



Arboricultural Impact Assessment & Method Statement

Roslyn Avenue, Netherton

Harron Homes Ltd (Yorkshire)

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Basis of Report

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Drawings

Drawing	Title	.Scale
415.065296.00001-ARB-D-001 Rev. A	Tree Protection Plan	1:500@A1



Acronyms and Abbreviations

AIA	Arboricultural Impact Assessment
AMS	Arboricultural Method Statement
LPA	Local Planning Authority
TPO	Tree Preservation Order
SPD	Supplementary Planning Document
Ref.	Reference(s)
AW	Ancient Woodland
ASNW	Ancient Semi-Natural Woodland



1.0 Introduction

1.1 Brief

- 1.1.1 SLR Consulting Limited was commissioned by Harron Homes Ltd (Yorkshire) to undertake a BS 5837 tree survey on the site and to assess and report on the impacts on the trees in connection with the proposed residential development at land off Roslyn Avenue, Netherton, Huddersfield, HD4 7EW (Ordnance Survey grid reference SE 11984 13052). For the purpose of this report this will be referred to as the 'Site' hereafter.
- 1.1.2 The purpose of this report is to provide an Arboricultural Impact Assessment (AIA) and Arboricultural Method Statement (AMS), in order to evaluate the direct and indirect effects of the proposed development works on the trees surveyed and to provide a scheme for the protection of retained trees. These include trees identified within the Site, as well as those located off-site but within influencing distance of the Site. Where there are impacts from the development proposal, this report recommends, where feasible, mitigation measures to be taken to ensure that trees are adequately considered during the development process and sets out the specifications and methodologies for the tree protection measures and any proposed works that either encroach within the root protection areas (RPAs) or that have the potential to result in loss or damage to retained trees. Where trees must be removed to enable the development, potential compensation measures are proposed, where feasible.
- 1.1.3 The BS 5837 tree survey was undertaken by Kelly Stewart, Senior Arboriculturist with SLR, on 9th October 2025. This, in combination with the proposed layout, supporting documents/drawing and any liaison we have had with the design team and the Local Planning Authority (LPA), forms the basis of our assessment.
- 1.1.4 This AIA & AMS report and attached Tree Protection Plan (TPP) accords with the methodologies and guidance set out in British Standard BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations (The British Standards Institution, 2012).

1.2 Site Context

- 1.2.1 The Site is located within an agricultural grass grazed field directly adjacent to and accessed from Roslyn Avenue located to the east of the Site. An area of designated Ancient Woodland borders the northern edge of the Site with a section of extended woodland partially within the site along the north-eastern corner of the site.
- 1.2.2 The woodland is mixed broadleaf with a high occurrence of oak.
- 1.2.3 A PRoW runs east to west through the south of the site and this connects to another PRoW running to the north-eastern corner of the site, into the Ancient Woodland (AW). During the site visit both the woodland and the PRoW were well used by walkers.
- 1.2.4 The site has similar fields to the west and is edged by the private gardens of Roslyn Avenue to the east. The southern edge of the site is bordered by the public house beer garden with direct open access to the site, and the private gardens of Meltham Road and Church Lane.
- 1.2.5 The site has a gradual downward slope to the valley to the south and central areas are somewhat exposed.



1.3 Development Proposal

- 1.3.1 The proposed development works is for a residential housing scheme, including public open space.
- 1.3.2 In order to assess the impacts of the proposed developments the following plans have been either overlaid or utilised to produce the Tree Protection Plan:
- Site Survey (Topographic Plan) Ref. S1200 (August 2017) S1710 February 2023 2023 by Turnball Surveying;
 - Site Layout Ref. 652-PL01 Rev. E, dated 17/10/2025, by Harron Homes Limited;
 - Ancient Woodland – Revised (England) – Completed Counties, dated October 2025, by Natural England.

1.4 Trees and the Planning Process

- 1.4.1 The Site is located within the administrative boundaries of the Local Planning Authority, Kirklees Council (KC). KC's adopted Local Plan and applicable Supplementary Planning Documents includes the following relevant policies and text:

Kirklees Local Plan Strategy and Policies (Adopted 27 February 2019)

Policy LP24 Design

'Good design should be at the core of all proposals in the district and should be considered at the outset of the development process, ensuring that design forms part of pre-application consultation of a proposal. Development briefs, design codes and masterplans should be used to secure high quality, green, accessible, inclusive and safe design, where applicable. Where appropriate and in agreement with the developer schemes will be submitted for design review.'

Proposals should promote good design by ensuring:

i. the retention of valuable or important trees and where appropriate the planting of new trees and other landscaping to maximise visual amenity and environmental benefits;'

Policy LP31 Strategic Green Infrastructure Network

'Within the Strategic Green Infrastructure Network identified on the Policies Map, priority will be given to safeguarding and enhancing green infrastructure networks, green infrastructure assets and the range of functions they provide.'

Development proposals within and adjacent to the Strategic Green Infrastructure Network should ensure:-

(ii) new or enhanced green infrastructure is designed and integrated into the development scheme where appropriate, including natural greenspace, woodland and street trees;'

Policy LP32 Landscape

'Proposals should be designed to take into account and seek to enhance the landscape character of the area considering in particular:

c. the patterns of woodland, trees and field boundaries;'



Policy LP33 Trees

'The Council will not grant planning permission for developments which directly or indirectly threaten trees or woodlands of significant amenity. Proposals should normally retain any valuable or important trees where they make a contribution to public amenity, the distinctiveness of a specific location or contribute to the environment, including the Wildlife Habitat Network and green infrastructure networks. Proposals will need to comply with relevant national standards regarding the protection of trees in relation to design, demolition and construction. Where tree loss is deemed to be acceptable, developers will be required to submit a detailed mitigation scheme.'

Housebuilders Design Guide SPD June 2021

Trees and hedgerows

'6.9 Planning permission will not be granted for developments which directly or indirectly threaten trees or woodlands of significant amenity.'

Proposals should have regard to the Wildlife Habitat Network, Habitats of Principal Importance and green infrastructure networks and consider the contribution that the trees and hedgerows make to the local distinctiveness of the area. Existing tree and landscape features should be incorporated into a scheme at the concept or initial design stage and sites should show a net gain in tree coverage.'

