



Fox Wood Garden Village (Phase 3), Halsnead Park

Arboricultural Impact Assessment in Support of Hybrid Planning

Prepared For: Taylor Wimpey UK

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Executive Summary

1. TEP has been commissioned by Taylor Wimpey to conduct a survey of land at Fox Wood Garden Village Phase 3 (Halsnead Park) and a review of designations, policies and other instruments of relevance to arboriculture. This report presents the results, and the effects on arboriculture that would arise in connection with the grant of hybrid planning permission.
2. 8 individual trees; 7 groups of trees; 1 woodland compartment; and 2 hedges were recorded within influencing distance of the application site.
3. The tree population is restricted to the site boundaries and includes a linear group of trees along the motorway to the south that provide screening, an area of woodland in the south-west, and further linear planting between the site and Big Water to the west. Scattered individual trees are present along the northern boundary.
4. The desktop review and site survey identified one Tree Preservation Order; one ancient woodland compartment; trees within a Community Forest; and Habitats of Principal Importance including Deciduous Woodland. There are no trees within a Conservation Area and no veteran trees.
5. Hybrid planning permission is sought for the erection of up to 190 residential dwellings comprising:
 - Phase A – Full planning application for the erection of 93 dwellings with associated works (including access, public open space, landscaping, sustainable urban drainage systems and other associated works); and
 - Phase B – Outline planning application for up to 97 dwellings (with all matters reserved for future approval).
6. The layout elements that would be determined in detail by this application would necessitate the removal of part of a single tree group comprising 0.0015ha. None of these are outside the application boundary.
7. It may be necessary to remove further vegetation within Group G2 to deliver the active travel link and footpath connection proposed in outline. The quantum, location and significance of this cannot be fully assessed on the basis of the Parameters Plan. Determination of this application may therefore establish the acceptability in principle of limited further adverse effects on arboriculture, even where the detail of this is not resolved.
8. The development would give rise to no unavoidable adverse effects that cannot be mitigated. It is reasonable to presume that a final detailed layout could be developed which would retain the majority of existing tree cover and woodland character whilst

accommodating the development within the defined parameters. This is demonstrated by the Parameters Plan shown on Drawing 4.

9. If hybrid planning permission is granted, an Arboricultural Impact Assessment describing all effects on arboriculture based on the final layout, and identifying clearly which trees would be retained, removed or pruned for Phase 3B; and a scheme of new planting should be required and could be secured by condition.
10. This report constitutes a valid basis for the evaluation of impacts on trees resulting from the proposed development for a period not exceeding 2 years from the survey date. After this, it would be necessary to review baseline data and conclusions to ensure reliability.

1.0 Scope

- 1.1 TEP has been commissioned by Taylor Wimpey to conduct an arboricultural survey of land at Fox Wood Garden Village (Phase 3) 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 on arboriculture that would arise following the grant of hybrid planning permission; and measures that should be incorporated in the proposed development and/or detailed at reserved matters.

Survey

- 1.3 The survey was undertaken on 18th July 2024 in accordance with BS 5837 by a qualified arboriculturist. The survey method is included at Appendix B.
- 1.4 A topographical survey was used to record the position of trees and vegetation (drawing reference: MT/TWNW/18/018). 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.
- 1.6 All approximated tree locations should be resolved prior to development. This may influence the conclusions of this report.

Limitation

- 1.7 This report relates to an hybrid 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 buildings and foundations; management of tree risk; and tree-related subsidence.
- 1.8 This report constitutes a valid basis for the evaluation of impacts on trees resulting from the grant of hybrid planning permission for a period not exceeding 2 years. After this, it would be necessary to review baseline data and conclusions to ensure reliability.

¹ Estimated feature locations are marked on Drawing 1

² Limitations to the survey are described at Appendix A

- 1.9 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.
- 1.10 Where the recommendations of this report have been followed, any future deterioration in tree condition shall not be attributable to the development.

Other assessments

- 1.11 Woody vegetation may be described and evaluated by other assessments, including ecology, landscape, heritage and for biodiversity net gain calculations. It should be noted that these follow different methodologies and sometimes use the same terms to describe different parts of the treescape (e.g. 'hedgerow', and 'woodland'). Care should be taken when reading across or comparing assessments to ensure that comparisons are reliable. Specialist advice may be needed to understand apparent discrepancies in definition or measurement.

2.0 Baseline

The site

- 2.1 The application site forms Phase 3 of a larger ongoing development between the M62 motorway to the south and the town of Whiston to the north. It is approximately 9.6ha in size and centred on UK Grid Reference SJ47152 89806.

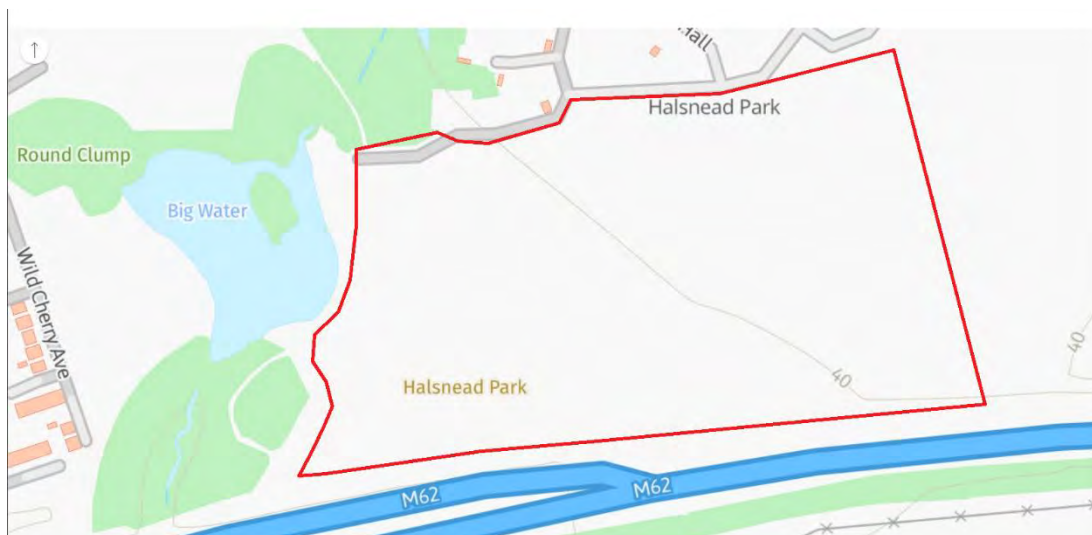


Figure 1: Site location and approximate boundary Site location and approximate boundary (Contains Ordnance Survey data © Crown copyright and database right 2026)

- 2.2 The survey area is mostly flat with a slight slope down to the south. It is bordered to the north by Halsnead Caravan Park, the south by the M62 Motorway, the east by ongoing residential development, and the west by a woodland known as Old Wood and a lake known as Big Water.
- 2.3 At the time of the survey, the site was not in formal use

Tree survey

- 2.4 8 individual trees; 7 groups of trees; 1 woodland compartment; and 2 hedges were recorded within influencing distance of the application site.
- 2.5 Trees, Groups, Woodland and Hedgerow are collectively referred to by this assessment as 'Features'. These provide the resolution of the tree survey, and are defined according to Appendix B. Feature locations, their quality categories, canopy spreads and root protection areas are shown on Drawing 1.

- 2.6 Canopy cover, rather than number of features, is used by this assessment to describe the quantum of trees. The following table provides the aggregated canopy area for mapped trees and the total length of mapped hedgerow on Drawing 1. In some cases, this may be more than the absolute area due to canopy overlap between adjacent features.

Table 1: Existing canopy cover and hedgerow length

Trees	Groups	Woodland	Hedgerow
0.0589 ha	0.8757 ha	0.6157 ha	33.5 m

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

Overview

- 2.8 Trees are confined to the site boundaries, with a large proportion located outside the application boundary, most notably group G1 on the motorway embankment and woodland W1 within an area of open space to the west of site.



