbers, diameter size and location of any roots found for inspection by the Local Authority should they request it.
 - No roots - continue without constraint
 - Minor roots - continue to monitor
 - Moderate roots - Prune roots neatly at trench face
 - Major roots - Works cease to review specification and tree management
7. Where moderate roots are encountered, they will be severed neatly at the trench face nearest the tree using a sharp spade, bypass secateurs or a pruning saw as appropriate.
8. Following on from root pruning in each location, tree protection fencing will be realigned as shown above and on D9134.01.401-403.
9. The completion of the watching brief according to this Method Statement must be verified by the Arboricultural Consultant in writing.

KEY

[This drawing must be reproduced in colour]

- Retained Trees and Groups
- Retained Hedgerow
- Root Protection Area (RPA)
- Veteran Construction Exclusion Zone
(CEZ equates to 15 x stem diameter at 1.5m in accordance with Wrexham County Borough Council's Local Planning Guidance Note 17)
- Application Boundary
- Outline Application Areas

Tree Protection Measures within Detailed Application Areas

- Tree Protection Heras Fencing
(Must be installed prior to works commencement)
- High Visibility Demarcation Fencing
(Must be installed prior to works commencement)
- Assumed Site Hoarding Around Zones A1, A2 and B
(Must be installed prior to works commencement)

Special Construction Methodology within Detailed Application Areas

- Root Pruning
(Must be undertaken immediately after tree protection measures are installed and prior to works commencement in accordance with methodology detailed opposite)

NOTES:

Trees anticipated for retention within outline areas are based on illustrative masterplanning and would be subject to separate Reserved Matters or detailed planning applications, therefore no protection measures are included as part of this assessment.

In order to achieve the tree protection fencing alignment shown opposite, heras fence panels may require overlapping.



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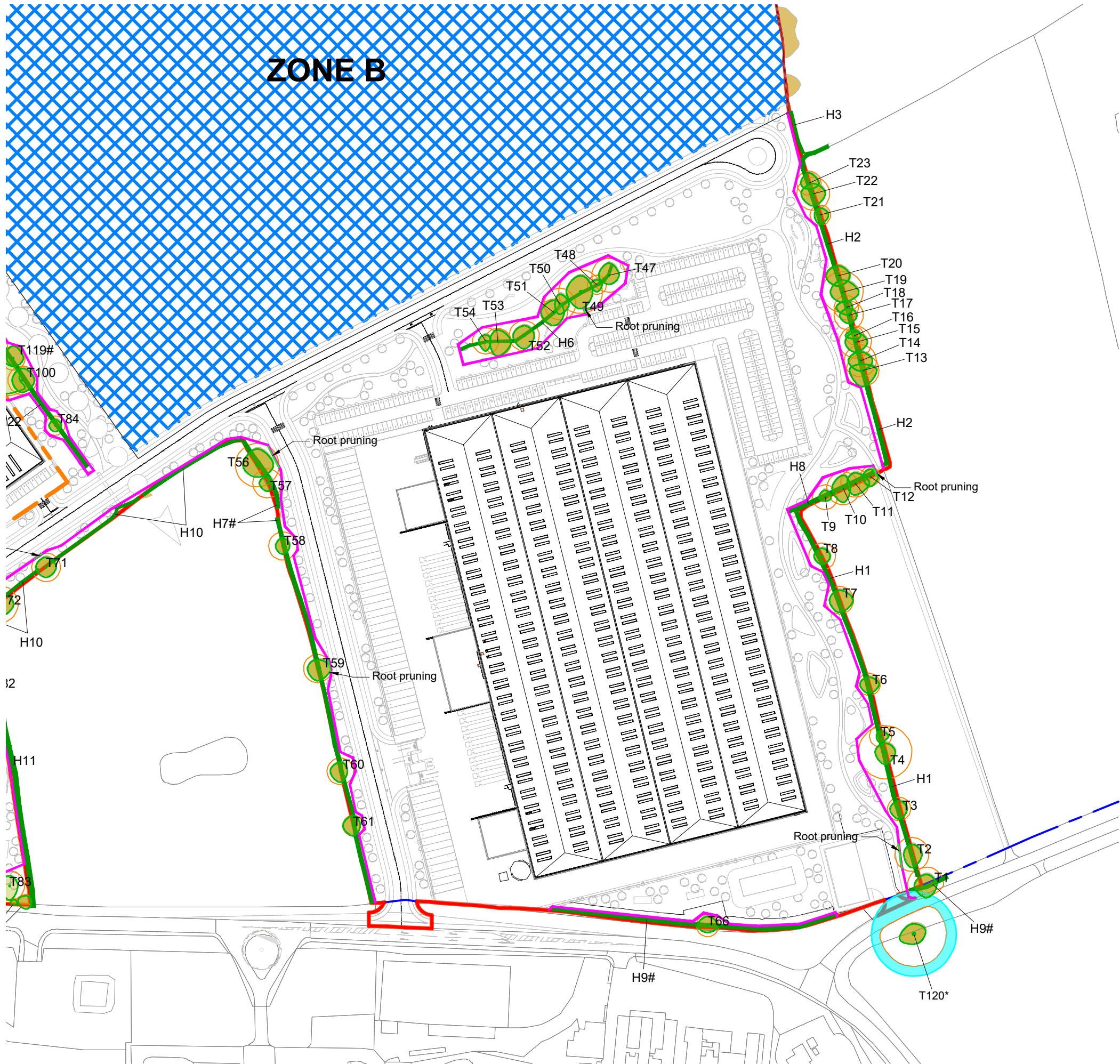
Title