7.4 Green infrastructure and open space

Principle 7

'Proposals should retain existing features within the site, such as valuable trees, natural wildlife habitats and landscape features.'

Green infrastructure can be provided through building features such as green roofs and green walls and through the design of streets to include street trees, and trees within residential plots and open spaces.'

7.8 Street design

Principle 11

'Creative design should ensure natural surveillance and movement help mitigate the risk of crime and street layouts are attractive with street trees and landscaping.'

Kirklees Highway Design Guide Supplementary Planning Document November 2019

4.9:- 15 Key Design Driver

'The future, long-term maintenance responsibility relating to trees, shrubs, verges and other planted areas should be established (including extant protected trees) prior to planning submission.'

4.11:- 16 Key Design Driver

'Trees provide many mental and physical wellbeing benefits as well as providing links to green infrastructure and green streets. Carefully sited street trees should always be proposed where feasible within the street corridor as they can aid recognition of spatial geometry of carriageway edges and reduce the perceived width of the highway. If an appropriate level of tree planting does not form part of the design, there must be a valid and robust explanation as to why trees have been omitted or only used in limited numbers.'



4.13:- *‘Designs should normally retain any valuable or important trees where they make a contribution to public amenity, the distinctiveness of a specific location or contribute to the environment. The condition of trees and their suitability for retention should be based on an arboricultural survey and arboricultural expert advice. Where it is deemed necessary or appropriate to remove trees, applicants should consider planting multiple replacements in suitable locations.’*

- 1.4.2 Table B.1 taken from BS 5837:2012 gives guidance on the level of information required by LPAs in order to make an informed decision on the impact of development on trees. The production of an Arboricultural Constraints Report and Plan is the first stage of assessment in the context of the planning process.
- 1.4.3 Even though we have not produced a standalone Arboricultural Constraints Report and Plan, WA have undertaken a tree survey in accordance with BS 5837:2012, with this data and plan being supplied to the client to enable them to consider the arboricultural constraints for the Site. We have plotted the trees on the proposed development layout plan so that the specific impacts on the trees can be assessed, with this informing this report and the associated TPP, which fulfils the requirement to present the impacts of the proposed layout on the trees that are located on and immediately adjacent to the Site.

1.5 Statutory Legal Protection

- 1.5.1 The two main sources of protection afforded to trees are i) Conservation Area (CA) control and ii) Tree Preservation Orders (TPO).
- 1.5.2 Trees within Conservation Areas are protected under the Town & Country Planning Act 1990 (as amended), which affords blanket¹ protection to trees with a stem diameter of 75 mm and above when measured at 1.5 m from ground level.
- 1.5.3 Trees may also be protected by a TPO under the Town & Country Planning Act 1990 (as amended) and The Town and Country Planning (Tree Preservation) (England) Regulations 2012.
- 1.5.4 It is a criminal offence to carry out any unauthorised works to trees that are either protected by a TPO or located within a CA, including:
- Cutting down, uprooting or wilfully destroying a tree, or wilfully damaging, topping or lopping a tree in such a manner as to be likely to destroy it;
 - Any works that contravene the provisions of a TPO; and/or
 - Any works in contravention to the regulations.
- 1.5.5 Penalties for non-compliance of a TPO and/or CA can be unlimited, if tried in a County Court or Magistrates Court. Note, if the Local Planning Authority decides to also prosecute under the Proceeds of Crime Act 2002 in addition to prosecuting under the Town and Country Planning Act 1990, the fine can be unlimited.
- 1.5.6 It should be noted that the felling of trees prior to receiving full planning permission may also require a felling licence under the Forestry Act 1967. This requires that any persons wishing to fell 5 m³ (or 2m³ if the timber is sold) of trees within any three-month period (i.e. Calendar Quarters:- January to March, April to June, July to September and October to December) apply for a felling licence from the Forestry Commission. There are a number of exemptions to this requirement, with some of the more relevant exemptions including:

¹ Protection is similar to that afforded to trees protected by TPO.



- Pruning trees;
- Felling fruit trees or trees growing in a garden, orchard, churchyard or designated public open space;
- Felling trees that, when measured at a height of 1.3 m from the ground, have a diameter of 8 cm or less;
- Felling trees immediately required for the purpose of carrying out development authorised by full planning permission;
- Felling necessary for the prevention of danger or the prevention or abatement of a nuisance² (e.g. threat/danger to a third party); and
- Felling necessary to prevent the spread of a quarantine pest or disease.

1.5.7 Other legislation that affords a lesser or indirect level of protection to trees includes the following:

- The Wildlife & Countryside Act 1981 (as amended);
- Conservation of Habitats and Species (amendment) Regulations 2018; and
- Hedgerow Regulations (1997).

1.5.8 All of the above provide for the identification and safeguarding of flora and fauna that may be found in association with trees and woodlands.

1.6 Protected Species

1.6.1 Trees can contain features such as cavities, cracks, splits and loose bark which can offer potential habitat to species such as bats. Bats and their roosts are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) as well as the Conservation of Habitats and Species Regulations 2019 (as amended) and are also listed under Section 41 of the Natural Environment and Rural Communities Act 2006.

1.6.2 Trees provide potential nesting habitat for birds and all wild UK birds and their active nests are protected under the Wildlife and Countryside Act 1981. For bird species listed on Schedule ZA1 of The Act it is an offence to take, damage or destroy their nest(s), whether active or not.

² NB - This only applies when a real and/or immediate danger is present.