Figure 2: View north showing tree T4 within dense group

- 2.9 The largest trees on the site are located along the northern boundary where it meets Halsnead Caravan Park. These include trees T3 and T4, located adjacent to the access road and car park to the north-west. These comprise a pair of pedunculate oaks that are prominent within the linear group in which they are located. T4 is the larger specimen, with a broadly spreading crown extending to

near ground level. It suppresses T3 to the west, which exhibits restricted crown development to the east and west as a result.

- 2.10
- Tree T5, located at the north-eastern corner of the site, is a large multi-stemmed oak with good form. The southern aspect of the crown has been reduced to provide clearance over a track but it remains a prominent, good quality feature and the largest individual tree associated with the site.



Figure 3: View west showing large tree T5 on site boundary

- 2.11
- Group G2, located between the site and Big Water to the west, comprises a linear group of mixed-age trees, including smaller scrubby trees and occasional larger individuals (T1 and T2). It provides good connectivity between areas of woodland to the north and south.
- 2.12
- Woodland W1, located outside the site in the south-west corner, is an ancient woodland comprising predominantly oak, sycamore and lime with understorey of hawthorn, holly and elder. The eastern edge, where it abuts the site, has been subject to some disturbance by agricultural machinery but overall it is an excellent feature with well-developed structure at all levels, including standing and aerial dead wood and abundant ground flora.

Tree quality

- 2.13
- Under BS 5837 trees are objectively assigned one of four categories to describe their quality. The table below includes a description of each category and the amount of canopy cover meeting the classification. Hedgerows have not been categorised.

Table 2: Summary of BS 5837 quality categorisation³

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.	0.6455 ha
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.	0.8821 ha
C	Trees of low quality, typically with at least a short remaining life expectancy; unremarkable trees of limited merit or impaired condition; or young and small trees that could be replaced.	0.0227 ha
U	Trees that cannot realistically be retained in the context of current land use for more than ten years; with serious and irreparable defects, pathogens or decline.	0 ha

- 2.14 The tree population is predominantly moderate quality (Category B) with the majority comprising offsite group G1 and boundary group G2. The largest proportion of high-quality trees (Category A) is located within woodland W1 outside the site. Only a very small proportion of trees are categorised as low-quality (Category C). The majority of tree cover is present as areas of continuous canopy rather than as individual open grown trees.

Root Protection Areas

- 2.15 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 diameter⁴. The RPA represents the minimum area around each tree that must be left undisturbed to ensure its survival.

Policy, designations and protection

Planning policy

- 2.16 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

³ Refer to Appendix B for the full table

⁴ Refer to Appendix A for Stem Diameters and Appendix B for further information on methodology

mitigated and which are not acceptable on balance against other benefits may weigh against the granting of planning permission.

- 2.17 There should be a common-sense ambition to limit tree loss to that which is strictly necessary 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.

National Planning Policy Framework

- 2.18 The National Planning Policy Framework (NPPF) has an overarching environmental objective. This embeds protecting and enhancing the natural environment, improving biodiversity, and adapting to climate change in decision making⁵.
- 2.19 NPPF states that existing trees should be retained wherever possible⁶.
- 2.20 Planning policies and decision making should recognise the wider benefits from natural capital and ecosystem services, including those provided by trees and woodland, and minimise impacts on and provide net gains for biodiversity⁷.
- 2.21 Where significant harm to biodiversity cannot be avoided, mitigated, or compensation provided, planning permission should be refused⁸. Loss or fragmentation of trees and woodland may constitute or give rise to significant harm to biodiversity.
- 2.22 There is a strong policy presumption against loss or deterioration of irreplaceable habitats, such as ancient woodland and ancient or veteran trees. Development resulting in the loss or deterioration of irreplaceable habitats should be refused unless there are wholly exceptional reasons, and a suitable compensation strategy exists⁹.
- 2.23 Opportunities should be taken to incorporate trees in developments, with appropriate measures to secure the long-term maintenance of new planting. Planning decisions should ensure that new streets are tree-lined unless there are clear, justifiable and compelling reasons why this would be inappropriate¹⁰.

Local planning policy

- 2.24 Knowsley Borough Council has an adopted Core Strategy that contains policies of relevance to trees. In particular CS8 Green Infrastructure which states;

⁵ NPPF paragraph 8 (c)

⁶ NPPF paragraph 136

⁷ NPPF paragraph 187 (b) (d)

⁸ NPPF paragraph 193 (a)

⁹ NPPF paragraph 193 (c)

¹⁰ NPPF paragraph 136

1. *Knowsley's existing Green Infrastructure and its beneficial functions will be protected, managed and/or enhanced, primarily to:*
 - a. *Ensure more attractive and cleaner residential neighbourhoods;*
 - b. *Sustain and promote biodiversity (including designated sites, priority habitats and protected and endangered species) in accordance with importance and contribution to ecological networks;*
 - c. *Preserve the character and function of historic environments and valued landscapes;*
 - d. *Mitigate the effects of climate change and flood risk;*
 - e. *Mitigate air, water and noise pollution;*
 - f. *Provide local opportunities for sport, recreation and allotments; and*
 - g. *Provide sustainable transport linkages between residential neighbourhoods and easy access to employment and services.*
2. *To achieve the above, planning powers and other interventions will be used to:*
 - a. *Protect and enhance strategically important areas of greenspace;*
 - b. *Ensure an appropriate quantity and improved quality of locally important open spaces, including outdoor sports provision (and ancillary facilities of appropriate scale);*
 - c. *Promote effective movement of wildlife through a network of strategic green links, by protecting, maintaining and improving existing and new open spaces, water courses (including water quality) and biodiversity assets;*
 - d. *Protect, enhance and/or introduce biodiversity into existing areas of Green Infrastructure, through integration into the design of new development and public realm projects;*
 - e. *Improve accessibility for communities to greenspace offering leisure and recreation opportunities;*
 - f. *Protect and where possible improve green paths and cycleways linking residential areas, existing strategic areas of greenspace, employment locations, local community services and leisure facilities;*
 - g. *Work in partnership with other districts and relevant bodies at a landscape scale to minimise the impact of development upon Knowsley's existing*

biodiversity and geological assets, and sustain the protection afforded to internationally important sites, including supporting habitat for biodiversity outside of the borough; and

- h. Deliver new integrated and functional Green Infrastructure that helps to mitigate and adapt to climate change, such as sustainable drainage systems, carbon capture and storage, soft landscaping and green roofs.*

And CS21 Greenspaces and Trees, which states:

- 1. In supporting the wider Green Infrastructure functions of urban greenspace in accordance with Policy CS8, the Council will provide and maintain quantitative, qualitative and accessibility standards for different types of public open space.*

Enhancement of Natural and Semi-Natural Greenspace and Tree Protection

- 10. The Council will encourage proposals for new development to incorporate:*
- a. Retention of existing trees, woodland, vegetation and other habitat features which offer a positive contribution to the local environment in terms of visual amenity, recreation value or biodiversity/wildlife interest;*
 - b. Appropriate planting of trees, other soft landscaping and installation of habitat features for the benefit of biodiversity; and*
 - c. Adequate replacement provision where tree loss is unavoidable, comprising two additional trees for every tree lost and taking account of species and size.*

- 2.25 In addition, the council has published supplementary information that gives guidance on the interpretation and application of local planning policy. In particular the Halsnead Masterplan SPD which sets out how trees should be integrated into developments with the area designated as Halsnead Garden Village.

Site allocation

- 2.26 The application site has a site allocation within the local plan. The allocation is called Sustainable Urban Extension - South of Whiston and Land South of M62, and it contains no policy of relevance to trees except that already noted above (CS8 and CS21).

Pre-app

- 2.27 Pre-application discussions are not known to have been held with the local planning authority.