Drawing 6: Tree Protection Overview - Known Effects Only
[MITIGATION]

Drawing Number

D9134.01.400

Drawn	Checked	Approved	Scale	Date
HEE	RMG	JGS	1:4,000 @ A3	15/05/2023



KEY

[This drawing must be reproduced in colour]

- T1/G1 Retained Trees and Groups
- H1 Retained hedgerow
- Root Protection Area (RPA)
- Veteran Construction Exclusion Zone
(CEZ equates to 15 x stem diameter at 1.5m in accordance with Wrexham County Borough Council's Local Planning Guidance Note 17)
- Application Boundary
- # Approximate location
(Feature not shown on supplied topographical survey)
- * Tree Preservation Order
(TPO ref: TPO No. 60 1991)
- Outline Application Areas

Tree Protection Measures within Detailed Application Areas

- Tree Protection Heras Fencing
(c. 2,358m or 674 panels)
(Must be installed prior to works commencement)
- High Visibility Demarcation Fencing
(c. 258m)
(Must be installed prior to works commencement)
- Assumed Site Hoarding Around Zones A1, A2 and B
(Must be installed prior to works commencement)
- Root Pruning
(Must be undertaken immediately after tree protection measures are installed and prior to works commencement in accordance with methodology detailed opposite)

NOTES:

Trees anticipated for retention within outline areas are based on illustrative masterplanning and would be subject to separate Reserved Matters or detailed planning applications, therefore no protection measures are included as part of this assessment.

In order to achieve the tree protection fencing alignment shown opposite, heras fence panels may require overlapping.