2.0 The Survey

2.1 Desk Study – Legal Constraints

- 2.1.1 SLR accessed KC's website³ on the 8th October 2025 in order to ascertain whether any trees within and/or immediately adjacent to the Site are protected by TPO and/or CA status.
- 2.1.2 KC's website revealed that the majority of the woodland to north of the site identified as Ref. HU1/49/w10 on the Council's website and identified in this SLR report as woodland W1 is protected by TPO. Note, a copy of the TPO protecting this woodland has not been sought from the Council. No works can be undertaken to the trees within this woodland, unless authorised by the Council through the TPO application process or by detailing the works as part of a Full Planning Application, which is consented by the LPA.
- 2.1.3 WA also conducted a search using the Woodland Trust's Ancient Tree Inventory⁴ and DEFRA's Magic Map Application⁵ on 8th October 2025 to ascertain whether any recorded ancient trees and veteran trees, or ancient woodland, deciduous woodland, traditional orchard, and woodpasture and parkland priority habitats are located within the Site and/ or outside the Site boundary but within influencing distance of the Site.
- 2.1.4 The Ancient Tree Inventory does not currently contain any records of veteran or ancient trees within the Site, or within influencing distance of the Site. However, the Ancient Tree Inventory is a record of trees found by professionals and enthusiasts and submitted to the Woodland Trust for inclusion on the database and therefore is not a complete record and cannot be used to rule out the presence of veteran trees within and outside Site boundaries. As part of this survey and report, any ancient or veteran trees within or immediately adjacent to the site are identified. If trees are located further afield they may be missed if access is not granted. No veteran or ancient trees were found during the survey.
- 2.1.5 DEFRA's Magic Map listed the majority of Woodland W1 as being Ancient Semi-Natural Woodland (ASNW) priority habitat and that all of woodland W1 is listed as Deciduous Woodland priority habitat. The extent of the listed ASNW, known as Dean Wood, is shown on the Tree Protection Plan Ref. 415.065296.00001-ARB-D-001 Rev. A, along with a 15m buffer zone required by the government's standing advice '*Ancient woodland, ancient trees and veteran trees: advice for making planning decisions*'⁶. The Mapping also revealed that there is a Traditional Orchard priority habitat located immediately adjacent to the Site's eastern boundary, however this is outside of the Site boundary.

2.2 Field Survey

- 2.2.1 The arboricultural survey was undertaken by Kelly Stewart, Senior Arboriculturist with SLR, on 9th October 2025 using the methodology set out in BS5837:2012.

³ <https://www.kirklees.gov.uk/beta/trees-listing-and-conservation/tree-preservation-orders.aspx>

⁴ <https://ati.woodlandtrust.org.uk/>

⁵ <https://magic.defra.gov.uk/magicmap.aspx>

⁶ <https://www.gov.uk/guidance/ancient-woodland-ancient-trees-and-veteran-trees-advice-for-making-planning-decisions#avoid-impacts-reduce-mitigate-impacts-and-compensate-as-a-last-resort>



- 2.2.2 Weather conditions during the survey were fine with no adverse effect on the survey.
- 2.2.3 The trees were surveyed in accordance with the methodology outlined in Appendix 2.
- 2.2.4 Each individual surveyed individual tree (T), tree group (G), hedgerow (H) and woodland (W) was given a sequential reference number.
- 2.2.5 The trees were then classified in accordance with the BS5837:2012 tree quality assessment categories 'A', 'B', 'C' and 'U' (see category criteria and grading within Appendix 3). 'A' and 'B' category trees are considered as 'high' and 'moderate' quality, respectively, and are considered as a constraint to development. As such, these trees should be retained and afforded appropriate protection during development. 'C' category trees are considered to be of 'lower' quality due to their condition or 'lower' amenity value and are, therefore not usually considered a constraint to development. 'U' category trees are those in such a 'poor' condition that they cannot usually be retained within the current Site context for longer than ten years. It should be noted that in some cases, category 'U' trees may have valuable habitat/ecological value despite being in poor condition. In such cases, where it is safe to do so, these trees may be recommended for retention and/or pruning works. Where relevant, we will bring such trees to your attention. Where trees are located outside of the red and blue line Site boundaries, irrespective of their BS 5837 categorisation, these should be considered as a constraint during the Site layout design process and protected during construction, as such trees are not within the control of the Site owner.
- 2.2.6 Root Protection Areas (RPAs) are calculated for individual trees utilising the methodology set out in BS 5837:2012, which is calculated by multiplying the stem diameter (measured at 1.5 m from ground level) by twelve for single-stemmed trees and a variant on this for multi-stemmed trees. For surveys in England (and outside England where it is a Local Planning Policy requirement), individual veteran trees are given a standard BS 5837 RPA and also a secondary veteran tree RPA, to accord with government's standing advice 'Ancient woodland, ancient trees and veteran trees: protecting them from development' ⁷ and local planning policy, which is based on a calculation of fifteen times the stem diameter or five metres beyond the crown spread, whichever is greater.
- 2.2.7 For tree groups and woodlands, the calculated RPAs are based on a set distance from the canopy edge of the tree groups and woodlands. This calculation is based on the largest stem diameter of the trees on the edge of the tree groups and woodlands and the crown spread measurement for these edge trees. A variant of the tree group and woodland RPA calculation is used to calculate hedgerow RPAs, with the calculation based on the largest stem diameter of the hedgerow woody plants and the hedgerow width.
- 2.2.8 Further details for each tree, and the groups of trees surveyed are set out in the Arboricultural Survey Schedule (see Appendix 1) and on the Tree Protection Plan Ref. 415.065296.00001-ARB-D-001 Rev. A.

⁷<https://www.gov.uk/guidance/ancient-woodland-ancient-trees-and-veteran-trees-advice-for-making-planning-decisions>



3.0 Survey Results and Evaluation

3.1 Tree Population

- 3.1.1 The trees assessed and surveyed, which were located on and immediately adjacent to the Site, included twenty-nine individual trees, seven tree groups, two hedgerows and one woodland. The locations of the surveyed trees and hedgerows, along with their colour graded crown spreads/ canopies and their RPAs are detailed on the Tree Protection Plan Ref. 415.065296.00001-ARB-D-001 Rev. A.
- 3.1.2 The survey revealed that, 62% of the individual tree population was classified as category 'B' quality, 35% as category 'C' quality and 3% category as category 'U' quality. No category 'A' quality individual trees were found during the survey.
- 3.1.3 In terms of the surveyed tree groups and woodland, 75% were classified as 'B' quality, 13% as 'C' quality and 12% as 'A' quality.
- 3.1.4 The category 'A' quality woodland W1 is primarily classified as Ancient Semi-Natural Woodland and is also protected by TPO.
- 3.1.5 No veteran or ancient trees were found during the survey.
- 3.1.6 A detailed description of all trees and groups of trees surveyed and recommended works can be found in the Tree Survey Schedule in **Appendix 1. Tables 1 and 2** below summarises the BS 5837 quality grading of the trees found on Site, with these figures represented in graph format in **Figure 2** for individual trees and **Figure 3** for tree groups and woodland.