Environment Act

- 2.28 The Environment Act places a duty on public bodies, including planning authorities, to conserve and enhance biodiversity through the exercise of their functions¹¹.
- 2.29 The Act makes provision for biodiversity gain to be a condition of planning permission in England. The assessment of baseline biodiversity includes trees, and any measures to offset losses may also include tree planting or enhancement. Biodiversity Net Gain (BNG) is not covered by this report, although data from this assessment may inform a BNG assessment and calculations.
- 2.30 Biodiversity is only one of the benefits provided by trees. Tree removal and planting may affect other functions or objectives, and the BNG assessment process does not provide a comprehensive means of either evaluating, mitigating or offsetting effects on arboriculture.
- 2.31 Tree planting or enhancement for biodiversity net gain should be regarded as part of arboricultural mitigation and offsetting measures and supplemented as necessary by other measures to render all adverse arboricultural effects acceptable.

Tree Preservation Orders

- 2.32 A check with the local authority was undertaken on 13th February 2026. The online mapping system confirmed that trees adjacent to the site are protected by Tree Preservation Order.

Table 3: Tree Preservation Orders

Order name	Order reference	Feature reference
Tree Preservation Order No 4 - 2007	W1	W1

- 2.33 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.
- 2.34 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.

¹¹ Environment Act 2021 Section 102 (1) and (2)

Conservation Areas

- 2.35 A check with the local authority was undertaken on 13th February 2026. The online mapping system confirmed that no trees within or adjacent to the site are within a Conservation Area.

Ancient woodland

- 2.36 Ancient woodland is defined in England as any area that has been wooded continuously since at least 1600 AD; it is regarded as 'irreplaceable'¹². The presence of ancient woodland has been identified based on Natural England's Revised (England) Completed Counties¹³.
- 2.37 The tree survey identified no features or characteristics to suggest that the Natural England mapping is unreliable.
- 2.38 There is ancient woodland adjacent to the site. Woodland W1, known as Old Wood is shown as ancient woodland on the mapping. It comprises an area of woodland to the south of Big Water that has been bisected by the M62 motorway and continues to the south. It is predominantly oak and lime and at time of survey bluebells were present within the ground flora. The area adjacent to the site covers approximately 1.4ha.
- 2.39 An additional area of ancient woodland identified within the Revised Ancient Woodland Inventory is present to the north-west of the site. It is separated from the site by Woodend, a road leading from Halsnead Caravan Park to a car park next to Big Water. It has not been surveyed and is not named.
- 2.40 To comply with planning policy¹⁴, development must not result in loss or deterioration of irreplaceable habitats unless wholly exceptional reasons and a suitable compensation strategy exist. In practice, harm to ancient woodland would constitute grounds for refusal of the majority of planning applications that are not nationally significant. It is therefore assumed to be necessary to demonstrate that no adverse effects on ancient woodland would occur.
- 2.41 Natural England publishes Standing Advice in collaboration with Forestry Commission on how the effects of development on ancient woodland should be assessed¹⁵. The advice is a material consideration. Current woodland condition and compensation measures may not be considered in this assessment, but mitigation measures that avoid or reduce impacts should be. Mitigation measures

¹² NPPF Annex 2: Glossary

¹³ <https://magic.defra.gov.uk/magicmap.aspx>

¹⁴ NPPF paragraph 193 (c)

¹⁵ <https://www.gov.uk/guidance/ancient-woodland-and-veteran-trees-protection-surveys-licences>

should include an undeveloped buffer zone, normally of at least 15m, around the woodland.

- 2.42 Buffer zones have been designed and are shown on Drawing 1. These are based on a 15m offset from the canopy edge. The site application boundary does not extend into the buffer of Old Wood in the south-west. The red line boundary extends to the edge of the north-western woodland and includes the buffer zone.

Veteran trees

- 2.43 Veteran is a term that is used within arboriculture to describe a classification of trees with superlative significance and value. Various definitions exist. In the context of planning, the applicable definition is in NPPF¹⁶.
- 2.44 NPPF defines veteran trees as those which, because of age¹⁷, size¹⁸ and condition¹⁹, are of exceptional biodiversity, cultural or heritage value. Not all veteran trees are ancient, though they tend to be relatively old for the species. Veteran trees with exceptional biodiversity value are an irreplaceable habitat²⁰.
- 2.45 Trees that are not irreplaceable habitats, but which meet other definitions of veteran are likely to be trees of significance to culture, heritage and habitats, and may also merit significant conservation efforts.
- 2.46 There is no comprehensive national register of veteran trees. The Woodland Trust maintains an inventory of old and large trees, some of which meet the NPPF definition²¹. At the time of writing, it contained no records of relevance to the site.
- 2.47 An assessment of each tree was made by a qualified arboriculturist as part of the tree survey. There are no veteran trees within or adjacent to the site.

Community Forests

- 2.48 Online mapping²² confirmed that the site is within The Mersey Forest Community Forest.
- 2.49 The site is within the K10 Urban Extension Area with the Mersey Forest Plan and has been identified a long term ambition to deliver 30% canopy cover. The plan identifies the former Halsnead Estate as containing some historic areas of tree cover.

¹⁶ NPPF Annex 2: Glossary

¹⁷ See Forestry Commission Information Note (FCIN12) 1998

¹⁸ See Appendix A

¹⁹ See Fay, N. & De Berker, N. (1997) Specialist Survey Method. Veteran Trees Initiative, English Nature

²⁰ See NPPF Annex 2: Glossary

²¹ <https://ati.woodlandtrust.org.uk/>

²² <https://englandscommunityforests.org.uk/where-are-the-forests/>

Habitats of Principal Importance

- 2.50 A list²³ of habitats which are of principal importance for the purpose of conserving²⁴ biodiversity is maintained by the Secretary of State²⁵. The list includes habitat types that are defined by woody vegetation, which are listed below. The geographical extent and location of these habitats (excluding Hedgerow) is mapped by Natural England on the Priority Habitat Inventory²⁶. Observations were also made to corroborate the mapping during the site survey.
- 2.51 All public authorities, including local planning authorities and statutory undertakers have a duty to have regard to the purpose of conserving and enhancing biodiversity²⁷. Habitats of Principal Importance provide a means of evaluating effects on biodiversity, and relevant to 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.

Deciduous Woodland

- 2.52 Six distinct types of woodland²⁸ are amalgamated in the Inventory under the habitat type 'Deciduous Woodland'.
- 2.53 The Inventory has records of Deciduous Woodland at the site. These are broadly contiguous with survey feature W1.

Wood Pasture and Parkland²⁹

- 2.54 The Inventory has no records of Wood Pasture and Parkland at the site.

Traditional Orchards³⁰

- 2.55 The Inventory has no records of Traditional Orchards at the site.

Hedgerows³¹

- 2.56 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 comprise at least 80% woody native species are included.

²³ <https://www.gov.uk/government/publications/habitats-and-species-of-principal-importance-in-england>

²⁴ The Environment Act 2021, 102 (1) and (2) amends this duty to include enhancement

²⁵ Natural Environment and Rural Communities Act 2006, 41 (1)

²⁶ <https://magic.defra.gov.uk/MagicMap.aspx>

²⁷ Natural Environment and Rural Communities Act 2006, 40 (1)

²⁸ Upland Oakwood; Lowland Beech and Yew Woodland; Upland Mixed Ashwoods; Wet Woodland; Lowland Mixed Deciduous Woodland; Upland Birchwoods

²⁹ UK BAP Priority habitat Description for Wood-Pasture and Parkland

³⁰ UK BAP Priority habitat Description for Traditional Orchards

³¹ UK BAP Priority habitat Description for Hedgerows

- 2.57 The survey identified 2 Hedgerows³². Neither of these meet the description of the Habitat of Principal Importance.

Biodiversity Net Gain and arboriculture

- 2.58 Woody vegetation that is included in this assessment may also be mapped and classified as part of an ecological assessment.
- 2.59 Biodiversity gain assessments and calculations use *Broad Habitat Types* and *Habitat Definitions* derived from UKHab³³ to classify woody vegetation. These include *Individual trees*, *Hedgerow*, *Heathland and Shrub*, and *Woodland and Forest*. These terms may be used with different definitions in other assessments, including tree surveys.
- 2.60 The sub-division of woody vegetation into assessment units or features may differ between ecological and arboricultural assessments; the former being a classification of habitats, and the latter being a classification that reflects management history and opportunities, landscape, amenity, culture, and heritage, as well as habitats.
- 2.61 The table below sets out the relationship between arboricultural and ecological classification of woody vegetation in general terms.

