

ARBORICULTURAL IMPACT ASSESSMENT & PRELIMINARY METHOD STATEMENT

Land at Hanlye Lane, Cuckfield

Prepared For:	Sigma Homes Limited
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EXECUTIVE SUMMARY

- S1. This Arboricultural Impact Assessment (AIA) and Preliminary Method Statement (PMS) has been instructed by Sigma Homes Limited; the owner of the subject property: Land at Hanlye Lane to the east of Ardingly Road, Cuckfield, Haywards Heath, RH17 5HH.
- S2. This report is intended to be submitted to Mid Sussex District Council as part of the supporting technical information for a planning application and has been prepared in accordance with British Standard BS5837:2012 'Trees in relation to design, demolition and construction – Recommendations'.
- S3. One individual category 'U' pine tree and three groups of trees, including the category 'B' group of Scots pine (G45), will be removed in their entirety as part of the proposed re-development. Small sections of two further groups of trees will also be removed, to enhance and enable protection of the wider groups of these trees.
- S4. The principal arboricultural features of the site, set out at **Table 3**, will be retained and protected effectively throughout the proposed re-development. The removal of the trees identified as such, with the exception of group G45, will have negligible impact on the current arboricultural landscape. The impacts caused by the removal of G45 will be progressively mitigated by the provision of a significant green corridor which presents significant opportunities for holistic arboricultural enhancements. The details of such landscaping matters can be secured by the local authority through suitably worded and enforceable planning conditions.
- S5. The proposed pruning is either minor in extent and will not have a significant adverse impact on the physiology, morphology or stability of the trees shown at **Table 5**, or is necessary for the purposes of risk management given the subsequent increase in exposure to the public as a result of the additional dwellings. The crown lifting will go largely unnoticed from the surrounding publicly accessible locations and will be screened by either the remainder of the trees' canopies, or the canopies of the surrounding specimens. All work will be undertaken in accordance with the recommendations set out in British Standard BS 3998:2010 'Tree work – Recommendations'.
- S6. Assessment of the current physiological condition of the subject trees, their relative tolerance of root pruning and disturbance, existing and proposed finished levels and engineering solutions, and the protective measures prescribed above, suggests that there will be no lasting

or irreversible damage to the trees to be retained, subject to full compliance with the TPP at **Appendix 2**.

- S7. In light of the assessments set out above, there are no arboricultural reasons to suggest that the construction of Plots 50 and 51 and their associated private gardens will necessarily result in an unsustainable relationship with the retained tree stock, despite their proximity.
- S8. Based on the above, I conclude that the overall arboricultural impact of the scheme is of low magnitude, as defined at **Table 1** of this report.
- S9. A preliminary arboricultural method statement (PAMS) is included, which expands on the methodologies recommended within the arboricultural impact assessment where necessary. It is possible that as detailed designs emerge, some alterations to this method will be required.

1 INTRODUCTION

1.1 INSTRUCTION

1.1.1 This Arboricultural Impact Assessment (AIA) and Preliminary Method Statement (PMS) has been instructed by Sigma Homes Limited; the owner of the subject property: Land at Hanlye Lane to the east of Ardingly Road, Cuckfield, Haywards Heath, RH17 5HH.

1.2 TERMS OF REFERENCE (TOR)

1.2.1 This report is intended to be submitted to Mid Sussex District Council as part of the supporting technical information for a planning application and has been prepared in accordance with British Standard BS5837:2012 *'Trees in relation to design, demolition and construction – Recommendations'*.

1.2.2 The contents of this report are based on the arboricultural and design information available at the time writing. Detailed design elements such as foundation designs, underground service routes, hard and soft landscaping and other such information is included where known. If it is not available at present, subsequent submissions with additional or revised arboricultural assessments can be requested through the use of appropriate planning conditions.

1.2.3 The agreed scope of work is outlined below:

1. To undertake a site visit and tree inspection of the trees within influencing distance of the proposals, in accordance with BS5837:2012;
2. To produce a package of documents to enable the design team to produce a site layout that respects the above and below ground constraints associated with the existing tree stock; and
3. To produce this arboricultural impact assessment; identifying the impact of the proposals and what working methodologies or protection measures should be adhered to, to ensure successful integration of the proposals into the existing landscape.

1.2.4 This report should be read in conjunction with the documents and plans listed below for context:

- The tree survey schedule (ref. MDJAC-23.008-TSS-01); and
- The tree protection plan (ref. MDJAC-23.008-TPP-01B).

1.3 AUTHOR

1.3.1 I am Matthew Jones BSc (Hons), MArborA, the Director and Principal Arboriculturist of MDJ Arboricultural Consultancy Limited.

1.3.2 I hold a Bachelor of Science Degree with Honours in Arboriculture and Urban Forestry, awarded by The University of Central Lancashire (UCLan) in 2022. This is a top up degree following successful completion of a Foundation Degree in Arboriculture, also awarded by UCLan in 2020. I have

also completed the National Diploma (RQF Level 3) in Arboriculture and Forestry at Merrist Wood College, Guildford in 2009.

1.3.3 During the course of my career I have attended various CPD events and courses. I hold the Professional Tree Inspection accreditation awarded by LANTRA and I am a registered user of The International Society of Arboriculture (ISA) Tree Risk Assessment Qualification (TRAQ) methodology.

1.3.4 I am a Professional Member of the Arboricultural Association (The AA) and an Associate Member of The Institute of Chartered Foresters (The ICF). I am therefore bound by the code of ethics and required to uphold the professional standards expected of both professional bodies.

1.3.5 I am regularly instructed to carry out appraisals of various sizes of tree stocks in relation to development, health and safety considerations, and the potential impact of trees on the built environment; and I am required to provide considered tree management recommendations as necessary during the course of these instructions.

2 PLANNING CONTEXT AND LEGISLATION

2.1.1 The NPPF sets out the principles against which LPAs should determine planning applications.

2.1.2 Section 12 'Achieving well-designed places' states:

'131. Trees make an important contribution to the character and quality of urban environments and can also help mitigate and adapt to climate change. Planning policies and decisions should ensure that new streets are tree-lined, that opportunities are taken to incorporate trees elsewhere in developments (such as parks and community orchards), that appropriate measures are in place to secure the long-term maintenance of newly planted trees, and that existing trees are retained wherever possible. Applicants and local planning authorities should work with highways officers and tree officers to ensure that the right trees are planted in the right places, and solutions are found that are compatible with highways standards and the needs of different users.'

2.1.3 Section 15 'conserving and enhancing the natural environment' also states at paragraph 174:

'174. Planning policies and decisions should contribute to and enhance the natural and local environment by:

174(b). recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland.'

2.1.4 Furthermore, Paragraph 180 states:

'180. When determining planning applications, local planning authorities should apply the following principles:

180(c). Development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused unless there are wholly exceptional reasons and a suitable compensation strategy exists.'

2.2 MID SUSSEX DISTRICT PLAN 2014-2031

2.2.1 Policy DP37 'Trees, Woodland and Hedgerows' of this document states:

'The District Council will support the protection and enhancement of trees, woodland and hedgerows, and encourage new planting. In particular, ancient woodland and aged or veteran trees will be protected.

Development that will damage or lead to the loss of trees, woodland or hedgerows that contribute, either individually or as part of a group, to the visual amenity value or character of an area, and/or that have landscape, historic or wildlife importance, will not normally be permitted.

Proposals for new trees, woodland and hedgerows should be of suitable species, usually native, and where required for visual, noise or light screening purposes, trees, woodland and hedgerows should be of a size and species that will achieve this purpose. Trees, woodland and hedgerows will be protected and enhanced by ensuring development:

- *incorporates existing important trees, woodland and hedgerows into the design of new development and its landscape scheme; and*
- *prevents damage to root systems and takes account of expected future growth; and*
- *where possible, incorporates retained trees, woodland and hedgerows within public open space rather than private space to safeguard their long-term management; and*
- *has appropriate protection measures throughout the development process; and*
- *takes opportunities to plant new trees, woodland and hedgerows within the new development to enhance on-site green infrastructure and increase resilience to the effects of climate change; and*
- *does not sever ecological corridors created by these assets. Proposals for works to trees will be considered taking into account:*
 - *the condition and health of the trees; and*
 - *the contribution of the trees to the character and visual amenity of the local area; and*
 - *the amenity and nature conservation value of the trees; and*
 - *the extent and impact of the works; and*
 - *any replanting proposals.*

The felling of protected trees will only be permitted if there is no appropriate alternative. Where a protected tree or group of trees is felled, a replacement tree or group of trees, on a minimum of a 1:1 basis and of an appropriate size and type, will normally be required. The replanting should take place as close to the felled tree or trees as possible having regard to the proximity of adjacent properties.

Development should be positioned as far as possible from ancient woodland with a minimum buffer of 15 metres maintained between ancient woodland and the development boundary.'

2.3 TREE PRESERVATION ORDERS (TPOs)

2.3.1 I have consulted the Mid Sussex District Council website's online mapping service for the existence of Tree Preservation Orders (TPOs). This search revealed the presence of a TPO (ref. CU/03/TO/95), as noted on the website, which protects several trees across the site.

2.3.2 I have not been provided with the official Order in question. However, the trees I believe are affected by this order are detailed in column 2 of the tree survey schedule at **Appendix 1** and in magenta text on the Tree Protection Plan at **Appendix 2**.

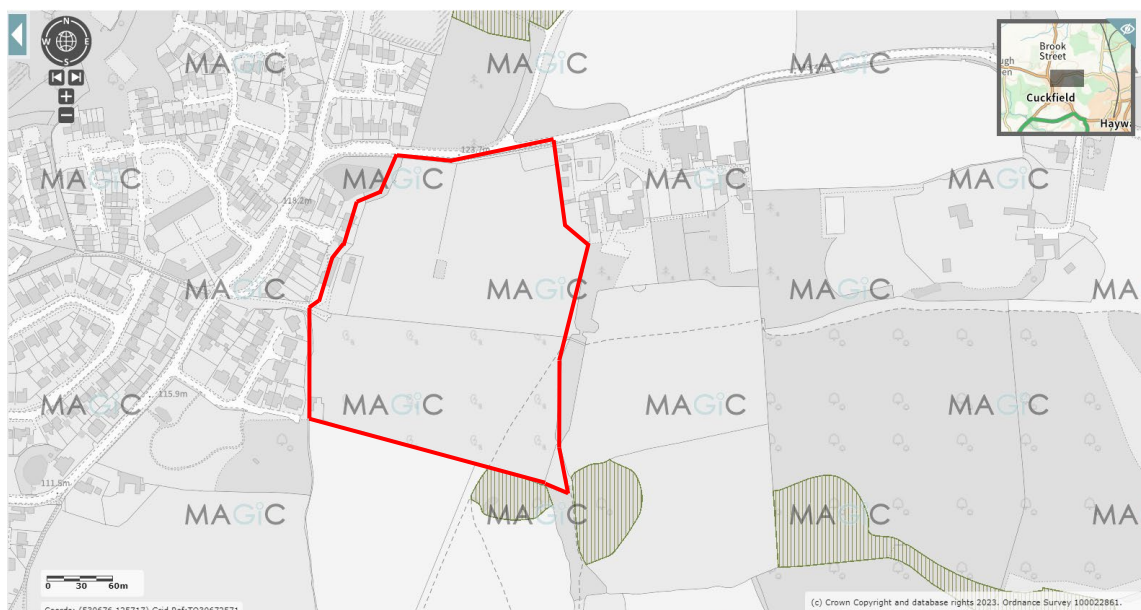
2.4 CONSERVATION AREAS (CAs)

2.4.1 The site is not within a conservation area, and therefore there are no arboricultural constraints in this regard.

2.5 ANCIENT WOODLAND

2.5.1 The off-site woodland (W51) to the south-east of the site, is classified as 'Ancient' (Department of Environment, Food and Rural Affairs (DEFRA), 2023). The latest Standing Advice produced by Natural England and Forestry Commission (14 January 2022) defines ancient woodland, that being 'any area that has been wooded continuously since at least 1600 AD', as 'an irreplaceable habitat' due to its importance to wildlife and soils, and its recreational, cultural, historical and landscape values.