Table 1: Individual Trees Quality Assessment Summary				
Tree Quality	A	B	C	U
Individual Trees Identification	None	T3, T5, T7, T9, T10, T11, T12, T13, T14, T15, T16, T17, T18, T20, T21, T23, T24, T26	T1, T2, T4, T8, T19, T22, T25, T27, T28, T29	T6
Totals	0	18	10	1

Table 2: Tree Groups & Woodland Quality Assessment Summary				
Tree Groups & Woodland Quality	A	B	C	U
Tree Groups and Woodland Identification	W1	G1, G3, G4, G7, G5, G6	G2	
Totals	1	6	1	0



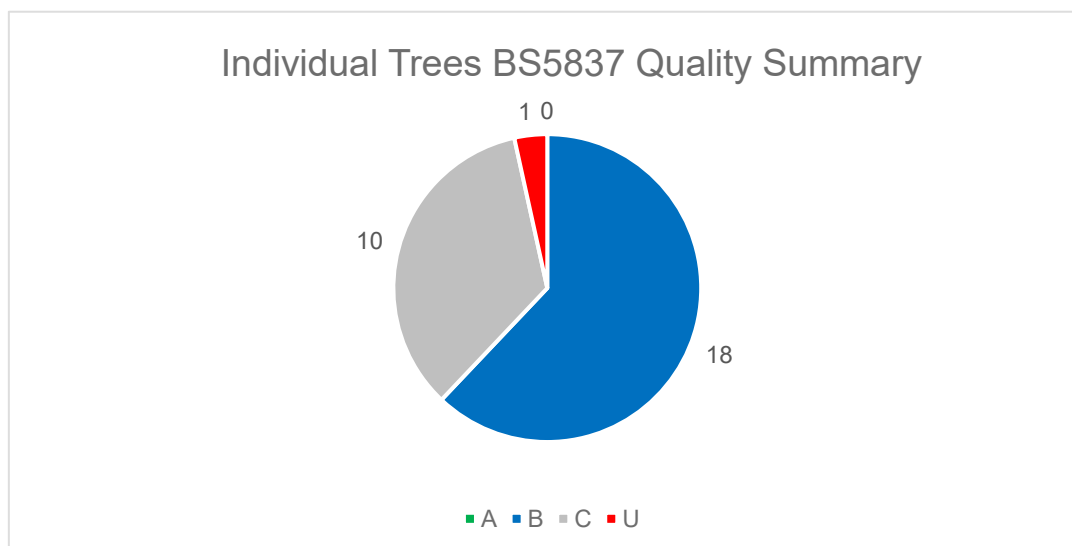


Figure 2: Overview of the BS 5837 quality of individual trees found on Site

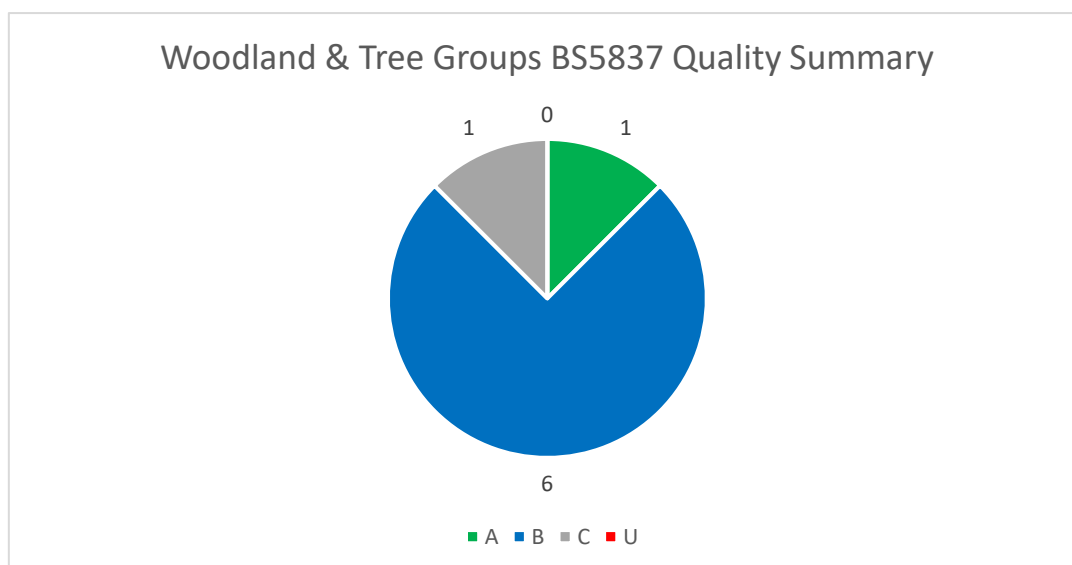


Figure 3. Overview of the BS5837 quality of Woodland and Tree Groups found on site

- 3.1.7 An assessment of the age class of the individual tree population on Site, reveals that the population is predominantly made up of early-mature trees, with these each accounting for 55% of the population. The remaining individual tree population is made of a mature tree, accounting for 31% of the population and semi- mature trees accounting for 14% of the population. No individual young and late-mature trees were recorded during the survey. Even though BS 5837 classifies veteran trees as an age class and doesn't currently differentiate between a veteran and ancient tree, neither were found during the survey. A summary of the age class assessment for individual trees is shown in the graph **Figure 4**.





Figure 4: Individual trees age class assessment summary.



4.0 Development Impact to Retained Trees

- 4.1.1 Implementation of the proposed scheme will necessitate the removal of one individual trees and sections from two tree groups as detailed in full in **Table 3**. Additional impacts on trees to be retained along with proposed mitigation measures are also detailed in **Table 3**.
- 4.1.2 In assessing the impacts of the proposed development on the trees on and adjacent to the Site and in proposing mitigation for these impacts, this report accords with the requirements of BS 5837 and local and national planning policies.