Table 4: Arboricultural and ecological classification of woody vegetation

Tree survey classification	Habitat Classification (UKHab)
Trees	Normally recorded as <i>Individual trees</i> (Urban tree or Rural tree) except where within another habitat (e.g. within a woodland, line or trees, or as a hedgerow tree), in which case trees may be part of the surrounding habitat ³⁴
Groups	No equivalent classification exists. Groups may comprise any combination of <i>Individual trees</i> ; <i>Hedgerows</i> , (including <i>Lines of trees</i>); <i>Woodland and forest</i> Habitat Types with moderate or low distinctiveness ³⁵ ; and some <i>Heathland and shrub</i> habitats ³⁶ , especially where young or with developing composition

³² See Appendix A

³³ See, The UK Habitat Classification Habitat Definitions Version 2.1 (July 2023)

³⁴ Tree surveys may isolate and record trees individually for a wide range of reasons that do not relate to habitat

³⁵ Loosely, 'Other Woodland' types, including UKHab Classifications w1g, w1h and their sub-classifications

³⁶ All types of Dense scrub h3 except h3d (Bramble scrub)

Tree survey classification	Habitat Classification (UKHab)
Woodlands	Typically, Woodland and forest Habitat Types with high distinctiveness ³⁷ (e.g. Lowland Mixed Deciduous); also, less commonly, <i>Heathland and shrub</i> habitats comprising woody species, where representing the natural climax vegetation ³⁸
Hedgerow/Hedges	Typically, <i>Hedgerow</i> or <i>Line of trees</i> ; less commonly may be mapped as <i>Woodland and forest</i> habitats, especially where within or on the edge of areas of trees or scrub

- 2.62 The term Woodland within the tree survey tends to correspond with Woodland Habitats of Principal Importance, and Woodland Habitat Types with high distinctiveness. It is reserved for areas of tree cover with that have or are clearly developing the species, age and structural composition and characteristics of semi-natural woodland and represent a stable and naturally regenerating climax vegetation. This tends to exclude woodland and shrub habitats with moderate or low distinctiveness, such as plantation.
- 2.63 Under the Statutory Biodiversity Metric, Individual Trees are treated as having a habitat area based on the diameter of the stem. Small, Medium, Large and Very Large trees are defined as those with stem diameters between 75mm and 300mm, 300mm and 600mm, 600 and 900mm, and above 900mm respectively³⁹. The data tables at Appendix A include stem diameter measurements for trees that were recorded as individuals by the tree survey, and stem diameter ranges for features containing multiple trees⁴⁰.
- 2.64 Irreplaceable habitats, including ancient woodland and veteran trees, must be recorded separately within the Statutory Biodiversity Metric. Accounting for loss or deterioration of irreplaceable habitats cannot be done using the Metric. Enhancement may contribute towards biodiversity where there is no loss or deterioration⁴¹.

Protected species

- 2.65 No assessment of the presence of protected species has been made during the production of this report. Features of possible interest that were observed incidentally during the tree survey are recorded in Appendix A.

³⁷ For Very High distinctiveness, see Section 2.0 Habitats of Principal Importance, Wood Pasture and Parkland

³⁸ All types of Dense scrub h3, except h3d (Bramble scrub), and h3g (Rhododendron scrub)

³⁹ Stem diameters of 300mm (Small), 600mm (Medium), 900mm (Large) and 1,300mm (Very Large) are assumed

⁴⁰ Calculated according to BS5837 in the case of multi-stemmed trees

⁴¹ See Biodiversity Metric User Guide, Section 3.5

- 2.66 Works to and around trees have the capacity to affect protected species where present, particularly including birds, bats, great crested newts, badgers, dormice, otters and water voles. Contractors should be familiar with the locations and sensitivities of any protected species that are present and take reasonable avoidance measures or comply with the requirements of any licence agreement in accordance with the advice of an ecologist.

Birds

- 2.67 Intentional harm to a wild bird, egg, or a nest that is in use or being built is an offence⁴². Disturbance of certain wild birds that are building a nest, or are in, on or near a nest containing eggs or young, or disturbance of dependent young is also an offence⁴³.
- 2.68 All trees are a potential habitat for nesting birds so tree work should ideally, but not essentially, be undertaken outside the bird nesting season. Between March and August, a detailed inspection of each tree should be undertaken by a qualified ecologist to confirm the absence of nesting birds immediately prior to works.
- 2.69 Some birds nest outside the core nesting season. If an active nest is found at any time of year, work likely to affect the nest must be halted until the nest becomes inactive. This will vary depending on the species of bird but is typically up to six weeks. The advice of an ecologist regarding the duration and size of a protection buffer around the nest should be sought.

Bats

- 2.70 It is an offence to damage, destroy or obstruct access to any structure or place which is used for shelter or protection⁴⁴, or breeding or resting⁴⁵ by a bat. Mature trees often contain cavities, splits and ivy, which may be attractive to bats.
- 2.71 The Ecological Impact Assessment (10586.006) identified 2 trees with potential for roosting bats. These are trees T1 and T3 within the arboricultural survey.
- 2.72 If the presence of a bat, or a roost or resting site is suspected whilst undertaking works on any trees, operations must be halted, and the advice of appropriately licensed ecologist should be sought.

⁴² Wildlife and Countryside Act 1981, 1 (1)

⁴³ Wildlife and Countryside Act 1981, 1 (5)

⁴⁴ Wildlife and Countryside Act 1981, 9 (4)

⁴⁵ The Conservation of Habitats and Species Regulations 2017, 43 (1)

3.0 Effects

- 3.1 In simple terms, the effects on arboriculture comprise 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.
- 3.2 Effects may also include changes to the prospects, qualities and/or future management of remaining trees.
- 3.3 In the context of a hybrid application, some effects can be predicted with certainty and described in detail; some can be predicted but only described in general terms; and others may or may not arise, depending on later decisions. This assessment separates these types of effect.

Proposed development

- 3.4 Hybrid planning permission is sought for the erection of up to 190 residential dwellings comprising:
- Phase A – Full planning application for the erection of 93 dwellings with associated works (including access, public open space, landscaping, sustainable urban drainage systems and other associated works); and
 - Phase B – Outline planning application for up to 97 dwellings (with all matters reserved for future approval).
- 3.5 The detailed elements of the proposed layout for Phase 3A are shown on Drawing 2, which is based on the Planning Layout (drawing ref: 1474-PL-01 P3) provided by the client. Proposed tree works associated with these elements are also shown on Drawing 2.
- 3.6 A Parameters Plan (drawing ref: 1474-PMP-3-01b) provided by the client is shown on Drawing 4. It illustrates the extent of development, internal road distribution and areas of green space for Phase 3B.
- 3.7 The following information was not available and has not informed this assessment:
- Proposed levels
 - The arrangement of retaining structures
 - The arrangement of utilities
 - The means of construction access, and location of compounds
- 3.8 The proposed development would include tree planting. This is indicated on the Planning Layout and includes new planting throughout the site within open space,

along roads and streets, and within private gardens. The application under consideration would not secure the detail of this planting. Therefore, this planting cannot be relied upon to inform a planning decision, except insofar as it demonstrates what might be achieved.

Types of effect

- 3.9 This report supports a hybrid planning application. Tree removal and retention is a reserved matter and would not be determined by this application, except for tree removal that is necessary to facilitate the Phase 3A layout that is proposed in detail.
- 3.10 To reflect the varying levels of detail that are available for different aspects of the final development, this report describes two types of effect on arboriculture:
- **Known effects** are those that can be described in detail now and would occur, pending the discharge of any pre-commencement conditions. Hybrid planning permission would determine and secure them.
 - **Anticipated effects** are those that can be inferred from the 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

- 3.11 The **Known effects** are shown on Drawing 2. They comprise the extent of tree removal required by detailed elements of the layout, and any tolerable changes to retained trees necessitated or caused by a change in context.
- 3.12 A very small proportion of group G2 would be removed to enable construction of a drainage outfall. This equates to approximately 0.0015ha of moderate quality tree cover.