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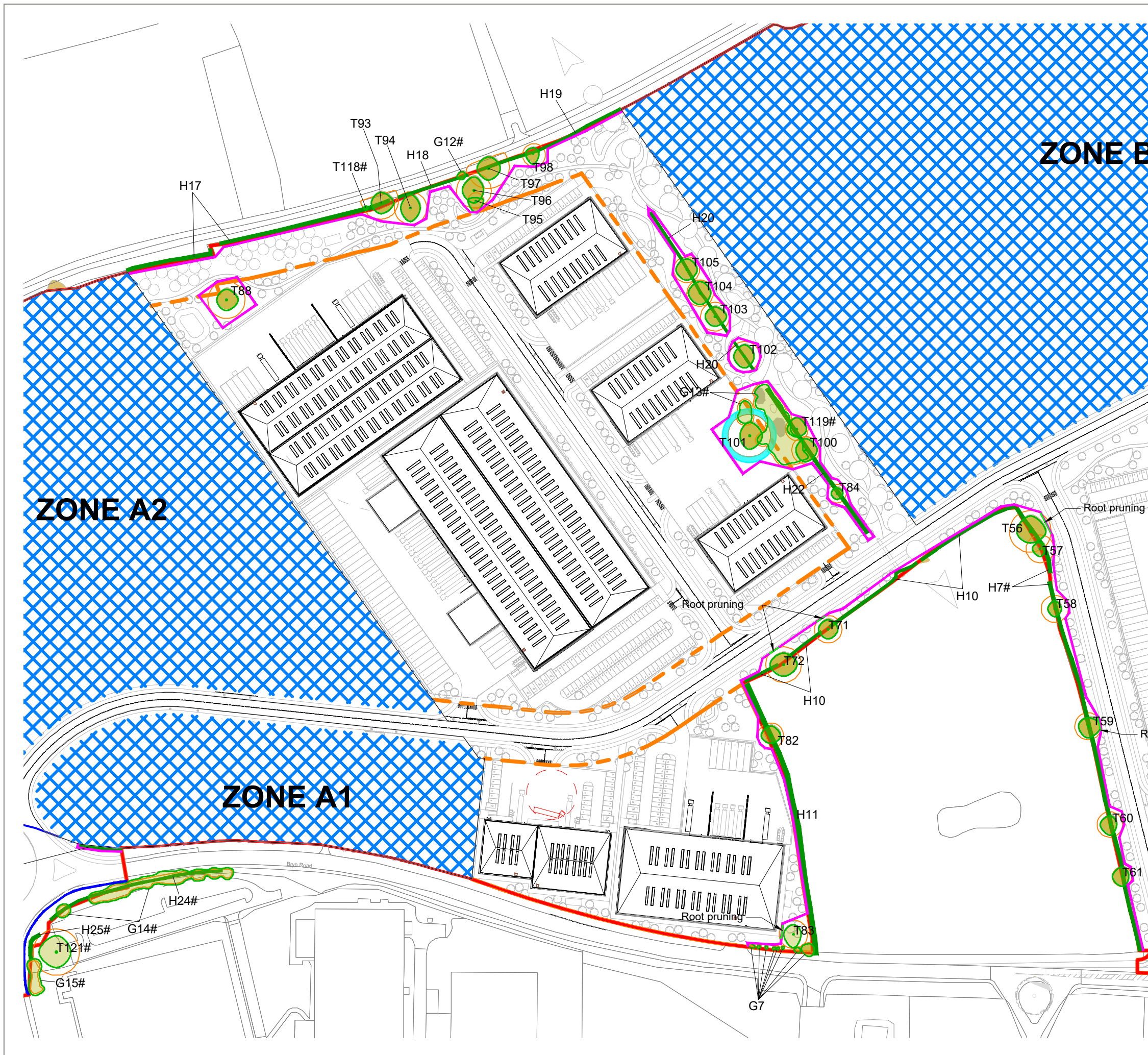
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Project
Land North of Bryn Lane, Wrexham
Arboricultural Impact Assessment in Support of Hybrid Planning
Title
Drawing 7: Tree Protection Plan - Known Effects Only
[MITIGATION] - Sheet 1 of 3

Drawing Number
D9134.01.401

Drawn	Checked	Approved	Scale	Date
HEE	RMG	JGS	1:2000 @ A3	15/05/2023



KEY

[This drawing must be reproduced in colour]

- T1/G1 Retained Trees and Groups
- H1 Retained hedgerow
- Root Protection Area (RPA)
- Veteran Construction Exclusion Zone
(CEZ equates to 15 x stem diameter at 1.5m in accordance with Wrexham County Borough Council's Local Planning Guidance Note 17)
- Application Boundary
- # Approximate location
(Feature not shown on supplied topographical survey)
- * Tree Preservation Order
(TPO ref: TPO No. 60 1991)
- Outline Application Areas