Table 3: Overview of Arboricultural Impacts and Proposed Mitigation				
Tree/ Group No.	Proposed Works	Impact	Mitigation/Compensation	BS 5837 Quality Categorisation
T27, G1 (partial), G7 (partial),	The removal of trees to facilitate the proposed development	Low Impact In order to facilitate the proposed development the following trees will require removal. <u>Individual Trees</u> T27 ('C' Category): This small tree requires removal to enable the installation of boundary fencing for the rear garden of one of the proposed dwellings. <u>Tree Groups</u> G1 ('B' Category): Approximately 103m² of this group is required to be removed to enable the formation of footways. The removals equate to approximately 1.7% of the group's total canopy area of 890m². G7 ('B' Category): Approximately 15m² of this group is required to be removed to enable the formation of footway. The removals equate to approximately 63% of the group's total canopy area of 123m². The removals will have a low impact on local amenity and ecosystem service benefits that the trees on and immediately adjacent to the site currently provide.	New tree planting forms part of the proposed landscape scheme for the development, which will compensate for the tree losses. All tree removals are to be undertaken by a suitably qualified and insured tree work contractor, working in accordance with BS3998:2010 – <i>Tree work. Recommendations</i> and industry best practice.	B, C
T17, T19, T20, T21, T22, T23, T24, T28, G5, G6, G7, W1	Pruning to facilitate the proposed development	Low – Moderate Impact In order to facilitate the proposed development the following trees will require <u>Individual Trees</u> T17 'B' Quality: A section of the tree's western crown is likely to require either side pruning or crown raising to enable the construction of a proposed wall that is partially within the tree's crown. The pruning is likely to have a low impact on the tree's physiological condition and amenity value due to the small area that may require pruning. T19, T22 'C' Quality, T20, T21, T23, T24 'B' Quality: Crown raising and/or lateral side pruning is likely to be required at six areas within the crown	Pruning works to be specified on Site by the Project Arboriculturist, in combination with the contracting arborist (tree surgeon). All pruning works are to be undertaken by a suitably qualified and insured tree work contractor, working in accordance with BS 3998:2010 – <i>Tree work. Recommendations</i> and industry best practice.	A, B, C



Table 3: Overview of Arboricultural Impacts and Proposed Mitigation				
Tree/ Group No.	Proposed Works	Impact	Mitigation/Compensation	BS 5837 Quality Categorisation
		spreads of these trees, to enable the installation of garden boundary fencing. It is considered due to the extent of pruning that may be required that the impact on the trees amenity value and physiological condition is likely to range between low to moderate, dependent on the extent of pruning required for each tree. T28 'C' Quality: A lateral side reduction of the tree's western crown by up to approximately 0.9m is proposed to provide working space for the construction of the adjacent proposed dwelling. It is considered that the pruning is likely to have a low impact on the tree's amenity value and physiological condition. <u>Woodland</u> W1 'A' Quality: One small section of the eastern canopy of this woodland may require either side pruning or crown raising to enable the construction of a proposed wall and footway that are partially within the eastern canopy of this woodland. The proposed pruning is likely to affect approximately 8m² of the woodlands canopy. Additionally, crown raising and/or lateral side pruning is likely to be required at six areas within the southern canopy of this woodland to enable the installation of garden boundary fencing. It is considered that the proposed pruning will have a low impact on the affected trees physiological condition and amenity value due to the small areas that may require pruning. <u>Tree Groups</u> G5 'B' Quality: A lateral side and/ or crown raising pruning is likely to be required at two locations to enable garden boundary fencing to be installed. It is considered that the proposed pruning will have a low impact on the affected trees physiological condition and amenity value due to the small areas that may require pruning. G6 'B' Quality: A lateral side and/ or crown raising pruning is likely to be required at one location to enable a footway to be installed that is proposed		



Table 3: Overview of Arboricultural Impacts and Proposed Mitigation				
Tree/ Group No.	Proposed Works	Impact	Mitigation/Compensation	BS 5837 Quality Categorisation
		partially within the western edge of this tree groups canopy. It is considered that the proposed pruning will have a low impact on the affected trees physiological condition and amenity value due to the small areas that may require pruning. G7 'B' Quality: A lateral side and/ or crown raising pruning is likely to be required at four locations to enable garden boundary fencing to be installed. It is considered that the proposed pruning will have a low impact on the affected trees physiological condition and amenity value due to the small areas that may require pruning.		
H2, T28	Root Pruning required to facilitate the proposed development	Low Impact The following hedgerow and tree may require root pruning to enable the proposed development: Individual Trees T28 ('C' Category): A dwelling footprint encroaches within a 3.7m long section of the south-western part of this tree's RPA, with the encroachment at its widest being 0.6m. If roots are present within the dwelling footprint, they would be damaged when the foundations within the encroachment area are excavated. Therefore to prevent significant damage to the impacted roots, the excavation would need to be excavated under the supervision of an arboriculturist, and any roots found pruned back to the edge of the excavated area. As this encroached upon part of the RPA is at the furthest extent of the RPA, it is expected that no structural roots are likely to be found and that if roots are present only ephemeral feeder roots are likely to be present. For this reason it is considered that the impact of pruning of roots found will have a low impact on the tree's physiological condition, provided the pruning is undertaken by an arboriculturist. Hedgerows H2: If the PRoW footpath is to be excavated to provide a sub-base to support a hoggin wearing course, excavations may be required. The footprint of the PRoW encroaches within a 13m long section of the northern RPA for this hedgerow, with the encroachment at its widest being 0.5m. If the area is to be excavated, there is potential for roots of the hedgerow to be	Root pruning to be undertaken by the Project Arboriculturist in accordance with the specification detailed in an Arboricultural Method Statement.	C