Anticipated effects

- 3.13 Development in broad accordance with the Parameters Plan at Drawing 4 can reasonably be expected to lead to no additional impact on trees. All trees within the outline area are on the northern boundary of the site and will be effectively buffered by the proposed green corridor.

Assessment of effects

- 3.14 This section assesses the extent to which the three types of effects would arise as a result of the grant of hybrid planning permission, with reference to a range of arboricultural receptors or indicators.

Tree removal

Known effects on canopy cover

- 3.15 The detailed elements of the proposed layout would require the removal of tree groups comprising approximately 0.0015ha.

Table 5: Reference of features that would be removed for detailed development

	Trees	Groups	Woodland	Hedgerow
Remove (on-site)	-	(G2)	-	-
Remove (off-site)	-	-	-	-

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

- 3.16 If hybrid planning permission is granted with reference to this report, the removal of any feature not listed above and shown on Drawing 2 for removal may constitute a material amendment and may therefore require further permission⁴⁶.
- 3.17 The removal of trees that are not wholly within the application boundary will require the permission of the landowner. It may be necessary to demonstrate the ability to undertake such works and how they would be secured prior to determination.
- 3.18 The following table 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. The total (gross) areas may be higher than the absolute area of tree cover on the site due to overlap between adjacent features.

Table 6: Quantity of trees that would be removed for detailed development

Feature	Number of features affected				
	Category A	Category B	Category C	Category U	Hedges
Trees	0	0	0	0	0
Groups	0	1	0	0	
Woodland	0	0	0	0	
Total loss	0ha	0.0015ha	0ha	0ha	0m
Proportion of existing	0%	<1%	0%	0%	0%

⁴⁶ E.g. Town and Country Planning Act s.73

- 3.19 Tree removals would affect less than 1% of the total tree cover associated with the site. There would be a minor temporary loss of connectivity within group G2 that could be mitigate for in the medium term.
- 3.20 The totals above represent the effects associated only with detailed layout elements, as per Drawing 2. The removal of additional trees within these areas may be proposed during later stages in the planning process. The potential for further tree removal to be required or proposed across the site generally is described below.

Anticipated effects on canopy cover

- 3.21 The Parameters Plan shows a proposed active travel link that runs along the western edge of the site. This would join into existing roads and footpaths within the area to the north of group G2 and it is likely that a small amount of this group would be lost to enable construction of this.
- 3.22 It may be helpful to refer to Drawing 4 to understand the Anticipated effects described above.

Ancient Woodland

- 3.23 There would be no **Known effects** on Ancient Woodland. The application area has been designed to exclude the 15m buffer zone from the ancient woodland and creates additional incidental buffer zones along the boundary.
- 3.24 Construction of the active travel route as shown on the Parameters Plan would encroach into the buffer zone of the ancient woodland to the north-west of the site. This is unlikely to have any measurable effect on the condition of the woodland due to existing hard surfacing, including roads and a car park that is already present within the buffer zone.

Community Forest

- 3.25 The proposed development would result in a net increase in tree canopy cover within a Community Forest. It would therefore have a positive effect on the delivery of the policies and objectives of the Community Forest.

Habitats of Principal Importance

- 3.26 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 and enhance biodiversity.

Deciduous Woodland

- 3.27 There would be no **Known effects** on Deciduous Woodland.
- 3.28 There are no **Anticipated effects** on Deciduous Woodland.

Protected Species

- 3.29 The effects of the proposed development on protected species and significance thereof are considered by the relevant ecology reports including the Ecological Impact Assessment (10586.005).

4.0 Mitigation

- 4.1 This section describes opportunities to mitigate or offset adverse effects described by the previous section⁴⁷. 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 Mitigation for **Known effects** would typically include new planting, tree protection, construction methodologies and/or tree management during and/or after construction.
- 4.3 Mitigation for **Anticipated effects** is not strictly required because the effects might not occur. Future requirements cannot be forecast until the actual effects have been resolved.

Proposed measures

- 4.4 The following measures are proposed and would be secured by a planning permission referencing and requiring compliance with this report. They may also be secured by planning condition, or other agreement.

Layout

- 4.5 Tree removal would be limited to that associated with the detailed elements of the proposed layout as shown on Drawing 2. This would not be implemented until any pre-commencement conditions have been discharged. No other tree or hedge would be removed without the permission of the local planning authority.
- 4.6 The Parameters Plan at Drawing 4 is a supporting document and is intended to establish broad layout principles. On this basis this application would establish that the majority of trees within or adjacent to the outline application area would not be affected by the development with only a minor loss of trees within G2 to facilitate construction of the active travel link.

Tree protection

- 4.7 A Tree Protection Plan is provided at Drawing 3. It shows 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.

⁴⁷ For simplicity, 'mitigation' is used in this report to mean both mitigation (measures to reduce or avoid adverse effects) and offsetting (measures to counterbalance remaining adverse effects)

- 4.8 Tree protection measures will follow the specification provided at Appendix C.
- 4.9 Temporary protection measures would be maintained as shown during the entire construction process 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 has been completed.

Planting

- 4.10 Tree planting within and around the layout elements that are proposed in detail is proposed. Full detail of the species mix and number of trees that would be planted was not available for the production of this report but planting shown within the Landscape Masterplan shows that the loss of trees associated with this site can be readily mitigated for.

Recommended measures

- 4.11 The following measures should be secured by planning condition or other agreement referencing and requiring compliance with this report.

Layout

- 4.12 In areas that have not yet been detailed, adverse effects on trees should be minimised where it is reasonably practicable to do so within the final layout.
- 4.13 Design elements in Parameters Plan at Drawing 4 which should be preserved in the final detailed layout include the general layout of developable areas and internal road alignments including those that connect into other phases of the wider development.
- 4.14 Design elements in the Parameters Plan at Drawing 4 which should be resolved in a way that reduces impacts on arboriculture include the active travel link in the north-western corner of the application area.

Arboricultural Impact Assessment

- 4.15 The effects of the final development Phase 3B layout on arboriculture, or any phase thereof, should be assessed within an Arboricultural Impact Assessment. This should be produced in accordance with BS5837 and should report effects against the baseline described in Section 2.0⁴⁸.
- 4.16 As a minimum, the Arboricultural Impact Assessment should include:

⁴⁸ Subject to the limitations and caveats in Section 1.0

- Details of the proposed layout, including buried services, utilities, ground works and any other construction element that could affect trees
 - A Tree Works Plan clearly establishing which trees would be retained, removed or pruned, including or superseding the tree removal shown on Drawing 2
 - A specification for any pruning works that are proposed
 - Details of any mitigation measures that are relied upon by the assessment, including soft landscaping
 - Conclusions regarding net effects on arboriculture
- 4.17 The Arboricultural Impact Assessment should be presented in the form of a report and annotated drawings.

Conclusions

- 4.18 The following table gives a summary of the consequences for arboriculture of granting hybrid planning permission in accordance with this report. It assesses the net effect on each of the receptors identified in Section 2.0, including any proposed mitigation measures that are described in Section 4.0.

Table 7: Net effects of the proposed development

Receptor	Known effects	Anticipated effects
Ancient Woodland	Neutral	Neutral
Community Forest	Positive	Positive
Deciduous Woodland	Neutral	Neutral

- 4.19 The **Known effects** in the table above can be relied upon to inform a planning decision. This assessment assumes that the proposed mitigation measures described in Section 4.0 would be implemented. Typically, these would be secured via a planning condition.
- 4.20 The **Anticipated effects** are a forecast and may change depending on the final scheme. They may assist the consenting authority in its understanding of the proposed development and inform planning conditions. Recommended mitigation measures described in Section 4.0 could be used to control these effects.