Figure 1: excerpt from the Magic Map application, showing the existence of ancient woodland to the south-east of the site.



2.5.2 The Standing Advice also recommends that a minimum buffer zone of 15m from the boundary of the designated area should be incorporated into the design for any forthcoming development. Similarly, policy DP37 of the Mid Sussex District Plan 2014-2031, also requires a minimum 15m ancient woodland buffer zone.

2.6 WILDLIFE LEGISLATION

2.6.1 The Wildlife and Countryside Act 1981 and the Conservation of Habitats and Species Regulations 2017 provides statutory protection of birds, bats and other species that inhabit trees. Section 41 of the Natural Environment and Rural Communities Act 2006 also places a duty on Local Planning Authorities to consider biodiversity when carrying out their duties.

2.6.2 Avoiding disturbance to those species can be ensured by considering the timing of tree works in order to prevent an offence under the above legislation. Where the presence of such species is suspected, the project ecologist or Natural England should be contacted for clarification and advice.

2.7 FELLING LICENCES

2.7.1 Tree felling is a restricted activity under the Forestry Act 1967. However, an exemption exists from the need for a felling licence for '*Felling trees immediately required for the purpose of carrying out development authorised by planning permission (granted under the Town and Country Planning Act 1990)*'.

2.7.2 Subject to approval of the planning application to which this report pertains, a felling licence to remove the trees identified for removal within this report, and shown on the appended TPP, will not be required.

3 IMPACT ASSESSMENT METHODOLOGY

3.1.1 In order to systematically assess the overall impact of the scheme, I have devised a series of categories which seek to provide a summary of the likely, post-planning site conditions on the presumption that planning consent is gained, and the proposed scheme as detailed within this report is built out.

3.1.2 Our conclusions relating to the overall arboricultural impact of the scheme are summarised at **Table 1** below.

Table 1: MDJAC magnitudes of impact summary.

Impact category	Description
High	Total or extensive alteration to the existing arboricultural character of the site, or the principal arboricultural features on or adjacent to it. The post-planning situation is significantly and adversely different.
Medium	Partial alteration to the existing arboricultural character of the site, or the principal arboricultural features on or adjacent to it. The post-planning situation is partially different.
Low	Minor alteration to the existing arboricultural character of the site, or the principal arboricultural features on or adjacent to it. The post-planning changes will be distinguishable, but comparable to the existing context.
Negligible	No or very minor alteration to the existing arboricultural character of the site, or the principal arboricultural features on or adjacent to it. The post-planning situation is not readily distinguishable from the existing context with no material adverse impact.

4 SITE ASSESSMENT

4.1 SITE VISIT AND TREE INSPECTION

4.1.1 I undertook a site inspection and tree survey on Monday 30 January 2023, and Saturday 4 February 2023. Weather conditions at these times ranged from clear, dry, and bright to overcast but dry, and deciduous trees were not in leaf.

4.1.2 The dimensions and assessments of the trees contained within this document reflect their condition at the time of the survey. I surveyed the trees from within the boundaries of the site only. The presence of additional physiological or structural defects that are only visible from restricted-access viewpoints cannot be discounted. All trees were surveyed from ground level only, aided by the use of binoculars where considered necessary. Other aids included an acoustic hammer and a steel probe, both of which were used where necessary to confirm the extent of any dysfunctional wood, cavities or other morphological defects. The information contained within this document does not constitute a full hazard or risk assessment, and therefore MDJ Arboricultural Consultancy Limited makes no guarantee of their stability of safety.

4.1.3 I collected the baseline data using a handheld tablet, which was then exported to Microsoft Excel to produce the tree survey schedule at **Appendix 1**. The locations of the trees have been plotted using measurements taken on site. This information was exported to produce a Tree Constraints Plan (TCP), onto which the proposed layout has been overlaid to produce the Tree Protection Plan (TPP) at **Appendix 2**.

4.2 DESCRIPTION OF SITE

4.2.1 The site is formed by two fields to the south of Hanlye Lane, with pedestrian access being provided via a Public Right of Way (PRoW) from Longacre Crescent to the west of the site, which has been allocated for residential development. The northern half of the site is generally flat, with a marginal increase in ground levels extending towards the northern boundary. However, by contrast,

the southern field slopes down significantly towards the southern boundary and wider rural landscape.

4.2.2 The central areas of the site are largely bare of significant trees, instead comprising dense clusters of naturally occurring understorey trees such as blackthorn, or bramble. Conversely, the boundaries of the site, including the central boundary between the two fields, are densely populated with trees. Of particular note are the prominent English oaks between the two fields, and those found on the southern boundary of the southern field; these are supplemented by other significant trees scattered along the boundaries, as shown on the accompanying tree constraints plan.

Photograph 1: (below left), looking eastwards along the northern boundary of the principal field boundary, showing English oak (T17) and a group of pines (G45).

Photograph 2: (below right), looking northwards towards Hanlye Lane from the northern side of the principal field boundary; pines T12 and T13 centre of view.



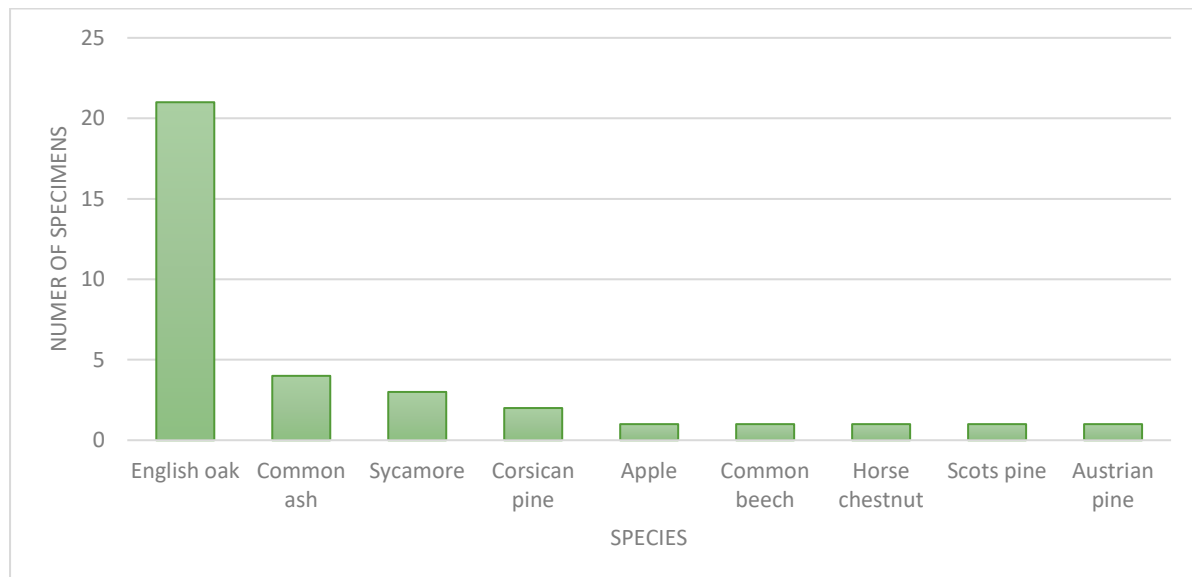
Photograph 3: (below left), looking northwards towards English oaks (T19 and T20) from the southern end of the southern field.

Photograph 4: (below right), looking westwards along the southern field boundary, with English oaks T22 and T23 (off-site), highlighting the significant drop in levels towards the southern boundary.



4.2.3 In terms of species composition, English oak represents the largest growing and most numerous species across the site, with 60% of individually surveyed trees being oak, as shown below.

Figure 2: species composition (individuals only).



4.3 EXISTING TREE STOCK

4.3.1 All trees have been categorised in accordance with the cascade chart at Table 1 of British Standard BS 5837:2012; justification for the categorisation is provided within the comments for each tree in the tree survey schedule at **Appendix 1**.

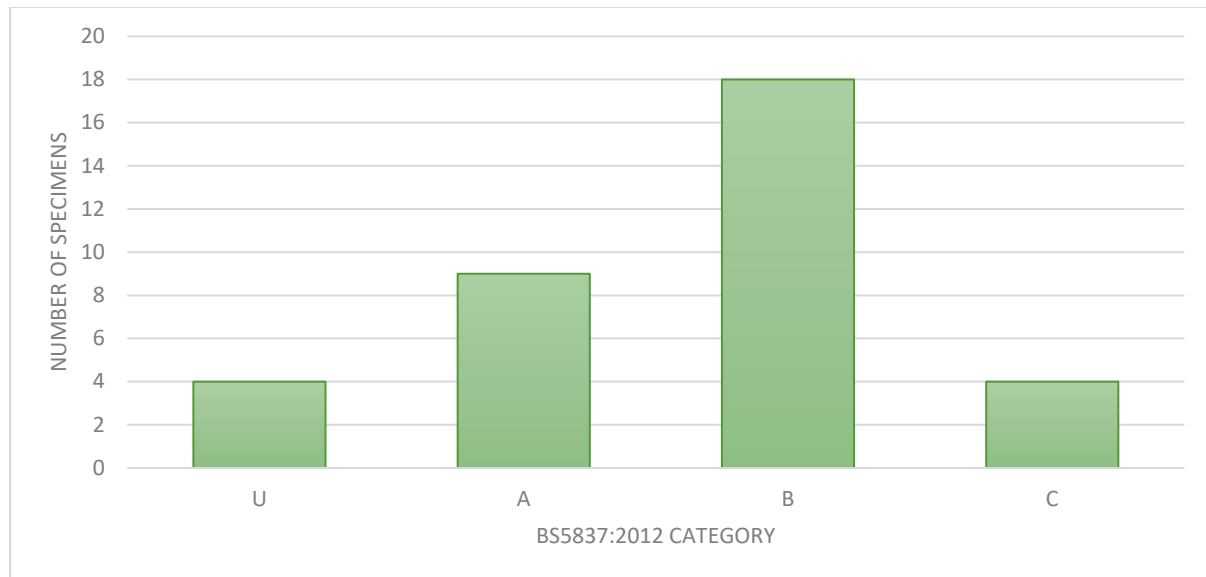
4.3.2 Four trees (T5, T12, T29 and T31) have been assessed at category 'U'. These are trees that are unsuitable for retention irrespective of the proposed re-development, as they are in such poor condition and therefore have a remaining life expectancy of less than 10 years.

4.3.3 Nine individual trees, one group (G39) and one area of woodland (W51) have been assessed as category 'A'. These are trees of high quality and an estimated life expectancy of more than 40 years and either particularly good examples of their species, rare or unusual specimens, essential components of groups, semi-formal or formal arboricultural features, or of particularly visual importance; or a combination of these.