Table 3: Overview of Arboricultural Impacts and Proposed Mitigation				
Tree/ Group No.	Proposed Works	Impact	Mitigation/Compensation	BS 5837 Quality Categorisation
		present, therefore these will require pruning back to the edge of the excavated area by the Project Arboriculturist. Taking into the account the age and vitality of the hedgerow and the potential excavated RPA encroachment, it is considered that the impact of the root pruning would have a low impact on the hedgerow's physiological condition, provided the pruning is undertaken by an arboriculturist.		
T4, T5, T17, G6, G7, W1	Proposed footways within retained trees RPAs	Low Impact Proposed hard surfaced footway sections and a PRoW that is to have a Hoggin wearing course encroach within the RPAs of the following trees: <u>Individual Trees</u> T4 'C' Quality, T5 'B' Quality: An existing PRoW that is within the RPAs of both of these trees is to be surfaced with a Hoggin type wearing course. The encroachment for tree T4 is 1.0m², which is approximately 11.2% of the tree's total RPA of 8.9m² and for tree T5 the encroachment is 53m², which is approximately 8.5% of the tree's total RPA of 624m². In order to protect the root systems of both tree's the works to surface the PRoW will need to be to a no-dig specification e.g. the sub-base built up above ground level, with the use of a three-dimensional geogrid charged with angular 20-40 aggregate with no fines for the sub-base. Ideally the wearing course comprised of Hoggin. If constructed in this way in accordance with a methodology in an Arboricultural Method Statement, then the impact on both trees physiological condition is likely to be low. T17 'B' Quality: A proposed hard surfaced footway encroaches within the RPA of this tree by approximately 0.9m², which is which is approximately 2.3% of the tree's total RPA of 40m². Provided that this section of footway is constructed to a no dig specification, utilising a three-dimensional geogrid charged with angular 20-40 aggregate with no fines for the sub-base and a porous wearing course, then the impact on this tree is likely to be low. <u>Tree Groups</u> G6 'B' Category: A proposed hard surfaced footway encroaches within the RPA of this tree group by approximately 13.5m². Provided that this section of footway is constructed to a no dig specification, utilising a three-dimensional	A construction/ installation specification to be detailed in an Arboricultural Method Statement.	A, B, C



Table 3: Overview of Arboricultural Impacts and Proposed Mitigation				
Tree/ Group No.	Proposed Works	Impact	Mitigation/Compensation	BS 5837 Quality Categorisation
		geogrid charged with angular 20-40 aggregate with no fines for the sub-base and a porous wearing course, then the impact on this tree is likely to be low. G7 ('B' Category): A proposed hard surfaced footway encroaches within the RPA of this tree group by approximately 6m². Provided that this section of footway is constructed to a no dig specification, utilising a three-dimensional geogrid charged with angular 20-40 aggregate with no fines for the sub-base and a porous wearing course, then the impact on this tree is likely to be low. <u>Woodland</u> W1 'A' Quality: A proposed hard surfaced footway encroaches within the RPA of this woodland by approximately 6m². Provided that this section of footway is constructed to a no dig specification, utilising a three-dimensional geogrid charged with angular 20-40 aggregate with no fines for the sub-base and a porous wearing course, then the impact on this tree is likely to be low. If the above footways are constructed using traditional techniques and materials within the RPA encroached upon areas, the impact on the affected trees is likely to range between moderate to high. These would need to be assessed individually, when the construction details are known. Additional tree felling may be required, if the impacts on safety are likely to be high.		
T17, W1	Wall foundations to be constructed within retained trees RPAs	<u>Low Impact</u> A proposed wall encroaches within the RPA of these trees: <u>Individual Trees</u> T17 'B' Quality: A proposed wall encroaches within the RPA of this tree by approximately 0.08m², which is which is approximately 0.2% of the tree's total RPA of 40m². As this encroachment is so small and as it is at the extremity of the tree's RPA, it is considered that provided the excavations for the wall's footings are supervised by an arboriculturist and any roots found are cleanly severed, that the impact on this tree's physiological condition is likely to be low. <u>Woodland</u> W1 'A' Quality: The same wall that slightly encroaches into the RPA of tree T17 also encroaches into the western extent of woodland W1, with this	Excavations to be undertaken using hand tools only and under the supervision and direction of the Project Arboriculturist. Any roots found are to be cleanly severed by the Project Arboriculturist. A full methodology for the excavations to be included in an Arboricultural Method Statement.	A, B



Table 3: Overview of Arboricultural Impacts and Proposed Mitigation				
Tree/ Group No.	Proposed Works	Impact	Mitigation/Compensation	BS 5837 Quality Categorisation
		encroachment being 0.4m ² . It is considered that as this section of woodland is beyond T17 and because the encroachment is so small that provided that the excavations for the wall's footings are supervised by an arboriculturist and any roots found are cleanly severed, that the impact on this tree's physiological condition is likely to be low.		
T17, T18, T19, T20, T21, T22, T23, T24, T26, T28, G5, G6, G7, W1	Working areas within retained trees RPAs requiring installation of temporary ground protection measures.	Low Impact Working areas encroach within the RPAs of the following trees to be retained: <u>Individual Trees</u> T17, T18, T20, T21, T23, T24, T26 'B' Quality, T19, T22, T28 'C' Quality: Temporary ground protection measures are required to be installed within these trees RPAs to enable boundary fence installation and the proposed wall construction, to ensure that the underlying soil is protected from compaction damage. <u>Tree Groups & Woodland</u> G5, G6, G7 'B' Category: Temporary ground protection measures are required to be installed within these tree groups RPAs to enable boundary fence installation, a wall to be constructed and to provide a working area to enable a dwelling to be constructed. The purpose of the temporary ground protection measures is to ensure that the underlying soil is protected from compaction damage. The locations of where the temporary ground protection measures are to be installed are shown on the Tree Protection Plan Ref. 415.065296.00001-ARB-D-001 Rev. A. The temporary ground protection measures will comprise of an appropriate non-woven needle punched geotextile such as 'Treetex' or similarly approved (Further details in Appendix I) placed directly onto the ground, topped with a layer of wood chippings 100mm deep with appropriately rated ground protection mats such as the 'SafeMat' (Further details in Appendix J) placed on top of the wood chippings and secured in place. Provided the temporary ground protection measures are installed prior to	Ground protection measures to be specified and installed in accordance with a specification and methodology in an Arboricultural Method Statement	A, B, C



Table 3: Overview of Arboricultural Impacts and Proposed Mitigation				
Tree/ Group No.	Proposed Works	Impact	Mitigation/Compensation	BS 5837 Quality Categorisation
		development construction works commencing, at the same time as the protection fencing is erected, the impact of the works within the affected trees RPAs on the trees' physiological condition is likely to be low.		
All retained trees and hedgerows on site	Development works in close proximity to retained trees	Low Impact There is potential for retained trees and hedgerows to be damaged by Site preparation and construction works. However, if the retained trees and are protected with appropriate fencing and ground protection measures during the development construction works, including ground works, then the impact on the these retained trees will be negligible.	All retained trees and hedgerows will be protected with fencing and ground protection measures to BS 5837 standard and at the locations shown on the Tree Protection Plan Ref.415.065296.00001-ARB-D-001 Rev. A. These tree protection measures shall be installed prior to all development works, including ground works, commencing on Site. The fencing and ground protection measures shall be maintained during development's ground works and construction phases and only removed when construction activities have been completed.	A, B, C
W1	Development within Ancient Woodland buffer zone	Low to Moderate impact A 15m buffer zone required by the Governments Standing Advice 'Ancient woodland, ancient trees and veteran trees: advice for making planning decisions' has been applied to the Ancient Woodland known as Dean Wood, which is primarily comprised of the SLR surveyed woodland W1. This buffer zone is shown on the Tree Protection Plan Ref. 415.065296.00001-ARB-D-001 Rev. A. This buffer zone is applied from the actual ASNW designation detailed on Magic mapping. As can be seen on the Tree Protection Plan, a small section (approximately	None proposed	A