Tree Protection Measures within Detailed Application Areas

- Tree Protection Heras Fencing
(c. 2,358m or 674 panels)
(Must be installed prior to works commencement)
- High Visibility Demarcation Fencing
(c. 258m)
(Must be installed prior to works commencement)
- Assumed Site Hoarding Around Zones A1, A2 and B
(Must be installed prior to works commencement)
- Root Pruning
(Must be undertaken immediately after tree protection measures are installed and prior to works commencement in accordance with methodology detailed opposite)

NOTES:

Trees anticipated for retention within outline areas are based on illustrative masterplanning and would be subject to separate Reserved Matters or detailed planning applications, therefore no protection measures are included as part of this assessment.

In order to achieve the tree protection fencing alignment shown opposite, heras fence panels may require overlapping.



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A	Updated Proposed Masterplan (Rev D)	HEE	JGS	26.05.2023
Rev	Description	Drawn	Approved	Date



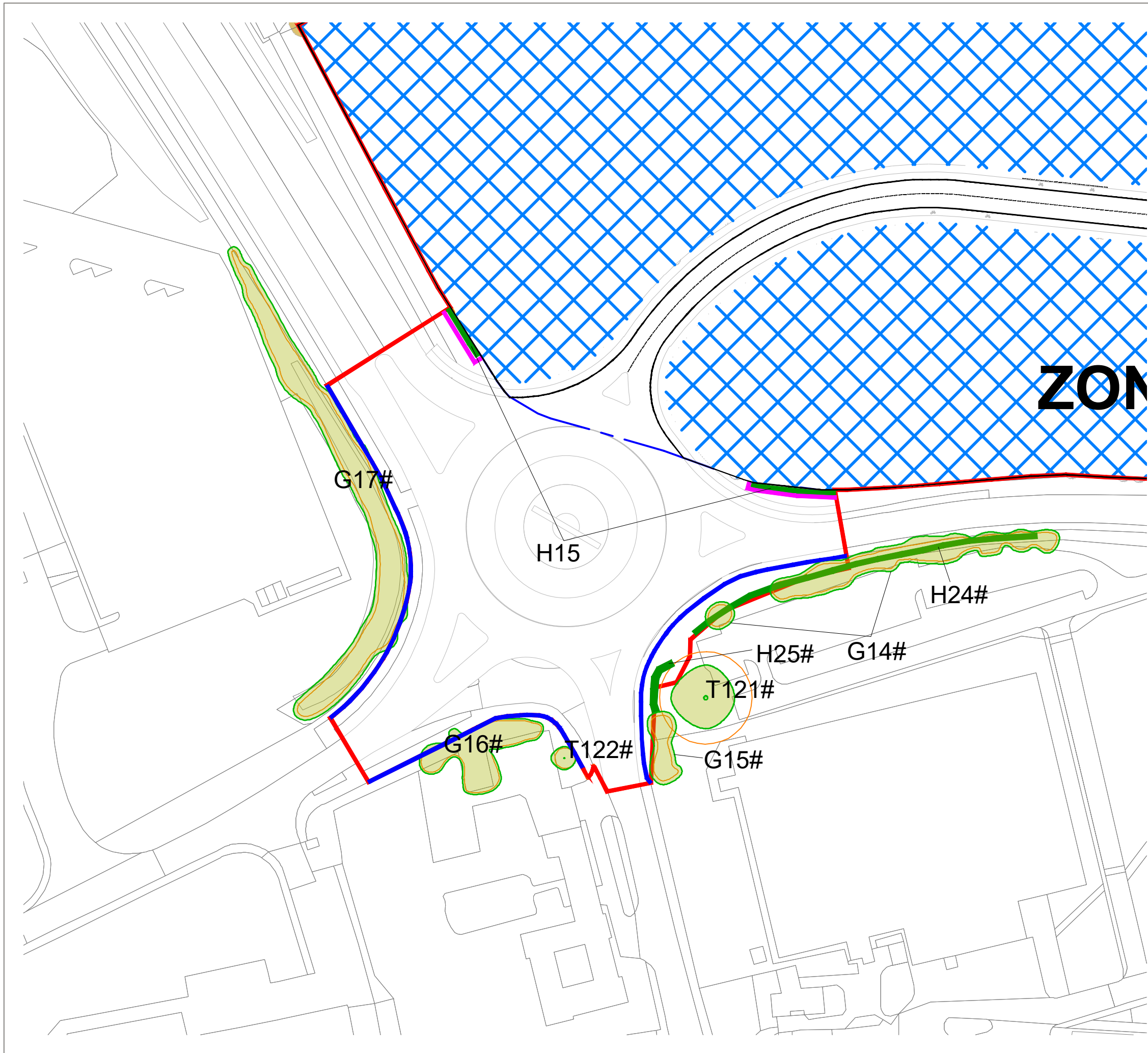
THE ENVIRONMENT PARTNERSHIP

Genesis Centre, Birchwood Science Park, Warrington WA3 7BH
Tel 01925 844004 e-mail tep@tep.uk.com www.tep.uk.com

Project
Land North of Bryn Lane, Wrexham
Arboricultural Impact Assessment in Support of Hybrid Planning
Title
Drawing 7: Tree Protection Plan - Known Effects Only
[MITIGATION] - Sheet 2 of 3

Drawing Number
D9134.01.402

Drawn	Checked	Approved	Scale	Date
HEE	RMG	JGS	1:2000 @ A3	15/05/2023



KEY

[This drawing must be reproduced in colour]

- T1/G1 Retained Trees and Groups
- H1 Retained hedgerow
- Root Protection Area (RPA)
- Veteran Construction Exclusion Zone
(CEZ equates to 15 x stem diameter at 1.5m in accordance with Wrexham County Borough Council's Local Planning Guidance Note 17)
- Application Boundary
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(Feature not shown on supplied topographical survey)
- * Tree Preservation Order
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Tree Protection Measures within Detailed Application Areas

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A	Updated Proposed Masterplan (Rev D)	HEE	JGS	26.05.2023
Rev	Description	Drawn	Approved	Date



THE
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Project

Land North of Bryn Lane, Wrexham
Arboricultural Impact Assessment in Support of Hybrid Planning