4.3.4 Eighteen individual trees and two groups (G44 and G45) have been assessed as category 'B', being of moderate quality with a remaining life expectancy of at least 20 years. These include trees that have been downgraded from category 'A' due to impaired condition, including significant but remediable defects such that they are unlikely to be suitable for retention for more than 40 years; those that are present in numbers, groups or woodlands and so attract a higher collective value; and those with material or other cultural value; or a combination of these.

4.3.5 The remaining trees have been assessed as category 'C', being of either low value with a remaining life expectancy of between 10 and 20 years; young trees with trunk diameters below 150mm; those growing in groups of trees without conferring any significance to the collective landscape; or those providing low or temporary landscape benefits.

Table 2: BS5837:2012 categorisation summary.



4.4 PRINCIPAL ARBORICULTURAL FEATURES (PAFs)

4.4.1 The tree survey schedule at **Appendix 1** contains 35 individual trees, 15 groups of trees and one area of woodland. Of these, I consider the trees identified below to be the principal arboricultural features (PAFs):

Table 3: Principal Arboricultural Features (PAFs).

Tree no(s).	TPO no.	Species	Contribution to landscape	BS5837 category
T16-T20	T4, T6, T7, T8 and T9 CU/03/TPO/95	English oak and horse chestnut	Prominent landscape trees growing in proximity to and readily visible from the Public Right of Way. Essential components of the immediate landscape.	A and B
G39	n/a	Austrian and Corsican pine, beech and sycamore	Prominent belt of roadside trees adjacent to Hanlye Lane. Essential component of the wider landscape.	A
W51	n/a	Various	Off-site deciduous woodland. Readily visible across the site and from the Public Right of Way. Essential component of the wider landscape.	A

4.5 DESCRIPTION OF PROPOSALS

4.5.1 The proposals comprise a residential development of 55 dwellings with vehicular and pedestrian access; car parking; open space, play space; landscaping and all other associated works.

5 ARBORICULTURAL IMPACT ASSESSMENT

5.1 TREES TO BE REMOVED

Details

5.1.1 The proposed re-development will require the removal of one individual tree, three groups of trees, and the partial removal of a further two groups of trees, either because they are located within the footprint of the proposed buildings and areas of hard surfacing, or because the proximity of the proposals to the trees is likely to significantly damage them and increase the likelihood of premature failure or mortality. The proposed tree removals are shown at **Table 4** below.

Table 4: trees to be removed.

Tree no.	TPO no.	Species	Trunk diameter [mm]	Age class	Category
T12	T1 CU/03/TPO/95	Austrian pine	850	Mature	U
G38	n/a	Blackthorn, Goat willow	75 (est.)	Young	C (1)
G40	n/a	Various	75-300 (est.)	Semi-mature	C (1)
G41 (PARTIAL)	n/a	Various	75-180 (est.)	Semi-mature	C (1)
G43 (PARTIAL)	n/a	Various	75-150 (est.)	Semi-mature	C (1)
G45	G1 CU/03/TPO/95	Corsican pine	425-500 (est.)	Early-mature	B (2)

Discussion

5.1.2 All nine of the individual category 'A' trees, and the two category 'A' groups and woodlands (G39 and W51) are to be retained and protected.

5.1.3 All 18 of the category 'B' individual trees, and two of the three category 'B' groups of trees, will be retained and protected. The exception to this is the group of Scots pine (G45) which will be removed.

5.1.4 This group is located centrally within the northern section of the site and comprises five individual components. Generally, the trees have grown up collectively and are all of similar size, condition and amenity value; however, one specimen has suffered storm damage historically and as such, has a truncated appearance.

Photograph 5: showing G45 within the context of the wider landscape in views from the south-east corner of the northern section of the site.



5.1.5 The location of the group of trees, isolated from the majority of the boundary trees, and the nature of the surrounding open landscape is such that the trees are notable components of the landscape, both in terms of from internal views, from long-range views along the public right of way, and to a lesser extent, from Hanlye Lane to the north; however, views from the latter are partially obscured by the presence of other significant boundary trees along the northern boundary. For these reasons, the trees are afforded statutory protection by a TPO.

5.1.6 Consequently, the trees were identified as constraints to development at an early stage, and the Design Team have tried to retain the trees throughout the evolution of the design. However, due to the competing objectives of the development, which includes the provision of a green corridor running from north to south, from Hanlye Lane to the area identified for public open space and the need for suitable vehicle tracking across the internal road layout for refuse vehicles and alike, retention has not been possible in this instance.

5.1.7 The impact of removal of this group of trees from a public amenity viewpoint will be noticeable, particularly from the public right of way. However, significant mitigation for the loss of the trees is provided via the proposed green corridor, which provides significant opportunity for

replacement tree planting of a varied nature. This opportunity includes the planting of trees of reasonable planting size for immediate visual impact, and species diversification, leading ultimately to a net increase in the number of trees present across the site once the development and associated landscaping phase have been implemented. Consequently, whilst the removal of the trees is regrettable, implementation of a suitable robust landscaping scheme would ensure that adverse impacts are satisfactorily mitigated for wider public benefit.

5.1.8 The category 'C' trees to be removed are either of low value, have a limited life expectancy remaining, are young trees with trunk diameters below 150mm, grow in groups without conferring any significance to the local landscape, or provide only low or temporary landscape benefits. Consequently, their removal will not have a significant adverse impact on the quality or value of the surrounding arboricultural landscape and complies with local planning policies.

Photograph 6: showing significant dieback within the canopy of T12.



5.1.9 The category 'U' pine (T12), which is in such a condition that it cannot realistically be retained for longer than 10 years, irrespective of the proposed development, will also be removed as part of the proposals.

Conclusions

5.1.10 One individual category 'U' pine tree and three groups of trees, including the category 'B' group of Scots pine (G45), will be removed in their entirety as part of the proposed re-development. Small sections of two further groups of trees will also be removed, to enhance and enable protection of the wider groups of these trees.

5.1.11 The principal arboricultural features of the site, set out at **Table 3**, will be retained and protected effectively throughout the proposed re-development. The removal of the trees identified as such, with the exception of group G45, will have negligible impact on the current arboricultural landscape. The impacts caused by the removal of G45 will be progressively mitigated by the provision of a significant green corridor which presents significant opportunities for holistic arboricultural enhancements. The details of such landscaping matters can be secured by the local authority through suitably worded and enforceable planning conditions.

5.2 TREES TO BE PRUNED

Details

5.2.1 One individual tree and selective individual boundary specimens of one off-site area of woodland, will require pruning as part of the proposed re-development of the site, as shown below.

Table 5: proposed tree pruning.

Tree no.	TPO no.	Species	Pruning specification	BS5837 Category
T29	T9 CU/03/TPO/95	English oak	Reduce to form a c. 8m monolith for habitat retention and risk mitigation.	U
W51	n/a	Various	Crown lift boundary specimens overhanging proposed road to achieve a minimum clearance of 5m.	A2

Discussion

5.2.2 One of the large oak trees (T29) on the boundary that separates the two sections of the site has become heavily colonised with the decay fungi *Pseudomonas dryadeus* (Eiffel Tower Bracket). Due to the proposed re-development of the site, it will be prudent to carry out risk-mitigation pruning to this specimen. However, in recognition of the existing rural character, the proposed pruning seeks to strike a balance between risk management and habitat retention and thus, the tree will be retained as a monolith of c. 8m height, so that the trunk can continue to provide habitat value for the wider public benefit.

Photograph 7: (below left), showing the existing context and appearance of T29; and

*Photograph 8: (below right), showing fungal colonisation and extensive basal decay caused by *P. dryadeus*.*



5.2.3 Suitable vehicle clearances will also be required beneath the canopies of the individual trees growing at the western end of the off-site woodland (W51). To this end, the following principles will be applied when carrying out the proposed crown lifting operations:

- Lateral branches will be cut back to branch origin in the cases of small branches; and
- Where pendulous growth descends from otherwise horizontal or ascending branches, only the sub-dominant growth will be removed, in accordance with British Standard BS3998:2010.

5.2.4 The above specification will not result in a significant adverse impact on the individual trees in terms of either their physiological efficiency, or their structural conditions.

Conclusions

5.2.5 The proposed pruning is either minor in extent and will not have a significant adverse impact on the physiology, morphology or stability of the trees shown at **Table 5**, or is necessary for the purposes of risk management given the subsequent increase in exposure to the public as a result of the additional dwellings. All work will be undertaken in accordance with the recommendations set out in British Standard BS 3998:2010 '*Tree work – Recommendations*'.

5.2.6 The crown lifting will go largely unnoticed from the surrounding publicly accessible locations and will be screened by either the remainder of the trees' canopies, or the canopies of the surrounding specimens.

5.3 ROOT PROTECTION AREA (RPA) CONFLICTS

Details

5.3.1 The root protection areas of two individual trees, and the off-site woodland identified for retention will be impacted by the proposals, as detailed at below.

Table 6: RPA conflicts, cause and percentage of total RPA affected.

Tree no.	TPO no.	Species	Cause of incursion	% of total RPA
T16	T9 CU/03/TPO/95	English oak	Proposed hard and informal surfacing	10.4%
T17	T8 CU/03/TPO/95	English oak	Proposed hard surfacing	10.3%
W51	n/a	Various	Proposed hard surfacing	Various

Discussion

5.3.2 Section 5.3 of BS5837:2012 recommends that the default position of structures should be outside of the defined RPAs, and further recommends that justification for demolition or construction work abutting or within the RPAs should be provided if the default position cannot be accommodated. The successful retention and protection of retained trees is dependent upon several factors. I have

therefore developed a systematic scoring system to aid in the calculation of cumulative impacts within the RPAs of retained trees, based on the following factors:

1. **Distance.** The distance of construction activities from the trunk of the tree;
2. **Biological characteristics.** Consideration of the subject tree's age class, physiology, vigour, and genetic tolerance of disturbance (Matheny & Clark, 1998);
3. **Extent of impact.** The extent of the RPA affected by construction activities, given as a percentage of the total area;
4. **Construction intensity.** Consideration of the likely depth and nature of any excavations; and
5. **Mitigation.** Consideration of existing root barriers and associated alterations to likely root morphology, and the availability or appropriateness of contiguous areas into which the construction impacts can be mitigated; or the application of improvements.

Table 7: Cumulative-factor impact assessment.

Tree no.	Species	Distance	Biological	Extent	Intensity	Mitigation	Total
T16	English oak	2	2	3	4	3	14
T17	English oak	3	3	3	4	3	16
W51	Various	2	3	2	4	2	13

Explanatory notes

- **Distance.** Work within the canopy merits 0-2 points; works within 2m of the canopy merits 3 points; works greater than 2m from the canopy merits 4 points.
- **Biological.** Veteran or late-mature trees, or trees in poor physiological condition merit 0-2 points; mature trees with good or fair physiological condition merit 3 points; other age classes with good or fair physiological condition merit 4 points.
- **Extent.** If more than 20% of the total RPA is affected, 0-2 points are awarded; if 10-20% of the total RPA is affected, 3 points are awarded; if less than 10% of the RPA is affected, 4 points are awarded.
- **Intensity.** Extensive excavation to depths beyond 1m from existing ground level or through the entire rooting profile merits 0-2 points; moderate excavation to 500mm, or approximately 50% of the rooting profile merits 3 points; minor excavation to less than 250mm or 'no-dig' solutions merit 4 points.
- **Mitigation.** If up to 50% of the RPA is unaffected and available for mitigatory works but no contiguous soft landscaping exists 0-2 points is awarded; if more than 50% of the RPA is available for improvement and contiguous soft landscaping exists 3 points are awarded; if 100% of the RPA is available for improvement and contiguous soft landscaping exists 4 points are awarded.
- **Total.** Trees cumulating less than 10 points are unlikely to be suitable for retention. Trees cumulating 11-20 points could be retained subject to appropriate protection measures.