Table 3: Overview of Arboricultural Impacts and Proposed Mitigation				
Tree/ Group No.	Proposed Works	Impact	Mitigation/Compensation	BS 5837 Quality Categorisation
		88m²) of the buffer zone is encroached upon with development, comprising of a footpath link, a wall and section of a dwelling's garden. Despite the encroachment in the buffer zone, none of the trees within the ancient woodland or their RPAs are impacted.		



5.0 Arboricultural Method Statement

5.1 Tree Protection Sequence of Operations

- 5.1.1 Prior to all development works commencing on Site, including site preparation works, the following operations shall be implemented in the manner and sequence described below in order to ensure retained trees are adequately protected during each development phase.

5.2 Tree Removals

- 5.2.1 Trees are to be removed to enable the development works to proceed.
- 5.2.2 The trees and sections of woodland to be removed are shown on the Tree Protection Plan Ref. 415.065296.00001-ARB-D-001 Rev. A. and are detailed below.

Individual Trees to be Removed

Tree T27.

Tree Group Sections to be Removed

G1 ('B' Category): Approximately 103m² of this group is required to be removed.

G7 ('B' Category): Approximately 15m² of this group is required to be removed.

- 5.2.3 The removals shall ideally be undertaken outside the bird nesting season from March 1st through to August 31st. Where tree removals are to take place within the bird nesting season, due diligence must be taken to ensure that checks are undertaken for nesting birds and other protected species by an ecologist prior to their removal, to ensure that nesting birds are not disturbed or the nests destroyed, which would contravene the Wildlife and Countryside Act.
- 5.2.4 The removal of the trees shall be undertaken prior to the erection of the Tree Protection Fencing and Ground Protection measures. Care shall be taken to avoid damaging retained trees and hedgerows and damaging the soil structure (i.e. compaction, rutting and smearing of the soil) within retained trees and hedgerows RPAs, during the tree removal operations. No heavy machinery used for removing trees shall enter retained trees' RPAs as shown by the location of Tree Protection Fencing and Ground Protection measures on the Tree Protection Plan Ref. 415.065296.00001-ARB-D-001 Rev. A.
- 5.2.5 Where the removal of stumps of the felled trees is required, these shall be ground to below ground level. Care shall be taken so as to ensure that the roots of adjacent retained trees are not damaged by the stump removal works.
- 5.2.6 The tree removals shall be undertaken by a qualified arborist (tree surgeon) holding public liability insurance to a level required by the client. The tree removals shall be undertaken in accordance with British Standard 3998:2010 – Tree Work Recommendations. On no account shall tree removals be undertaken by personnel that are not qualified and insured to fell trees.

5.3 Tree Pruning

- 5.3.1 The pruning of the following trees at the locations approximately shown on the Tree Protection Plan Ref. 415.065296.00001-ARB-D-001 Rev. A is likely to be required to provide height clearance for development works, however, the height clearances required are yet to be determined. Note the areas shown on the plan are



approximate and pruning will be based on the need to provide side or height clearance to facilitate the development design only. The pruning will be specified on Site by the Project Arboriculturist, with the pruning enacted potentially being slightly more or slightly less than shown on the plan:

Individual Trees to be pruned

T17, T19, T20, T21, T22, T23, T24: To be laterally side pruned/ crown raised to provide approximately 3.0m height clearance above ground level to provide height clearance to enable garden boundary fencing to be installed.

T28: This tree's western crown to be laterally pruned by up to 1.5m to provide clearance over a construction working area.

Tree Groups to be pruned

G5 (partial), G6 (partial), G7 (partial): To be laterally side pruned/ crown raised to approximately 3.0m in height to provide height clearance over the proposed footways and garden boundary fences.

Woodland to be pruned

W1 (partial): To be laterally side pruned/ crown raised to approximately 3.0m in height to provide height clearance over the proposed footway and wall.

- 5.3.2 All pruning works specifications are to be agreed on Site by the Project Arboriculturist and the contractor.
- 5.3.3 Any other tree pruning works required shall only be undertaken if specified and approved by the Project Arboriculturist.
- 5.3.4 Tree pruning will be undertaken by a qualified arborist (tree surgeon) holding public liability insurance to a level required by the client and be undertaken in accordance with the recommendations in British Standard 3998:2010. On no account shall tree pruning be undertaken by un-qualified and un-insured personnel.
- 5.3.5 The pruning shall ideally be undertaken outside the bird nesting season from March 1st through to August 31st. Where tree pruning is to be undertaken within the bird nesting season, due diligence must be taken to ensure that checks are undertaken for nesting birds and other protected species by an ecologist prior to their removal, to ensure that nesting birds are not disturbed or the nests destroyed, which would contravene the Wildlife and Countryside Act.
- 5.3.6 The tree pruning shall be undertaken prior to the erection of the Tree Protection Fencing and Ground Protection measures. Care shall be taken to avoid damaging retained trees and hedgerows and damaging the soil structure (i.e. compaction, rutting and smearing of the soil) within retained trees and hedgerows RPAs, during the tree pruning operations. No heavy machinery utilised during the tree pruning works shall enter retained trees' RPAs as shown by the location of Tree Protection Fencing and Ground Protection measures on the Tree Protection Plan Ref. 415.065296.00001-ARB-D-001 Rev. A.

5.4 Installation of Tree Protection Fencing

- 5.4.1 The retained trees on Site shall be protected with Tree Protection Fencing, which shall be erected at the locations shown on the Tree Protection Plan Ref. 415.065296.00001-ARB-D-001 Rev. A, prior to all development works, including ground works commencing on Site.