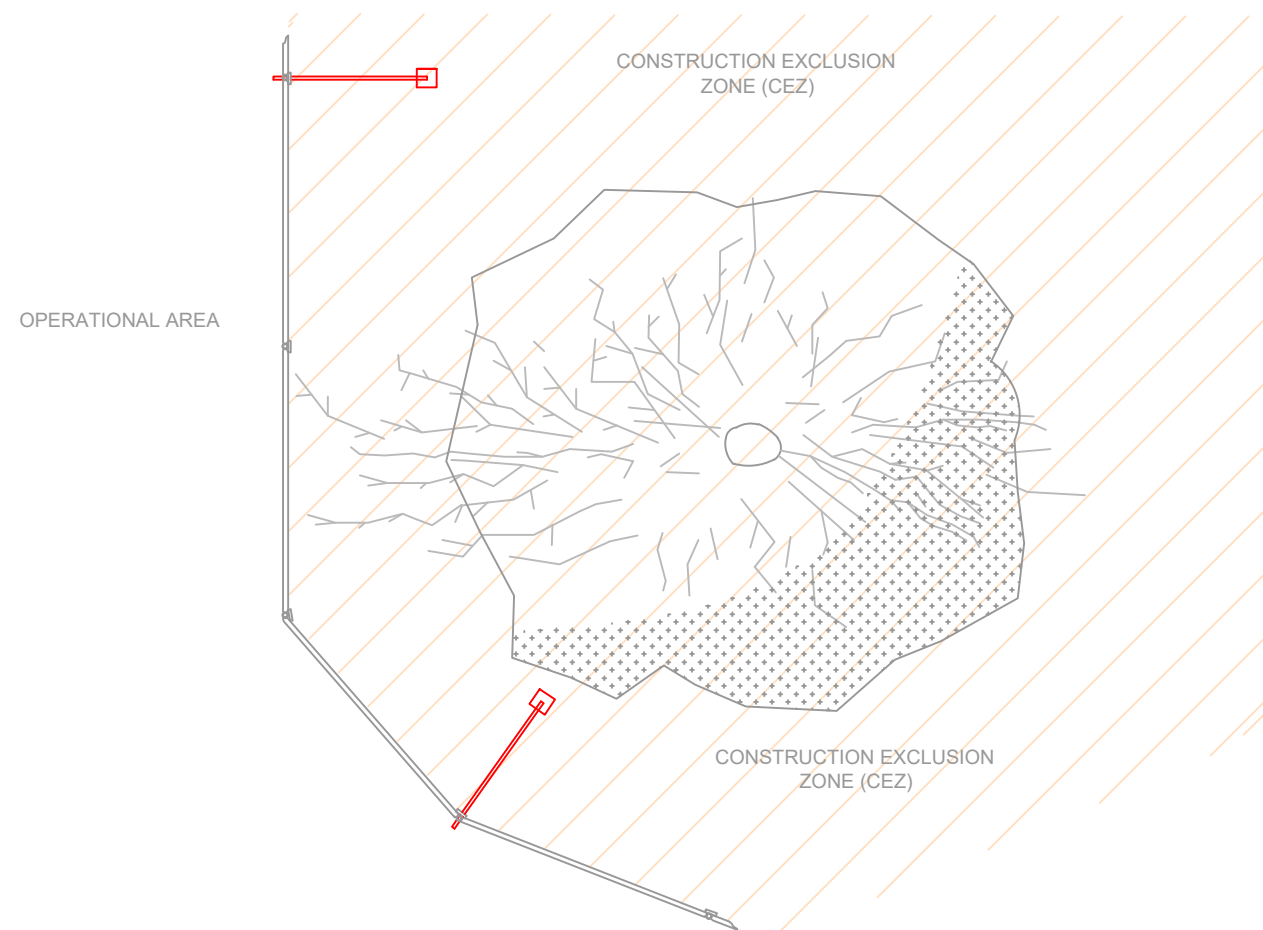