Overall balance

- 4.21 **Known effects** on arboriculture can be mitigated and/or offset within the site. They should be minimised in accordance with this report, which should be a condition of any planning permission.

- 4.22 The **Anticipated effects** described by this report can and should be minimised or avoided during detailed design and described by a future assessment prior to any planning decision that would determine them.

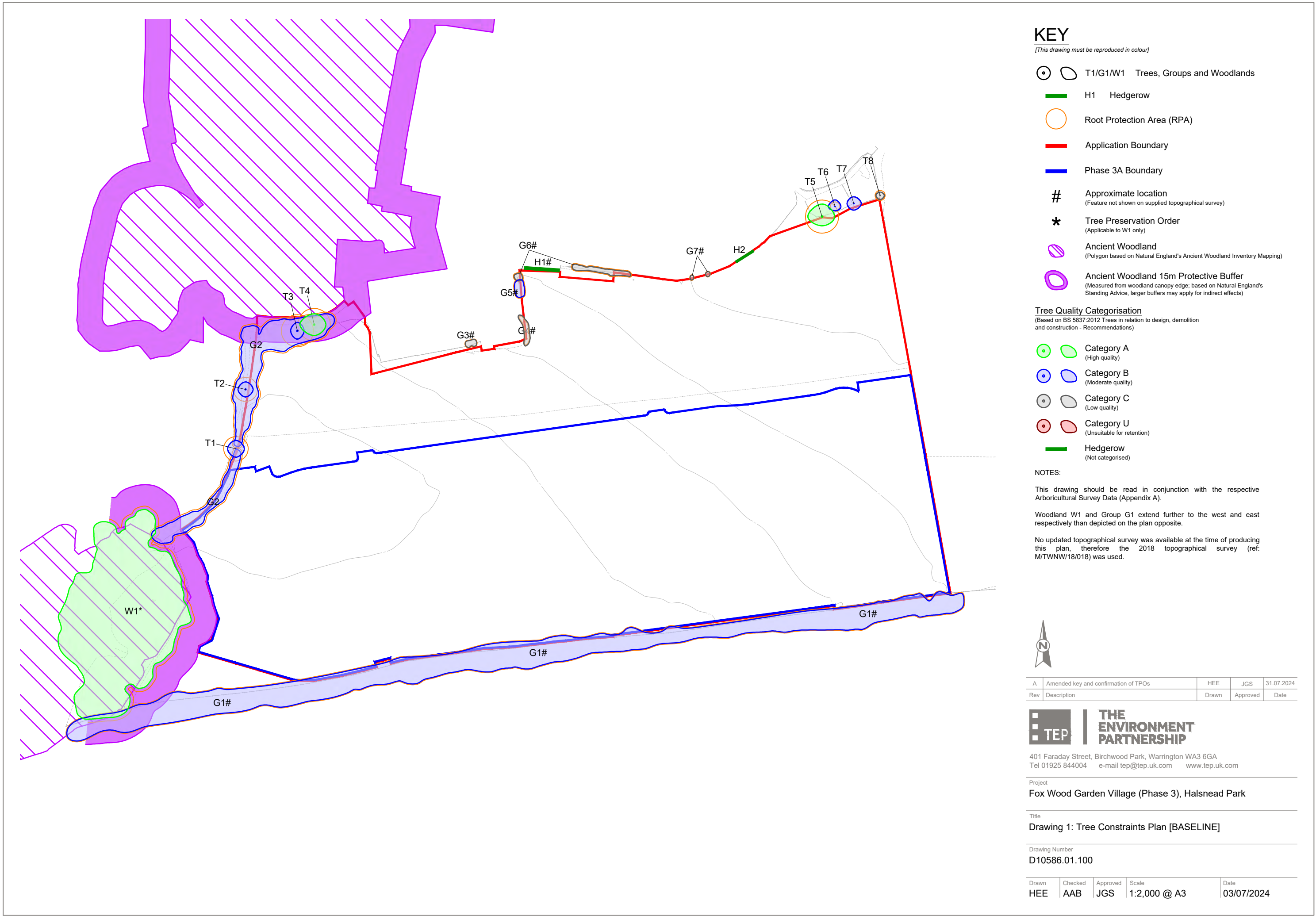
Drawings

Drawing 1: Tree Constraints Plan

Drawing 2: Tree Works Plan

Drawing 3: Tree Protection Plan

Drawing 4: Parameters Plan





KEY

[This drawing must be reproduced in colour]

- T1/G1/W1 Trees
- H1 Hedgerow
- Root Protection Area (RPA)
- Application Boundary
- Phase 3A Boundary
- # Approximate location
(Feature not shown on supplied topographical survey)
- * Tree Preservation Order
- Ancient Woodland
(Polygon based on Natural England's Ancient Woodland Inventory Mapping)
- Ancient Woodland 15m Protective Buffer
(Measured from woodland canopy edge; based on Natural England's Standing Advice, larger buffers may apply for indirect effects)

Trees and hedgerow to be retained and protected

- Category A
(High quality)
- Category B
(Moderate quality)
- Category C
(Low quality)
- Category U
(May be retained for habitat value)
- Hedgerow
(Not categorised)

Proposed tree and hedgerow works

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

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



Rev	Description	Drawn	Approved	Date
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THE
ENVIRONMENT
PARTNERSHIP

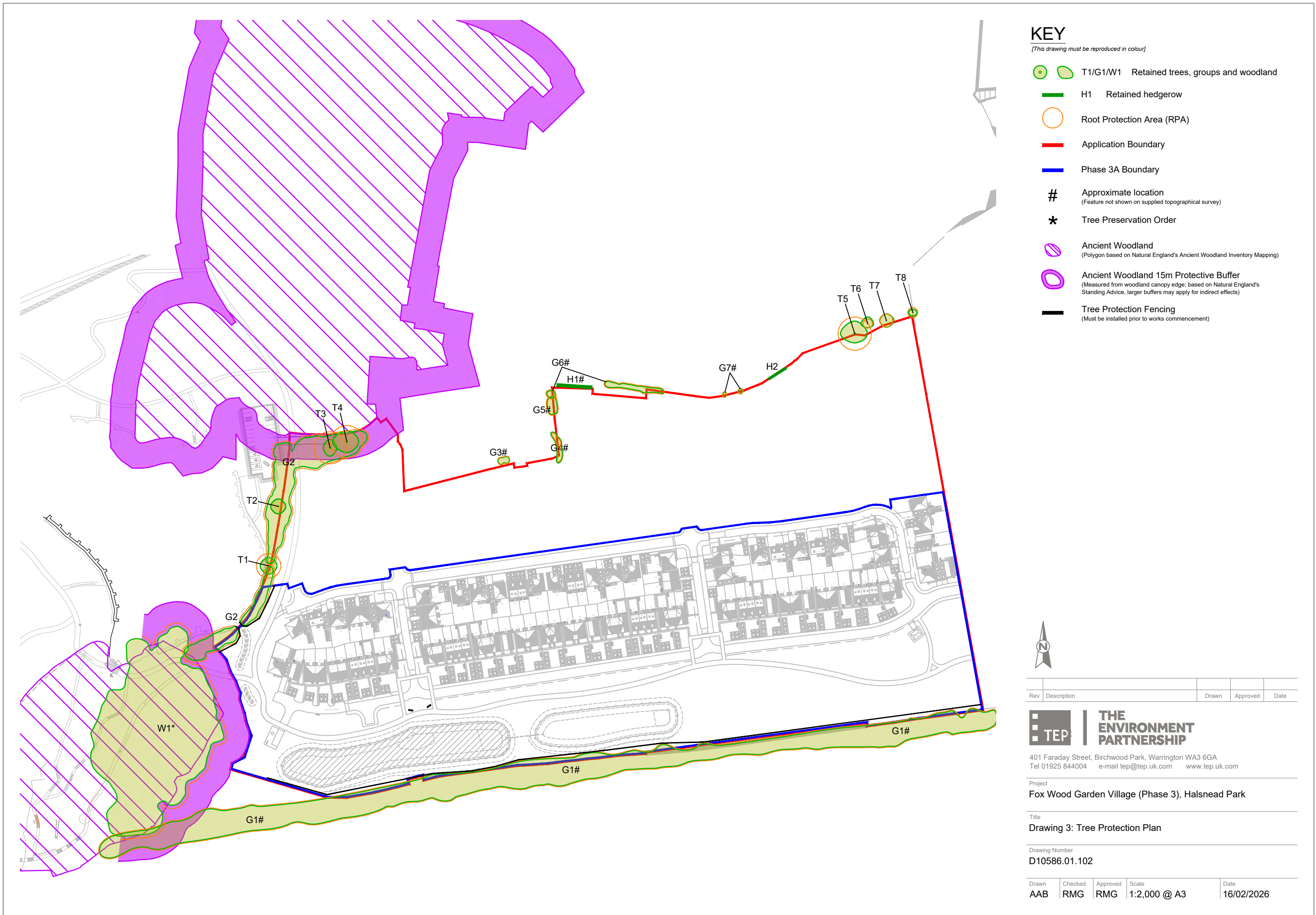
401 Faraday Street, Birchwood Park, Warrington WA3 6GA
Tel 01925 844004 e-mail tep@tep.uk.com www.tep.uk.com