5.3.3 The impacts identified at **Tables 6 and 7** above affect two individual trees and a number of off-site woodland boundary specimens, resulting in a maximum incursion of 10.4% of individual RPAs. However, these impacts can be successfully mitigated in the following ways.

Soil improvement works

5.3.4 It is possible for the quality of the rooting environments of the two English oaks (T16 and T17) to be improved as part of the proposals. In these areas, there are no proposed hard surfaces and no landscaping proposals. Enhancements can be achieved by adding a layer of mulch to promote root growth within the RPAs of these specimens prior to the commencement of work. The application of mulch is widely acknowledged as having many benefits including the regulation of soil temperature during both warm and cold spells, reducing the extent of soil compaction by acting as a deterrent to pedestrians and by leeching essential macro-nutrients back into the soil. These areas are shown as **dark brown gravel hatching** on the TPP.

5.3.5 Moreover, the area lost to construction-related pressures can be offset into the area of existing soft landscaping surrounding the trees. These areas are contiguous to the RPAs of the affected trees, and so the application of mulch will help the trees source the nutrients, water and chemical energy required to develop new roots in these areas; resulting in no net loss of physiological efficiency.

No-dig hard surfacing

5.3.6 The incursions into the RPAs of the affected trees are by areas of proposed hard surfacing of both formal and informal nature. The largest incursions are those into the RPAs of the two English oaks (T16 and T17) caused by a section of informal link footpath and internal road respectively, and these areas extend to 10.4% of the RPAs. British Standard BS 5837:2012 recommends a maximum incursion of 20% for areas of permanent hard surfacing in areas of existing soft landscaping (The British Standards Institution, 2012) and therefore, the proposals comply with these recommendations.

5.3.7 The proposed levels of these elements are higher than the existing, making it feasible to construct these sections entirely above ground level by utilising a cellular confinement system such as the Cellweb® Tree Root Protection (TRP) (Geosynthetics Limited, n.d.). The locations where such a system is required are shown in **purple honeycomb hatching** on the TPP.

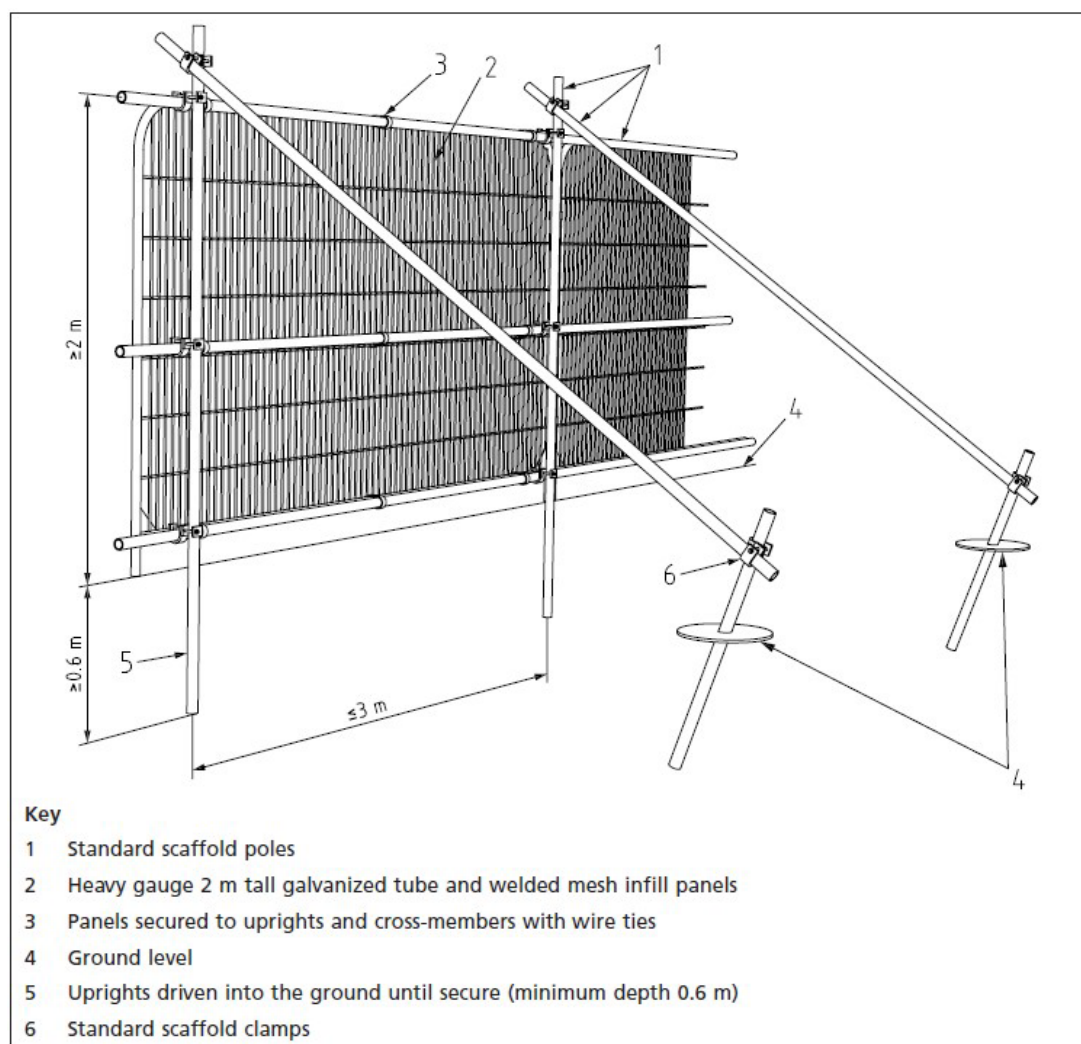
5.3.8 Implementation of these systems has a minimal effect on the rooting environment of the surrounding trees, requiring only the upper 50mm (or any existing ground vegetation) to be removed. A geotextile membrane is laid onto the existing soil, and a matrix of porous cells is laid over the required area and filled with angular stone; a final wearing course is then added above this for functionality and aesthetics as appropriate.

5.3.9 As there will be little or no excavation of the underlying soil, no significant damage to the rooting environment is likely to occur, and there will be little impact on the long-term health or stability of the trees affected.

Tree protection fencing

5.3.10 Prior to the commencement of works, including demolition, the rooting environments of trees identified for retention will be safeguarded by the erection of temporary tree protection fencing to the default specification provided in BS5837:2012 (The British Standards Institution, 2012) and set out below. These locations are denoted by **bold red lines** on the appended TPP.

Figure 3: default fencing specification for protective barrier (The British Standards Institution, 2012).



5.3.11 The default specification comprises a scaffold framework onto which 2m tall, welded mesh panels such as 'heras' panels will be secured to uprights and crossmembers with suitable anti-tamper couplers. The scaffold framework will be driven into the ground to a minimum depth of 600mm below existing ground levels, ensuring that care is taken to avoid damage to existing roots.

5.3.12 The anti-tamper couplers will be secured in place in such a way as to ensure that they cannot be easily removed from outside the construction exclusion zone; such as by them facing the trees they are designed to protect.

5.3.13 Existing vegetation will be removed by hand to enable the location of the TPF to be accurately set out by an appropriately qualified engineer.

5.3.14 The TPF will remain in place to serve as physical protection for retained trees for the duration of the demolition and construction activities and will only be removed immediately prior to the landscaping phase once all large plant and machinery have been removed from site.

5.3.15 Temporary signage will be secured to the fencing at appropriate intervals to inform site operatives of the purpose of the fencing. Signage will read **'TREE PROTECTION FENCING – KEEP OUT'** or similar, as shown below.

Figure 4: example protective fencing signage.



Construction Exclusion Zones (CEZs)

5.3.16 Construction exclusion zones will be formed by the erection of the tree protection fencing to the specification set out above. Within the CEZs, the following principles will be observed for the duration of the project:

- No plant or machinery will access the CEZ

- No mechanical excavation will take place
- Unplanned excavations will be limited to hand-digging and will be considered by the project arboriculturist before commencement
- Existing soil levels will not be altered in any way, unless for the removal of existing turf layers, which will be undertaken using hand tools only
- No machinery or materials of any kind will be stored
- No liquids or chemicals including fuels, oils, builders' sand or concrete mix will be stored
- No fires will be permitted.

Conclusions

5.3.17 Assessment of the current physiological condition of the subject trees, their relative tolerance of root pruning and disturbance, existing and proposed finished levels and engineering solutions, and the protective measures prescribed above, suggests that there will be no lasting or irreversible damage to the trees to be retained, subject to full compliance with the TPP at **Appendix 2**.

5.4 POST-OCCUPATION PRESSURE ON TREES

Details

5.4.1 Whilst the proposed buildings have been designed to take account of the trees to be retained, two dwellings (Plots 50 and 51) are located within the shadow patterns of a retained oak tree (T16). The shadow pattern is used to indicate the likely shade a tree will cause during the main part of the day by drawing an arc from north-west to east of the trunk, at a distance equivalent to the current height of the tree (The British Standards Institution, 2012).

5.4.2 The sizes and orientations of the proposed private rear gardens are such that none of them will be overhung by retained tree canopies to such an extent that they will become problematic or lead to an increased likelihood of applications being made for their heavy or otherwise unacceptable pruning.

Discussion

5.4.3 Whilst the dwellings of Plots 50 and 51 are within the shadow pattern of T16, they have been designed to ensure that the main habitable rooms of both properties avoid looking directly at the trunk of the tree. In this way, any apprehension caused by the presence of the tree will be mitigated by allowing unimpeded views of the understorey behind the tree.

5.4.4 In addition, the southern flanks of these properties include windows that have been designed to be as large as possible, and incorporate dual fenestration, to maximise the amount of natural light ingress into the affected rooms. This will be further aided during the winter months when the oak tree will be dormant and an increase in the level of dappled light through the branch framework is likely to result.

5.4.5 Moreover, the integration of a valuable tree such as T16 into the layout may be seen as a positive by incoming residents, particularly given the general increase in knowledge about the benefits of urban trees, and therefore, its presence in close proximity to the dwelling may be considered as a positive.

Conclusions

5.4.6 In light of the assessments set out above, there are no arboricultural reasons to suggest that the construction of Plots 50 and 51 and their associated private gardens will necessarily result in an unsustainable relationship with the retained tree stock, despite their proximity.

6 PRELIMINARY ARBORICULTURAL METHOD STATEMENT (PAMS)

6.1 KEY PERSONNEL

6.1.1 This PAMS sets out the specific requirements and protection measures necessary to ensure that the retained tree stock is adequately protected as part of the consented development and provides the arboricultural framework for all tree-related matters throughout construction. A list of the key personnel involved in the erection, maintenance and overall effectiveness of the tree protection strategy is set out below.

Table 8: key personnel.