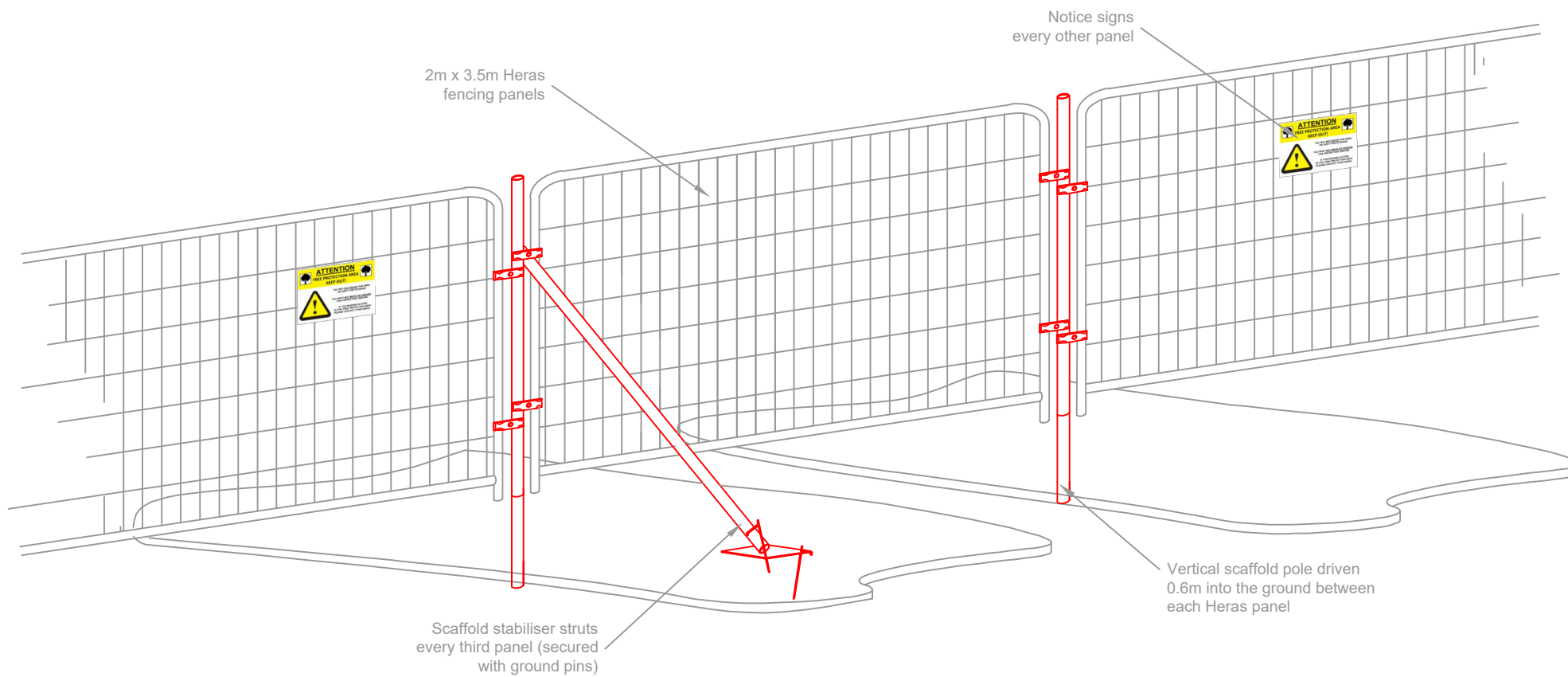
Title