Project
Fox Wood Garden Village (Phase 3), Halsnead Park

Title
Drawing 2: Tree Works Plan [EFFECTS]

Drawing Number
D10586.01.101

Drawn	Checked	Approved	Scale	Date
HEE	AAB	RMG	1:2,000 @ A3	16/02/2026



Key

Site Boundary

Development Parcel*

Street

Lane

Mews

Shared Private Drive

Active Travel Link

Formal or Informal Pedestrian Links

Green Infrastructure, including POS, amenity space & BNG Attenuation Basin

Existing Trees Retained

Proposed Trees (Indicative)

Indicative Nodal Points Set Out As Per Design Guide

Indicative Foul Water Pumping Station Location

Indicative Electricity Substation Location



Appendix A: Arboricultural Survey Data



Surveyor Heather Eilbeck
 Survey Date 11.06.2024
 Site Halsnead Park, Whiston - Phase 3
 Drawing Ref D10586.01.100

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	7.0	2.0	610	1	5.0	5.0	5.0	5.0	2.0	SE	Middle Age	Fair	Tree next to path around pond. Trifurcate at 2m with further bifurcation in canopy. North side of stem heavily fire damaged with some occlusion but no hollowing evident. Crown lifted. Good crown form. Minor deadwood. Good foliage spread and density.		B ,1, 2	Long
T2	Hybrid black poplar	22.0	1.0	600	1	4.5	4.5	4.5	4.5	1.0	E	Mature	Good	Large tree adjacent to hardstanding track to west. Minor deadwood. No major defects noted. Base heavily overgrown restricting access and inspection.		B ,1, 2	Long
T3	Pedunculate oak	12.0	1.0	800	1	5.0	5.0	4.0	4.0	1.5	W	Mature	Fair	Bat and wildlife potential. Dieback in upper canopy with some retrenchment growth. Reduced vigour. Failed limbs with cavities and hollowing of some branches. Deadwood up to 90mm. Multi-stemmed at 4.5m. Hollowing of southern stem. Hardstanding track situated to the west. Heavily ivy clad and densely overgrown restricting access and inspection.		B ,3	Medium
T4	Pedunculate oak	15.0	0.5	810	1	6.5	6.5	7.0	8.5	0.5	E	Mature	Good	Heavily ivy clad and base overgrown restricting inspection. Good form. Track situated to north of the stem. Minor deadwood. Low canopy. Good vigour.		A ,1, 2	Long
T5	Pedunculate oak	11.0	0.3	826	3	7.5	5.5	7.5	8.5	1.0	S	Mature	Good	Large, trifurcate oak tree on boundary. Further bifurcation in canopy above trifurcation union. Good and attractive canopy form that is relatively wide spreading. Hardstanding to north. Former tractor track to south. Historic pruning stubs on lower stem.		A ,1, 2	Long
T6	Goat willow	7.0	0.0	232	3	4.0	2.5	3.5	4.0	0.0	N	Middle Age	Good	Basally multi-stemmed willow with reasonably wide spreading canopy.		B ,1	Long
T7	Pedunculate oak	6.0	1.0	320	3	4.0	4.0	4.5	4.0	1.5	W	Middle Age	Good	Tree next to boundary of site. Reasonably rounded canopy. Slight lean to north-east.		B ,1	Long
T8	Pedunculate oak	4.0	1.0	249	3	2.0	2.5	2.5	2.5	1.0	N	Middle Age	Good	Trifurcate tree at corner of site. Squat form.		C ,1	Long
Groups																	
G1	Sycamore, Silver birch, Common hazel, Common hawthorn, Common ash, Aspen, Blackthorn, Pedunculate oak, Goat willow, Elder, Rowan	2 to 8	0.0	50 to 250	500							Middle Age	Good	Roadside screening group on northern embankment of M62. Overgrown with bramble. Densely populated. Embankment gets gradually steeper to east. Screening value. Occasional dead or dying ash.		B ,2	Long
G2	Sycamore, Silver birch, Common hawthorn, Common ash, English holly, Hybrid black poplar, Pedunculate oak, Goat willow	4 to 13	0.0	75 to 400	250							Middle Age	Mixed	Overgrown group on boundary. Some larger trees within group. Track to west. Bramble and small self-set tree understorey. Some multi-stems in group. Occasional dead or moribund trees but mostly in good or fair condition.		B ,1, 2	Long
G3	Cherry laurel	3 to 4	0.0	120 to 150	2							Middle Age	Good	Shrubs in adjacent garden.		C ,2	Long
G4	Dog rose, Elder	2 to 3.5	120.0	50 to 75	5							Middle Age	Fair	Boundary group, collapsing stems, adjacent to shrubs. Heavily overgrown.		C ,3	Medium
G5	Lawson cypress, Elder	3 to 6	0.0	100 to 200	15							Middle Age	Good	Short stretch of predominantly cypress on boundary.		B ,2	Long
G6	Boxwood species, Lawson cypress, Privet species, Elder	2 to 4	0.0	50 to 180	40							Middle Age	Good	Various mixed shrubs and a small cypress tree. Group mostly situated offsite. Privet on boundary maintained.		C ,2	Long
G7	Spruce species	2 to 2	0.0	90 to 110	2							Middle Age	Fair	2 offsite trees that have been topped with some regrowth.		C ,3	Short
Woodlands																	
W1	Sycamore, Common hawthorn, English holly, Pedunculate oak, Rhododendron species, Goat willow, Elder, Small-leaved lime	5 to 18		75 to 700	2000							Mixed Age	Fair	Woodland compartment at south-western corner of site. Some shallow rooted trees with root exposure. Formerly ploughed to within 1m of stems at woodland edge. Some larger trees situated at woodland edge. Lower stem wounds to trees close to field edge on east side. Some failed trees and branches in woodland as expected in type of habitat. Understorey of rhododendron, holly and hawthorn. Some large multi-stems with tight unions. Bluebells within understorey. Varying topography within woodland. M62 situated to south of woodland. Significant landscape, arboricultural and habitat feature.		A ,1, 2, 3	Long



Surveyor Heather Eilbeck
Survey Date 11.06.2024
Site Halsnead Park, Whiston - Phase 3
Drawing Ref D10586.01.100

APPENDIX A: Arboricultural Survey Data Sheets

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

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
Hedges																	
H1	Lawson cypress, Privet species, Common lilac	2 to 2		40 to 90	n/a							Middle Age	Fair	Maintained boundary hedge. Some brown patches in cypress.		n/a	Long
H2	Common hawthorn	2 to 2		40 to 75	n/a							Middle Age	Fair	Short stretch of boundary hedge that is overgrown with sticky bud and bind weed.		n/a	Long