Name(s)	Role	Company	Contact details
Adam Light	Technical Manager and Client	Sigma Homes Limited	adaml@sigmahomesgroup.co.uk
TBC	Principal Contractor	TBC	TBC
TBC	Structural Engineer	TBC	TBC
TBC	Groundwork Contractor	TBC	TBC
TBC	Underground Services Engineer	TBC	TBC
Irene Fletcher	Local Authority Tree Officer	Mid Sussex District Council	TBC
Matt Jones	Project Arboriculturist	MDJ Arboricultural Consultancy Limited	matt@mdjac.co.uk

Responsibilities

6.1.2 The incoming Site Manager and Principal Contractor will familiarise themselves with the content of this report. Prior to commencement, including demolition, the project arboriculturist will oversee the initial erection of the protection measures in compliance with this document. If necessary, a pre-commencement meeting will be held on site to discuss, refine and finalise the tree protection measures; any deviation from this document will require an updated document to be produced to reflect any amendments, and the updated document will be forwarded to the local planning authority

for approval prior to any amendments taking place on site. Once the protection measures have been installed, and if necessary, the arboriculturist will attend a subsequent pre-commencement meeting with all personnel with control and influence over works in proximity to the retained trees.

6.1.3 Following implementation of the protection measures, the Site Manager will assume the day-to-day responsibility of overseeing tree protection matters on site. To aid this process, a full colour copy of this report and the appended documents will be retained by the Site Manager. A full colour and scaled print out of the appended TPP will be retained on display within the site office, so that it can be referred to easily by all personnel on site.

6.1.4 The project arboriculturist will be retained and called upon to answer any technical queries. Where possible, these will be discussed over the phone or by email; however, if queries are technical in nature it may be more prudent for the arboriculturist to make an additional site visit to discuss the matters in person.

Awareness of arboricultural matters

6.1.5 As part of the Site Manager's responsibilities, they will ensure that all personnel are briefed on the importance of robust tree protection; this will form part of the initial site induction process to be undertaken by all staff and operatives.

6.1.6 Additional signage will be attached to the temporary tree protection fencing (see below section for details) to ensure operatives remain mindful of their responsibilities with regard to tree protection throughout their daily duties.

6.2 GENERAL PHASING OF TREE PROTECTION STRATEGY

6.2.1 To prevent unacceptable damage occurring to trees identified for retention, the phasing of works in relation to tree protection will be undertaken in the sequence set out below.

Table 9: phasing of tree protection strategy.

Item no.	Description	Arb supervision timing/frequency
1	Tree removal and pruning, as specified at Section 5.1 and 5.2 of this report	None
2	Soil improvement works, as discussed at Section 5.3 of this report	Sign-off
3	Initial site tree protection set up. Accurate setting out of temporary tree protection fencing, in accordance with the appended tree protection plan	Sign-off
4	Pre-commencement meeting. To be attended by Principal Contractor, LPA Tree Officer and Arboricultural Consultant	Yes
5	Construction of no-dig internal access roads	Yes
6	Main construction phase with ongoing arboricultural monitoring	Yes – intervals TBC
7	Construction of no-dig informal footpaths during landscaping phase	Yes
8	Removal of plant and remainder of landscaping phase	No
9	Break out and removal of tree protection elements	No
10	Post-completion tree assessment with remedial actions where necessary.	Yes

6.3 ARBORICULTURAL SUPERVISION AND MONITORING OVERVIEW

6.3.1 The project arboriculturist will liaise with the Site Manager and provide technical input at crucial stages of the construction process as necessary, as detailed at **Table 9** above. A schedule of appropriate arboricultural monitoring and supervision will be discussed at the pre-commencement meeting and details will be circulated to all parties with influence over work within the RPAs of retained trees.

6.3.2 Following the initial pre-commencement meeting where the project arboriculturist will outline all aspects of tree protection to the relevant personnel, arboricultural monitoring visits will take place monthly during intensive demolition and groundworks. However, following completion of the initial groundworks, it is likely that frequency of monitoring visits could be reduced to six-weekly without resulting in an increased risk to retained trees.

6.3.3 The purpose of the monitoring visits will be to ensure that the tree protection measures specified within this report and shown on the accompanying tree protection plan remain commensurate with the level of works taking place on the site and to minimise the likelihood of damage occurring to the retained tree stock. On completion of each monitoring or supervisory visit, the project arboriculturist will complete a short record of the works completed, and any matters of relevance to tree protection. This document will be forwarded to the LPA Tree Officer within five working days of the monitoring visit.

6.4 EXCAVATION IN PROXIMITY TO TREES

Underground service routes

6.4.1 The location of underground service routes is not yet known. However, it is anticipated that due to the scale of the site, it will be possible to implement these without causing additional impacts to retained trees.

6.4.2 Where this is not possible, trenchless techniques such as directional drilling will be explored.

6.4.3 As a last resort, the following hand-digging methodology will be utilised for excavations for the new underground services:

- i. Route of services to be accurately marked out prior to commencement by an engineer using biodegradable spray paint;
- ii. The upper 1.2m of excavation will be carried out manually, using hand tools only;
- iii. All roots with a diameter of 25mm or less will be cut back cleanly to the face of the excavation, or to a suitable growth point where possible;
- iv. If roots with diameters of 25mm – 75mm are encountered, they will be retained in situ and protected using hessian sacking to prevent desiccation. Once the total number, sizes and depths of such roots becomes clear, their importance to tree health and stability will be

assessed by the project arboriculturist. If the pruning of such roots is deemed to be of negligible impact to the tree, roots will be pruned as necessary;

- v. All roots with a diameter of 75mm or more, which are likely to be of a structural function and contribute significantly to the trees' anchorage, they will be retained and protected. If necessary, alternative working methodologies will be proposed to the LPA for sign off; and
- vi. Where roots are to be incorporated into an excavation, a suitable and flexible void former, such as a section of utility pipe cut lengthways and placed over the subject root, will be incorporated to protect the root from abrasion.

6.4.4 The above methodology will also be applicable to all areas of excavation within the RPAs of trees identified for retention.

6.5 MANAGEMENT OF VARIATIONS AND INCIDENTS

Variations to approved documents

6.5.1 There will be no variation to the tree protection measures set out within this report without the prior authorisation by the local planning authority.

6.5.2 Should variations become necessary for unforeseeable reasons, they will be dealt with in the following way:

- i. Site Manager to contact arboriculturist to explain the need for variation;
- ii. Arboriculturist to provide preliminary advice on technical aspects where necessary;
- iii. Arboriculturist to visit the site as necessary to collect the relevant information to enable a revised method statement or protection strategy to be drawn up;
- iv. Production of updated method statement and tree protection plan;
- v. Updated package of document to be sent to the local authority for approval;
- vi. Consent received; and
- vii. Variations to be implemented on site.

6.5.3 Under no circumstances will varied protection measures, whether pertaining to the specification for temporary trunk or ground protection, or the frequency of arboricultural monitoring visits, proceed without the prior approval from the local planning authority.

Accidents and incidents

6.5.4 Where accidents or incidents result in damage to the protective measures prescribed above, the project arboriculturist will be informed within 48 hours. The Site Manager will compile a brief record of the incident and the extent of damage, together with any adverse impacts on the retained tree stock and send this via email to the project arboriculturist. The arboriculturist will review and advise as necessary.

6.5.5 Should the temporary trunk or ground protection measures become damaged, they will be repaired or replaced within 48 hours of the incident.

6.5.6 The project arboriculturist will forward the Site Manager's record, together with a detailed list of actions taken to minimise damage and remedial works (where necessary) to the local authority.

7 CONCLUSIONS AND RECOMMENDATIONS

7.1 CONCLUSIONS

7.1.1 One individual category 'U' pine tree and three groups of trees, including the category 'B' group of Scots pine (G45), will be removed in their entirety as part of the proposed re-development. Small sections of two further groups of trees will also be removed, to enhance and enable protection of the wider groups of these trees.

7.1.2 The principal arboricultural features of the site, set out at **Table 3**, will be retained and protected effectively throughout the proposed re-development. The removal of the trees identified as such, with the exception of group G45, will have negligible impact on the current arboricultural landscape. The impacts caused by the removal of G45 will be progressively mitigated by the provision of a significant green corridor which presents significant opportunities for holistic arboricultural enhancements. The details of such landscaping matters can be secured by the local authority through suitably worded and enforceable planning conditions.

7.1.3 The proposed pruning is either minor in extent and will not have a significant adverse impact on the physiology, morphology or stability of the trees shown at **Table 5**, or is necessary for the purposes of risk management given the subsequent increase in exposure to the public as a result of the additional dwellings. The crown lifting will go largely unnoticed from the surrounding publicly accessible locations and will be screened by either the remainder of the trees' canopies, or the canopies of the surrounding specimens. All work will be undertaken in accordance with the recommendations set out in British Standard BS 3998:2010 'Tree work – Recommendations'.

7.1.4 Assessment of the current physiological condition of the subject trees, their relative tolerance of root pruning and disturbance, existing and proposed finished levels and engineering solutions, and the protective measures prescribed above, suggests that there will be no lasting or irreversible damage to the trees to be retained, subject to full compliance with the TPP at **Appendix 2**.

7.1.5 In light of the assessments set out above, there are no arboricultural reasons to suggest that the construction of and their associated private gardens will necessarily result in an unsustainable relationship with the retained tree stock, despite their proximity.

7.1.6 Based on the above, I conclude that the overall arboricultural impact of the scheme is of low magnitude, as defined at **Table 1** of this report.

7.1.7 A preliminary arboricultural method statement (PAMS) is included, which expands on the methodologies recommended within the arboricultural impact assessment where necessary. It is possible that as detailed designs emerge, some alterations to this method will be required.

7.2 RECOMMENDATIONS

1. Ensure that the protection measures prescribed within this report are implemented prior to the construction of works, and are maintained through the duration of construction.



Matthew Jones, BSc (Hons), MArborA
Director & Arboriculturist

13 September 2023

Revision A: 14 September 2023

Revision B: 4 October 2023

8 REFERENCES

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The British Standards Institution. (2012). BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations. London: BSI Standards Limited.

APPENDIX 1: TREE SURVEY SCHEDULE

15 Windsor Close
Southwater
West Sussex
RH13 9XH

TREE SURVEY SCHEDULE

Site Address: Land South of Hanlye Lane, Cuckfield, West Sussex

Prepared For: Sigma Homes Limited

Reference: MDJAC-23.008-TSS-01

Survey date: 30/01/2023 and 04/02/2023

15 Windsor Close
Southwater
West Sussex
RH13 9XH

www.mdjac.co.uk | info@mdjac.co.uk

Company Registration No.
(England & Wales): 13900533

BS5837:2012 Tree Survey Schedule - Explanatory Notes

This document is based on a site visit and inspection undertaken by Matt Jones of MDJ Arboricultural Consultancy Ltd on 30/01/2022 and 04/02/2023; deciduous trees were not in leaf.

The dimensions and assessments of the trees contained within this document reflect their condition at the time of the survey. I surveyed the trees from within the boundaries of the site only. The presence of additional physiological or structural defects that are only visible from restricted-access viewpoints cannot be discounted.

All trees were surveyed from ground level only, aided by the use of binoculars where considered necessary. The information contained within this document does not constitute a full hazard or risk assessment, and therefore MDJ Arboricultural Consultancy Ltd makes no guarantee of their stability of safety.

1. Tree no.

Individual number assigned to the tree for identification, commencing at 1.

2. TPO no.

Reference number assigned to the tree as shown on the Mid Sussex District Council TPO Map (<https://www.midsussex.gov.uk/planning-building/trees-and-hedgerows/tree-preservation-order-tpo-map/>).