Drawing 7: Tree Protection Plan - Known Effects Only
[MITIGATION] - Sheet 3 of 3

Drawing Number

D9134.01.403

Drawn	Checked	Approved	Scale	Date
HEE	RMG	JGS	1:1000 @ A3	15/05/2023



Per 3No. Heras panels (10.5m)	
Component	Quantity
2m x 3.5m Standard Heras panels	3
3m Galvenised steel scaffold pole	3
Heras fecurity fence clip	12
Heras stabilising support bar	1
Stabilising pin	2
Tree protection notice	2

Notes:

Rev	Description	Drawn	Approved	Date
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TEP

THE ENVIRONMENT PARTNERSHIP

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Tel 01925 844004 e-mail tep@tep.uk.com www.tep.uk.com

Project

Title
Temporary tree protection fencing for use on soft surfaces

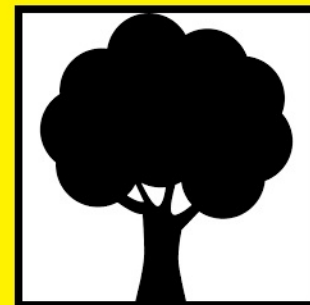
Drawing Number
TEP.ARB.FEN.001

Drawn	Checked	Approved	Scale	Date
TDP	RMG	JGS	(not to scale) @ A3	08/07/2019



ATTENTION

**TREE PROTECTION AREA
KEEP OUT!**



**YOU MAY NOT ENTER THIS AREA
OR USE IT FOR STORAGE**

**YOU MUST NOT MOVE OR DAMAGE
THIS PROTECTION FENCING**

**IF YOU REQUIRE ACCESS
TO THE TREE PROTECTION AREA
PLEASE CONTACT 01925 844004**



THE
ENVIRONMENT
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