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:

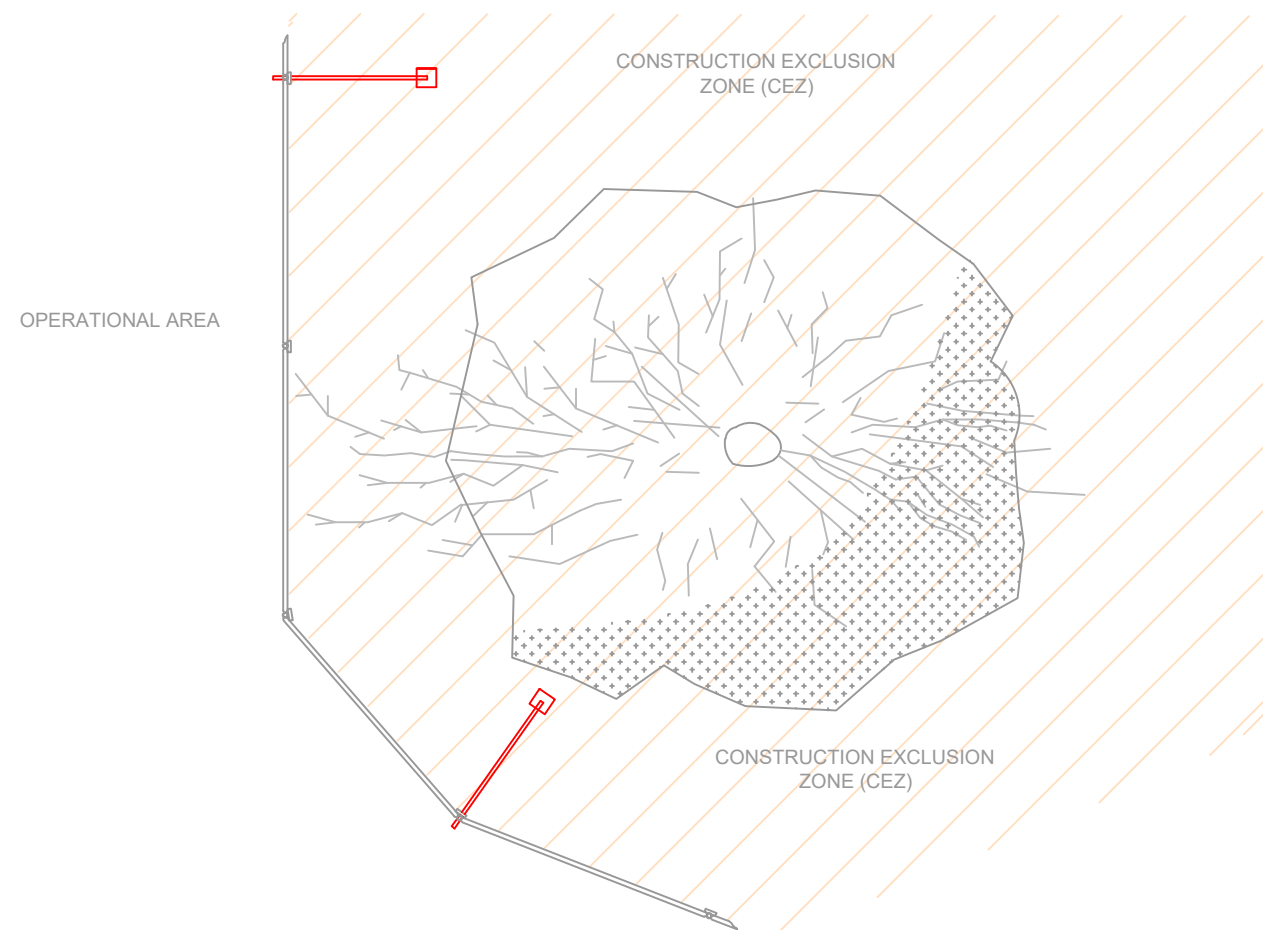
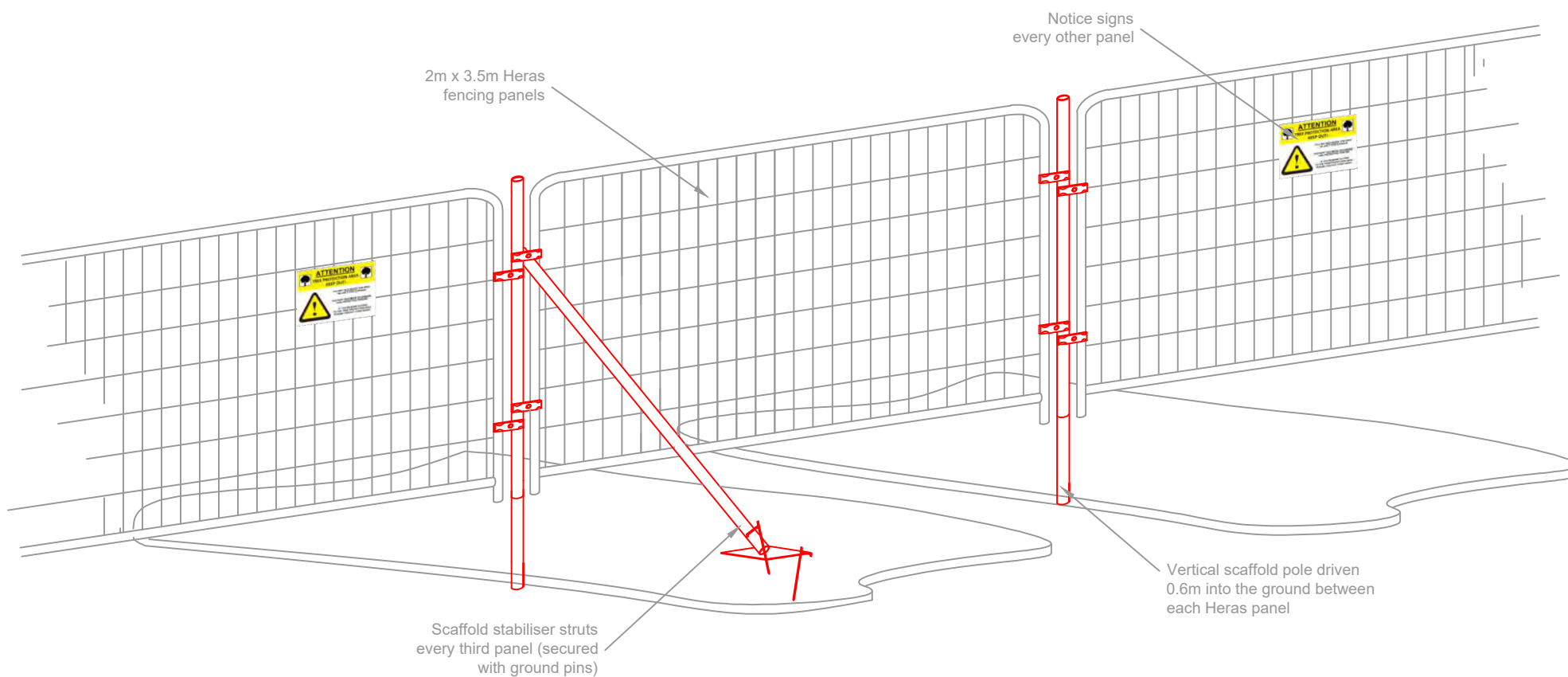
Data is captured during the survey to inform the design of Root Protection Areas (RPA). These are a design tool, representing the area around a tree in which restrictions to some activities may be required to avoid significant harm, particularly to roots and soil. The RPA is a function of *Stem Diameter*, 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.

Appendix C: Specifications



Per 3No. Heras panels (10.5m)	
Component	Quantity
2m x 3.5m Standard Heras panels	3
3m Galvanised steel scaffold pole	3
Heras security 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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THE ENVIRONMENT PARTNERSHIP

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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



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