3. Species

Common and botanical names are provided. Botanical names are shown in italics.

4. Height

Measured using a clinometer or laser rangefinder, given in metres.

5. Trunk diameter

Trunk diameter measured at 1.5m, unless stated otherwise, in accordance with Figure C.1 of British Standard BS 5837:2012 "*Trees in relation to design, demolition and construction - Recommendations*".

6. Radial crown spread

Extent of branches from the centre of the trunk to the tips in the principal cardinal directions, rounded up to the closest half metre. For trees with symmetrical canopies, an average measurement is provided.

7. Crown clearance

Height above ground level of the lowest live branch, in metres.

8. Height to first branch

Height above ground level of the origin of the lowest branch, in metres.

9. Age class

Young: recently planted, or yet-to-be established specimen, usually below 10m in height, subject to species characteristics;

Semi-mature: a recently established specimen, usually with excurrent morphology, and yet-to-reach its ultimate proportions, subject to species characteristics;

Mature: fully established, complex, decurrent or broad branching structure, and has achieved or is nearing its ultimate proportions, subject to environmental conditions and species characteristics;

Over-mature: has reached maturity, but is showing symptoms of minor decline within its canopy;

Veteran: has a large trunk diameter for its species, but displays evidence of veteranisation such as fungal colonisation, decay, hollowing, and has commenced retrenchment within its canopy;

Ancient: exceeds the typical size and age of the species, with a very large trunk diameter; with extensive fungal colonisation, decay, hollowing and veteran characteristics; has undergone significant retrenchment and is within the latter stages of life.

10. Physiology

General health and biological function, taking into account a healthy specimen of its size, age, species and location.

11. Structure

Structural condition of the tree, based on root (visible portions only), basal, trunk, stem and branch morphology.

Good: No morphological defects and no fungal or bacterial colonisation;

Fair: only minor morphological defects and a very low likelihood of failure; no pathological colonisation;

Poor: irremediable and significant morphological defects, leading to an increased likelihood of failure.

12. Comments

Comments have been made where appropriate.

13. BS5837:2012 Category

Category assigned to the tree, based on its arboricultural quality, arboricultural landscape value and potential, in accordance with Table 1 of British Standard BS 5837:2012 "*Trees in relation to design, demolition and construction - Recommendations*".

14. RPA radius

Radius of the root protection area, based on the trunk diameter of the tree, in accordance with Section 4.6 of British Standard BS 5837:2012 "*Trees in relation to design, demolition and construction - Recommendations*".

Table 1: Cascade chart for tree quality assessment

Category and definition	Criteria			Identification on plan
Trees unsuitable for retention				
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 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			Red
Trees to be considered for retention				
	1. Mainly arboricultural qualities	2. Mainly landscape qualities	3. Mainly cultural values, including conservation	
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)	Green
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	Blue
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 150mm	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 conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	Grey

Client name: Sigma Homes Limited
 Site: Land South of Hanlye Lane, Cuckfield
 Reference: MDJAC-23.008-TSS-01
 Survey date: 30/01/2023 and 04/02/2023

Tree Survey Schedule



No.	TPO no.	Common name	Height [m]	Trunk diameter [mm]	Radial Crown Spread [m]	Height to 1st Branch [m]	Crown Clearance [m]	Age class	Physiology	Structure	Comments	Category	RPA Radius [m]
T1	n/a	English oak	16	850	N7.5m E7.5m S7.5m W8m	2.5	2.5	Mature	Good	Fair	Off-site tree. Ivy-covered. Broad canopy with insignificant defects. Of high quality and landscape value.	A (1)	10.2
T2	n/a	Sycamore	10	380 320	N4.5m E4.25m S3.5m W5.5m	0.5	0.5	Early-mature	Good	Fair	Twin-stemmed. Historical vehicle damage on trunk. Of moderate quality and landscape value.	B (2)	5.96
T3	n/a	Scots pine	13	590	N2.25m E2.25m S3.25m W4.25m	5	5	Early-mature	Fair	Fair	Heavily ivy-covered. Tree has lost its top in the past. Remains of moderate quality and landscape value.	B (1)	7.08
T4	n/a	Corsican pine	16	670	N2m E5m S5m W2m	5	5	Mature	Fair	Fair	Slightly leaning trunk. Slightly sparse upper canopy. Of moderate quality and landscape value.	B (2)	8.04
T5	n/a	Common ash	13	375	N4.25m E3.5m S4.75m W3.25m	2.5	2.5	Early-mature	Poor	Poor	Self-seeded tree. Heavily infected with Ash Dieback Disease. Of low quality and limited potential.	U	4.5
T6	n/a	Apple	4	250 250 (est.)	N4.75m E2.75m S4m W3.75m	2	2	Early-mature	Good	Fair	Off-site fruit tree. Of moderate quality but of low landscape value.	C (1)	4.24
T7	n/a	English oak	19	945	N7m E10m S10m W8m	3	2.5	Mature	Good	Fair	Multi-stemmed from 3m. Dominant and spreading canopy. No evidence of past management. Of moderate quality and landscape value.	B (1)	11.34
T8	n/a	English oak	9	285	N0.5m E6m S3m W0.5m	2.5	2.5	Semi-mature	Good	Fair	Heavily suppressed by larger trees. Of moderate quality but of low landscape value.	C (1)	3.42

Client name: Sigma Homes Limited
 Site: Land South of Hanlye Lane, Cuckfield
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 Survey date: 30/01/2023 and 04/02/2023

Tree Survey Schedule



No.	TPO no.	Common name	Height [m]	Trunk diameter [mm]	Radial Crown Spread [m]	Height to 1st Branch [m]	Crown Clearance [m]	Age class	Physiology	Structure	Comments	Category	RPA Radius [m]
T9	n/a	English oak	19	615	N3.5m E10.75m S7.5m W4.5m	3	2.5	Mature	Good	Fair	Asymmetrical canopy due to suppression from adjacent trees. Dominant and spreading canopy. No evidence of past management. Of moderate quality and landscape value.	B (1)	7.38
T10	n/a	English oak	21	750	N4.5m E11.5m S4m W3.5m	4	3	Mature	Good	Fair	Trunk leans to E. Asymmetrical canopy due to suppression from adjacent trees. Dominant and spreading canopy. No evidence of past management. Of moderate quality and landscape value.	B (1)	9
T11	n/a	English oak	16	625	N7m E7.5m S7.75m W7.5m	3	3	Mature	Fair	Fair	Off-site tree. Surveyed from distance. Of moderate quality and landscape value.	B (1)	7.5
T12	T1 CU/03/TPO/95	Austrian pine	22	850	N7m E6.25m S8.75m W7.5m	5	5	Mature	Poor	Poor	Base inaccessible due to undergrowth. Extensive dieback throughout canopy.	U	10.2
T13	T2 CU/03/TPO/95	Corsican pine	19	730	N5.5m E6.75m S7.75m W5m	4	3	Mature	Fair	Fair	Field boundary specimen. Readily visible from Hanlye Lane. Of moderate quality and landscape value.	B (1)	8.76
T14	n/a	English oak	15	600	N8m E7m S7m W8m	3	3	Mature	Fair	Fair	Off-site tree. Storm damaged branch in mid-canopy on W aspect; requires removal. Of moderate quality and landscape value.	B (1)	7.2
T15	n/a	Common ash	13	270 275	N5.75m E2.5m S2.5m W6.25m	3	2.5	Semi-mature	Fair	Fair	Twin-stemmed from base. Included union. Of moderate quality but of low landscape value.	C (1)	4.62
T16	T9 CU/03/TPO/95	English oak	21	1320	N11m E12.5m S13.25m W13m	4	1.5	Late-mature	Good	Fair	Prominent tree growing adjacent to PRoW. Large and old example of its species. Evidence of historical reduction works in canopy. Storm damage and deadwood throughout, common for species and age. Of high quality and landscape value.	A (1)	15

Client name: Sigma Homes Limited
 Site: Land South of Hanlye Lane, Cuckfield
 Reference: MDJAC-23.008-TSS-01
 Survey date: 30/01/2023 and 04/02/2023

Tree Survey Schedule



No.	TPO no.	Common name	Height [m]	Trunk diameter [mm]	Radial Crown Spread [m]	Height to 1st Branch [m]	Crown Clearance [m]	Age class	Physiology	Structure	Comments	Category	RPA Radius [m]
T17	T8 CU/03/TPO/95	English oak	16	1035	N9m E6.5m S12.5m W8.75m	3	1	Mature	Fair	Fair	Prominent tree growing adjacent to PRoW. Evidence of historical damage to buttress roots and root collar, likely by grazing animals. Reactive growth surrounds this area. Storm damage throughout. Of moderate quality but of high landscape value.	A (2)	12.42
T18	T7 CU/03/TPO/95	Horse chestnut	14	810	N7.5m E7m S6m W5.75m	3	2	Mature	Fair	Fair	Wind-exposed specimen. Of moderate quality and landscape value.	B (1)	9.72
T19	T6 CU/03/TPO/95	English oak	22	1560	N14.5m E13.5m S13m W13m	5	1.5	Late-mature	Good	Fair	Prominent tree growing adjacent to PRoW. Storm damage and historical reduction work evident throughout. Appears to be of good vigour. Of high quality and landscape value.	A (1)	15
T20	T4 CU/03/TPO/95	English oak	22	1380	N13m E10m S5m W9.5m	2.5	0.5	Late-mature	Good	Fair	Prominent tree growing adjacent to PRoW. Storm damage and historical reduction work evident throughout. Appears to be of good vigour. Significant branch failure on S aspect. Of moderate quality but of high landscape value.	A (2)	15
T21	T3 CU/03/TPO/95	Common ash	15	860	N7m E7m S10m W6.5m	4	3	Mature	Fair	Fair	Significant natural ground level changes around base; watercourse to W of base. Evidence of heavy historical pruning in lower canopy and storm damage throughout. Deadwood and snags throughout. Of moderate quality and landscape value.	B (1)	10.32
T22	T14 CU/03/TPO/95	English oak	18	1095	N8m E8m S8m W7.75m	3	1.5	Mature	Good	Fair	Mature tree located on low ground along southern boundary. Insignificant defects. Of moderate quality and landscape value.	A (2)	13.14
T23	n/a	English oak	17	700 (est.)	N6m E7m S7m W6.5m	3	2	Mature	Good	Fair	Off-site tree. Of moderate quality and landscape value.	B (1)	8.4

Client name: Sigma Homes Limited
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 Reference: MDJAC-23.008-TSS-01
 Survey date: 30/01/2023 and 04/02/2023

Tree Survey Schedule



No.	TPO no.	Common name	Height [m]	Trunk diameter [mm]	Radial Crown Spread [m]	Height to 1st Branch [m]	Crown Clearance [m]	Age class	Physiology	Structure	Comments	Category	RPA Radius [m]
T24	T13 CU/03/TPO/95	English oak	17	1000	N10m E10m S9m W8m	3	4.5	Mature	Good	Fair	Storm damage resulting in snags throughout canopy. Evidence of past branch failures. Of moderate quality but of high landscape value.	A (2)	12
T25	n/a	English oak	18	1100	N10.5m E7.5m S11m W11m	4	2	Mature	Fair	Fair	Twin-stemmed from 4m, appears to have partially separated in the past. Tight included union with 'elephant ear' wood formation extending below union in mitigation. Storm damage and snags throughout. Of moderate quality but of high landscape value due to visibility from and proximity to PRoW.	B (2)	13.2
T26	n/a	English oak	19	1345	N12.75m E10m S10m W8m	4	1.5	Mature	Good	Good	Field boundary specimen with insignificant defects. Of high quality and landscape value.	A (1)	15
T27	n/a	English oak	19	850	N7m E7m S7m W7.5m	6	5	Mature	Fair	Poor	Off-site tree. Basal cavity and former attachment points of fungal fruiting bodies, likely <i>Ganoderma spp.</i> or <i>Pseudoinonotus dryadeus</i> . Wounding throughout canopy. Of low quality but of moderate landscape value.	C (2)	10.2
T28	n/a	English oak	16	650	N8.5m E6m S4.5m W3m	3	3	Mature	Fair	Fair	Off-site tree. Storm damage throughout. Significant component of woodland edge. Of moderate quality and landscape value.	B (1)	7.8
T29	T12 CU/03/TPO/95	English oak	21	1085	N6m E7m S7m W6.5m	3	2	Mature	Fair	Poor	Extensive basal decay. Fungal fruiting bodies of <i>Pseudoinonotus dryadeus</i> at base. Dieback in canopy.	U	13.02
T30	T11 CU/03/TPO/95	English oak	17	750	N9m E6.5m S2m W6m	4	4	Mature	Fair	Fair	Large hanging branch in canopy, failed from adjacent canopy requires removal. Asymmetrical canopy due to suppression. Of moderate quality and landscape value.	B (1)	9

Client name: Sigma Homes Limited
 Site: Land South of Hanlye Lane, Cuckfield
 Reference: MDJAC-23.008-TSS-01
 Survey date: 30/01/2023 and 04/02/2023

Tree Survey Schedule

No.	TPO no.	Common name	Height [m]	Trunk diameter [mm]	Radial Crown Spread [m]	Height to 1st Branch [m]	Crown Clearance [m]	Age class	Physiology	Structure	Comments	Category	RPA Radius [m]
T31	n/a	Common ash	7	150 150 (est.)	N2.5m E2.5m S2.5m W2.5m	3	3	Semi-mature	Good	Poor	Twin-stemmed stemmed. Partially failed union.	U	2.55
T32	n/a	Sycamore	15	900	N4.5m E6m S6m W2.5m	3	3	Mature	Good	Fair	Lapsed pollard. Of moderate quality but of high landscape value.	B (1)	10.8
T33	n/a	Common beech	18	800	N5.5m E3.5m S6.5m W5m	4	3	Mature	Good	Good	Asymmetrical canopy due to suppression but otherwise of high quality and landscape value.	A (1)	9.6
T34	n/a	Sycamore	16	780	N3m E7m S7m W6m	5	4	Mature	Good	Fair	Lapsed pollard. Of moderate quality but of high landscape value.	B (1)	9.36
T35	n/a	English oak	18	1190	N6.5m E7m S6.5m W5.5m	3.5	6	Mature	Fair	Fair	Highway verge specimen. Canopy heavily and repeatedly pruned. Areas of necrotic cambium surrounding large pruning wounds. Of moderate quality but of high landscape value.	B (2)	14.28
Groups of trees													
G36	n/a	Various	3-8 (est.)	75-250 (est.)	See plan	0.5	0.5	Semi-mature	Fair	Fair	Species include field maple, sycamore, horse chestnut, hazel, holly, blackthorn and elder. Group of self-seeded trees extending along PRoW. Predominantly field maple at W end, becoming more varied towards E. Of moderate quality but of low landscape value. Of some screening benefit.	C (1)	See plan
G37	n/a	Various	4-9 (est.)	75-325 (est.)	See plan	2	2	Semi-mature	Fair	Fair	Species include sycamore, hazel, hawthorn, ash, English oak and elder. Group of self-seeded trees. Of moderate quality but of low landscape value.	C (1)	See plan
G38	n/a	Blackthorn, Goat willow	2-6 (est.)	75 (est.)	See plan	0	0	Young	Fair	Fair	Predominantly blackthorn. Group of self-seeded trees. Of moderate quality but of low landscape value.	C (1)	See plan

Client name: Sigma Homes Limited
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Tree Survey Schedule

No.	TPO no.	Common name	Height [m]	Trunk diameter [mm]	Radial Crown Spread [m]	Height to 1st Branch [m]	Crown Clearance [m]	Age class	Physiology	Structure	Comments	Category	RPA Radius [m]
G39	n/a	Various	16-21 (est.)	500-660	See plan	3	3	Mature	Fair	Fair	Group of roadside trees comprising sycamore, beech and Austrian and Corsican pines; readily visible in long-range views along Hanlye Lane. Predominantly pine. Drawn-up and mutually suppressed due to competitive environment. Of moderate quality and landscape value individually, but collectively they form an essential arboricultural feature in the landscape.	A (2)	See plan
G40	n/a	Various	3-10 (est.)	75-300 (est.)	See plan	1	1	Semi-mature	Fair	Fair	Species include sycamore, hawthorn, blackthorn, ash and English oak. Large area of small self-seeded trees. Typical of location and rural site context. Of moderate quality but of low landscape value.	C (1)	See plan
G41	n/a	Various	4-8 (est.)	75-180 (est.)	See plan	1	1	Semi-mature	Mixed	Fair	Species include field maple, hawthorn and ash. Self-seeded group of trees. Predominantly ash with evidence of Ash Dieback Disease. Collectively of some screening benefit.	C (1)	See plan
G42	n/a	Lawson cypress, Common ash	7-9 (est.)	125-225 (est.)	See plan	1	1	Semi-mature	Fair	Fair	Off-site trees. Of little significance in the wider landscape, but of moderate quality.	C (1)	See plan
G43	n/a	Various	3-5 (est.)	75-150 (est.)	See plan	0.5	0.5	Semi-mature	Fair	Fair	Species include hawthorn and ash. Group of self-seeded boundary trees forming a screen. Of moderate quality but of low landscape value.	C (1)	See plan
G44	T10 CU/03/TPO/95	Various	4-12 (est.)	75-350 (est.)	See plan	1	1	Semi-mature	Fair	Fair	Species include horse chestnut, hazel, hawthorn, ash, holly and English oak. Group of semi-mature trees growing along PRoW. 1no. horse chestnut subject to TPO. Predominantly ash, some with signs of Ash Dieback Disease (not extensive), becoming more diverse with larger individuals at the E end of group. Of moderate quality and collectively of moderate landscape value.	B (2)	See plan

Client name: Sigma Homes Limited
Site: Land South of Hanlye Lane, Cuckfield
Reference: MDJAC-23.008-TSS-01
Survey date: 30/01/2023 and 04/02/2023

Tree Survey Schedule



No.	TPO no.	Common name	Height [m]	Trunk diameter [mm]	Radial Crown Spread [m]	Height to 1st Branch [m]	Crown Clearance [m]	Age class	Physiology	Structure	Comments	Category	RPA Radius [m]
G45	G1 CU/03/TPO/95	Corsican pine	12-17 (est.)	425-500 (est.)	See plan	4	4	Early-mature	Good	Fair	Group of five pine trees growing centrally within the northern field of the site. Bases inaccessible due to dense understorey at time of survey. One specimen to south-east of group has lost its top in the past and is now truncated, and the southernmost specimen generally makes little contribution to the group; both are category 'C' trees on an individual basis. Collectively of moderate quality and landscape value.	B (2)	See plan
G46	n/a	Sycamore, Common hazel, Elder	4-9 (est.)	75-275 (est.)	See plan	0.5	0.5	Semi-mature	Mixed	Fair	Mixed species group of self-seeded trees. 1no. dead elder in group. 2no. lapsed Hazel coppice. Of low-moderate quality but of low landscape value.	C (1)	See plan
G47	n/a	Various	6-11 (est.)	150-450 (est.)	See plan	1.5	1.5	Semi-mature	Fair	Fair	Species include sycamore, hazel hawthorn, ash, blackthorn and elder. Group of self-seeded boundary trees. Squirrel damage throughout. Several larger trees within group have been 'topped'. Of moderate quality but of low landscape value.	C (1)	See plan
G48	n/a	Various	8-13 (est.)	100-500 (est.)	See plan	1	1	Semi-mature	Mixed	Fair	Species include hazel, hawthorn, ash, English oak and crack willow. Group of self-seeded field boundary trees. Includes 1no. dead and failed willow, 1no. standing dead oak, and associated understorey. Of moderate quality but of low landscape value.	C (1)	See plan
G49	n/a	Field maple, Hornbeam	9-11 (est.)	300-425 (est.)	See plan	2	2	Semi-mature	Fair	Fair	Off-site group of trees forming a woodland edge. Overtopped and suppressed by mature boundary trees. Of moderate quality but of low landscape value.	C (1)	See plan
G50	G1 CU/03/TPO/95	Sycamore, Scots pine, White willow	11-15 (est.)	430 (est. max.)	See plan	3	3	Early-mature	Fair	Fair	Off-site group of trees. Species include Scots pine, sycamore and white willow. Predominantly Scots pine. Of moderate quality and landscape value.	B (2)	See plan
Woodlands													

Client name: Sigma Homes Limited
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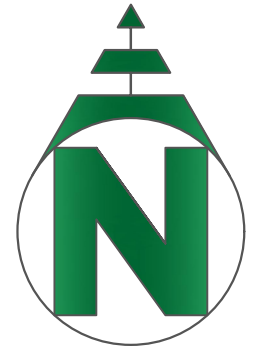
Tree Survey Schedule



No.	TPO no.	Common name	Height [m]	Trunk diameter [mm]	Radial Crown Spread [m]	Height to 1st Branch [m]	Crown Clearance [m]	Age class	Physiology	Structure	Comments	Category	RPA Radius [m]
W51	n/a	Various	13-21 (est.)	300-800 avg. (est.)	See plan	3	3	Mature	Fair	Fair	Off-site woodland. Understorey species include hawthorn, holly, cherry laurel and yew, supporting an overstorey of English oak, ash and Scots pine. Assessment made from woodland edge only. Of at least moderate quality, but of high landscape value. Essential component of the immediate landscape.	A (2)	See plan

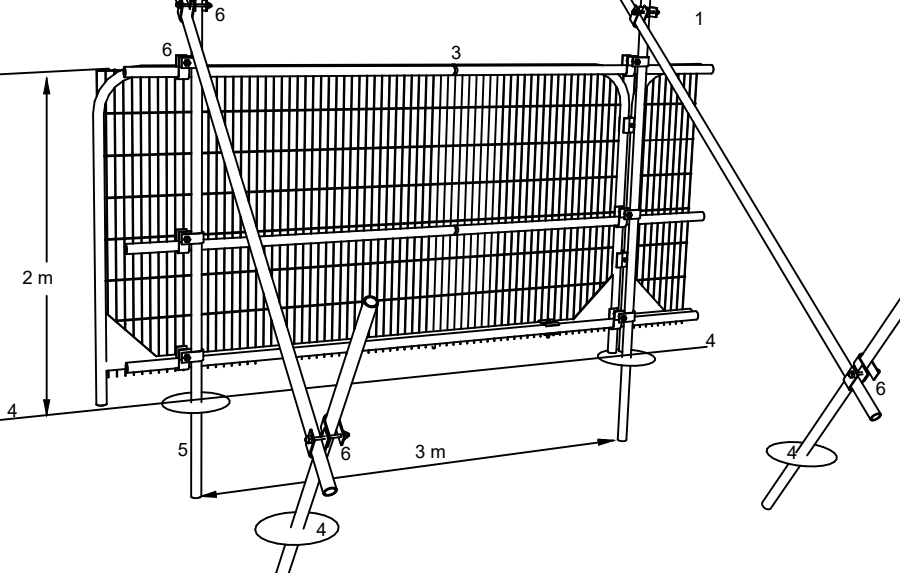
APPENDIX 2: TREE PROTECTION PLAN

15 Windsor Close
Southwater
West Sussex
RH13 9XH



Tree Protection Fencing (TPF)

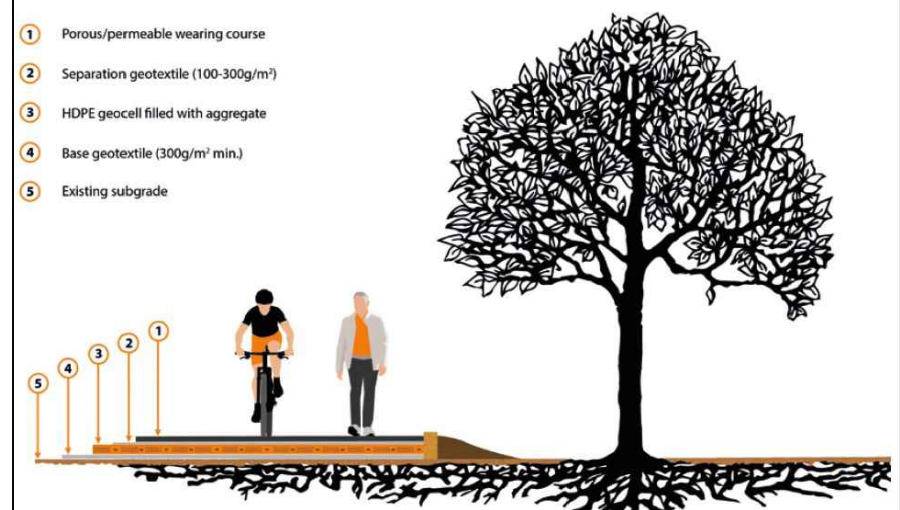
The default specification comprises a scaffold framework, onto which 2m tall, welded mesh panels such as 'heras' panels will be secured to uprights and cross-members with suitable wire ties. Upright scaffold posts will be driven into the ground to a minimum depth of 600mm, taking care to avoid damage to the roots of retained trees.



1 Standard scaffold poles
2 Heavy gauge 2 m tall galvanized tube and welded mesh infill panels
3 Panels secured to uprights and cross-members with wire ties
4 Ground level
5 Uprights driven into the ground until secure (minimum depth 0.6 m)
6 Standard scaffold clamps

No-dig hard surfacing

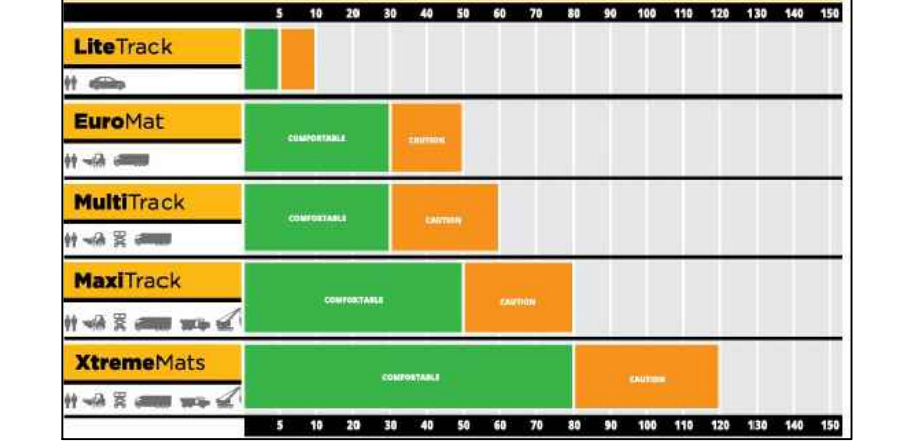
Areas of hard surfacing to be constructed within the RPAs of retained trees will incorporate a cellular confinement system (CCS). Such systems comprise the laying of a geotextile membrane onto existing ground levels and the plotting out and securing of a three-dimensional grid system, filled with angular stone to ensure gaseous exchange. The wearing surface will also be of porous nature, as shown below.



Arboricultural Association (2020). The use of cellular confinement systems near trees: a guide to good practice.

Temporary ground protection

Exposed areas between the tree protection fencing and the edge of the RPAs of retained trees will be protected using temporary ground boarding selected to protect against anticipated loading.



<https://www.ground-guards.co.uk/>

	Trees to be removed		Ancient woodland boundary
	Category 'A' tree		Ancient woodland 15m buffer zone
	Category 'B' tree		No-dig hard surfacing
	Category 'C' tree		Temporary Ground Protection
	Category 'U' tree		Construction Exclusion Zones
	Root Protection Areas (RPAs)		Tree Protection Fencing (TPF)
	TPO reference numbers		Soil improvement works

Document History

Rev	Date	Layout amendments	Comments
B	04/10/2023	Layout amendments	
A	14/09/2023	Layout amendments	

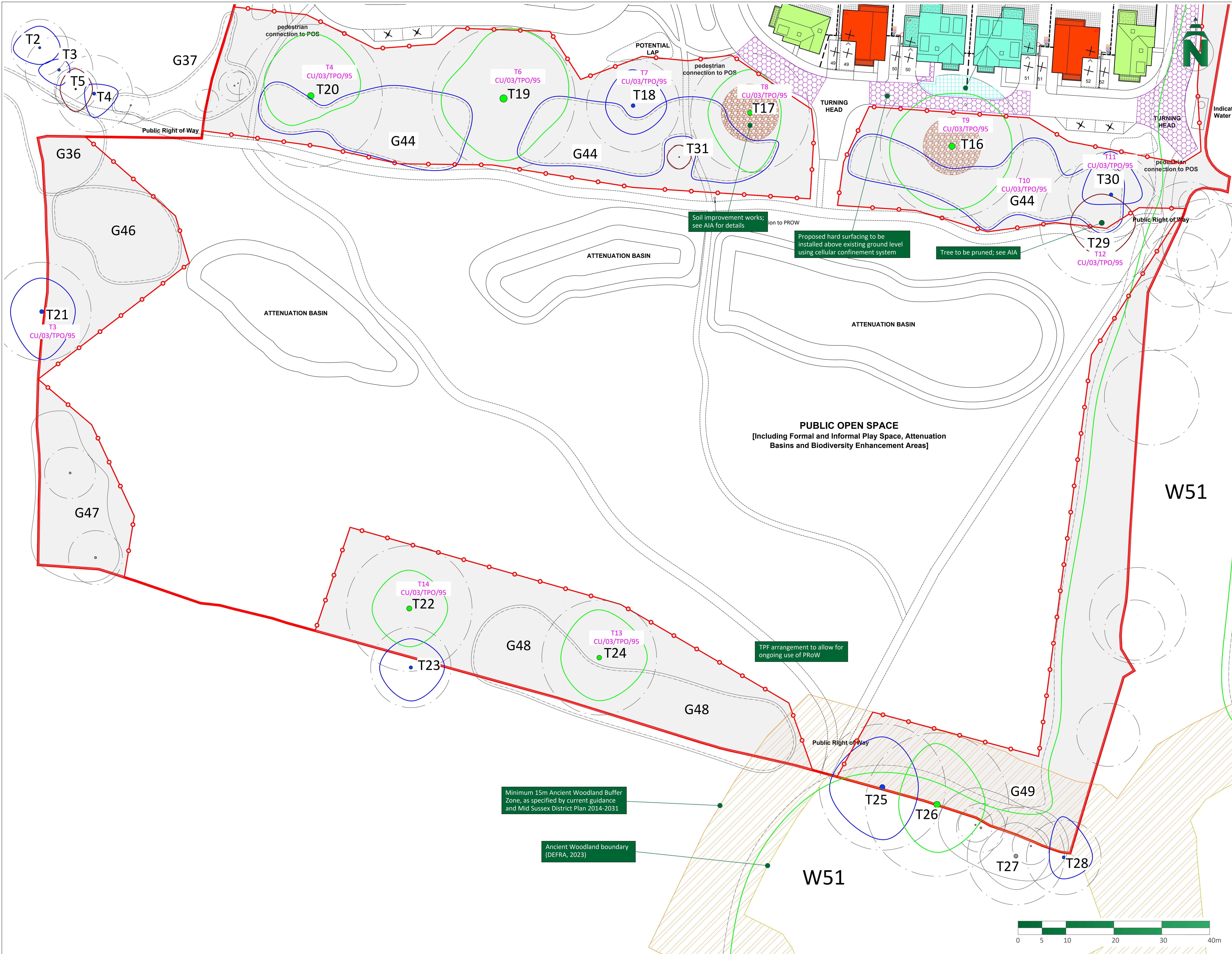
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Sigma Homes
LOCATION • QUALITY • DESIGN

Site: Land south of Hanlye Lane, Cuckfield, West Sussex
Client: Sigma Homes Limited
Title: Tree Protection Plan (TPP) NORTH
Date: September 2023
Dwg No: MDJAC-23.008-TPP-01.1B
Scale: 1:250 @ A0

0 5 10 20 30 40m



Tree Protection Fencing (TPF)

The default specification comprises a scaffold framework, onto which 2m tall, welded mesh panels such as 'heras' panels will be secured to uprights and cross-members with suitable wire ties. Upright scaffold posts will be driven into the ground to a minimum depth of 600mm, taking care to avoid damage to the roots of retained trees.

- 1 Standard scaffold poles
- 2 Heavy gauge 2 m tall galvanized tube and welded mesh infill panels
- 3 Panels secured to uprights and cross-members with wire ties
- 4 Ground level
- 5 Uprights driven into the ground until secure (minimum depth 0.6 m)
- 6 Standard scaffold clamps

No-dig hard surfacing

Areas of hard surfacing to be constructed within the RPAs of retained trees will incorporate a cellular confinement system (CCS). Such systems comprise the laying of a geotextile membrane onto existing ground levels and the plotting out and securing of a three-dimensional grid system, filled with angular stone to ensure gaseous exchange. The wearing surface will also be of porous nature, as shown below.

Arboricultural Association (2020). The use of cellular confinement systems near trees: a guide to good practice.

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Exposed areas between the tree protection fencing and the edge of the RPAs of retained trees will be protected using temporary ground boarding selected to protect against anticipated loading.

<https://www.ground-guards.co.uk/>

	Trees to be removed		Ancient woodland boundary
	Category 'A' tree		Ancient woodland 15m buffer zone
	Category 'B' tree		No-dig hard surfacing
	Category 'C' tree		Temporary Ground Protection
	Category 'U' tree		Construction Exclusion Zones
	Root Protection Areas (RPAs)		Tree Protection Zones
	TPZ reference numbers		Soil improvement works

Document History

Rev	Date	Comments
B	04/10/2023	Layout amendments
A	14/09/2023	Layout amendments

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Sigma Homes

LOCATION • QUALITY • DESIGN

Site: Land south of Hanlye Lane, Cuckfield, West Sussex

Client: Sigma Homes Limited

Title: Tree Protection Plan (TPP) SOUTH

Date: September 2023

Dwg No: MDJAC-23.008-TPP-01.2B

Scale: 1:250 @ A0