- 5.4.2 The Tree Protection Fencing shown in magenta (purple/pink) on the Tree Protection Plan Ref. 415.065296.00001-ARB-D-001 Rev. A shall remain in situ for the lifetime of the development works and shall only be removed when all development works have ceased on Site (excluding landscaping) and following the final inspection by the Project Arboriculturist.
- 5.4.3 The Tree Protection Fencing shall comprise of 'Heras' 2m tall welded mesh panels on rubber or concrete feet to BS 5837: 2012 to ensure that retained trees and hedgerows are adequately protected during the development ground and construction works. The panels shall be joined together using a minimum of two anti-tamper couplers, installed so that they can only be removed from inside the fence (e.g. on the trees side of the fence). The distance between the fence couplers shall be at least 1m and shall be uniform throughout the fence. The panels shall be supported on the inner side (e.g. on the trees side of the fence) by stabiliser struts, which should be attached to a base plate secured with ground pins.
- 5.4.4 Care shall be taken to prevent soil compaction when installing the Tree Protection Fencing. No vehicles or heavy plant shall enter the RPAs of the trees to be retained as shown on the Tree Protection Plan Ref. 415.065296.00001-ARB-D-001 Rev. A. Pedestrian movements within the TPF shall be kept to a minimum, only allowing for the installation of the Tree Protection Fencing. The Tree Protection Fencing shall not be installed when the soil within the RPAs being protected is saturated after heavy rainfall. If this is the case, the installation would have to be delayed until the soil has dried out sufficiently that pedestrian movements do not unduly damage the soil structure.
- 5.4.5 Following the erection of the Tree Protection Fencing, laminated copies of the tree protection signage as detailed in *Appendix G*, shall be affixed to the Tree Protection Fencing at 5m intervals along the fencing. These signs shall remain affixed to the Tree Protection Fencing for the duration of the development works. If the signs become illegible, defaced or are removed, replacement signs shall be erected as soon as possible after discovering the signage is either missing or illegible.
- 5.4.6 The Tree Protection Fencing and the specified and installed temporary ground protection measures shall be inspected in accordance with the following schedule:
- Inspection by the Project Arboriculturist within 1-2 weeks following the erection of the TPF and installation of the ground protection measures;
 - Inspection by the Project Arboriculturist on a monthly basis during active development works;
 - Inspection by the Project Arboriculturist on completion of the development construction works, prior to removal of the Tree Protection Fencing and ground protection measures.



- 5.4.7 Details of the inspections of the TPF shall be recorded on the Arboricultural Site Supervision Form (ASSF), which can be found in Appendix H and kept on file on site by the Site Manager.

5.5 Target Note 4 – Installation of Temporary Ground Protection Measures

- 5.5.1 The working areas within the RPAs of retained trees is to be protected from construction activities with Temporary Ground Protection Measures. The working areas to be protected with are identified with cross hatching on the Tree Protection Plan Ref. 415.065296.00001-ARB-D-001 Rev. A is within the RPAs of the following retained trees:

Temporary Ground Protection Within Individual Trees RPAs

- T17, T18, T17, T19, T20, T21, T22, T23, T24, T26, T28.

Temporary Ground Protection Within Tree Group RPAs

- G5, G6, G7.

Temporary Ground Protection Within Tree Group RPAs

- W1.

- 5.5.2 The working areas to be protected with ground protection measures are shown at the locations on the Tree Protection Plan Ref. 415.065296.00001-ARB-D-001 Rev. A as green cross hatch and referenced as 'Target Note 4'. The Temporary Ground Protection Measures shall be installed prior to all development works, including ground and construction works commencing on Site.
- 5.5.3 Ground protection mats suitable for the weight loading of plant and machinery to be used, are to be utilised.
- 5.5.4 The Temporary Ground Protection Measures shall comprise of an appropriate non-woven needle punched geotextile such as 'Treetex' or similarly approved (Further details in Appendix I) placed directly onto the ground, topped with a layer of wood chippings 150mm deep with appropriately rated ground protection mats such as the 'SafeMat' (Further details in Appendix J) placed on top of the wood chippings and secured in place. Where other types of geotextile and/ or ground protection mats are to be utilised, the specification shall be agreed upon by the Project Arboriculturist, prior to its utilisation. If the alternate Temporary Ground Protection Measures differs significantly from that detailed above, the LPA Tree Officer will be consulted, with the this alternate only allowed to be utilised following receipt of written confirmation from the Tree officer.
- 5.5.5 Care shall be taken to prevent soil compaction when installing the Temporary Ground Protection Measures. No vehicles or heavy plant shall enter the RPAs of the trees and hedgerows to be retained, as shown on the Tree Protection Plan Ref. 415.065296.00001-ARB-D-001 Rev. A. Pedestrian movements shall be kept to a minimum essential for installation of the Temporary Ground Protection Measures. The ground protection measures shall not be installed when the soil within the RPAs being protected is saturated after heavy rainfall. If this is the case, the installation would have to be delayed until the soil has dried out sufficiently that pedestrian movements do not unduly damage the soil structure.
- 5.5.6 Ground levels shall not be raised or lowered within the footprint of the Temporary Ground Protection Measures as shown on the Tree Protection Plan Ref. 415.065296.00001-ARB-D-001 Rev. A, unless otherwise specified in this report or specified and undertaken under the direction of the Project Arboriculturist.



5.6 Tree & Hedgerow Protection During Development Works

- 5.6.1 The Tree Protection Fencing and Temporary Ground Protection Measures shall be maintained in good order throughout the development works timeframe.
- 5.6.2 No excavations shall take place within the retained trees and hedgerows RPAs as shown on the Tree Protection Plan Ref. 415.065296.00001-ARB-D-001 Rev. A, unless specified in this report and/or under the approvals, direction and supervision by the Project Arboriculturist. Additionally, ground levels shall not be raised within these RPAs unless specified in this report and/ or under the approval, direction and supervision of the Project Arboriculturist.
- 5.6.3 No machinery, vehicles or plant shall enter the fenced off tree RPAs as shown on the Tree Protection Plan Ref. 415.065296.00001-ARB-D-001 Rev. A unless otherwise stated in this report and/ or under the approval, direction and supervision by the Project Arboriculturist.
- 5.6.4 All machinery operating close to the RPAs or canopies of trees and hedgerows must be supervised by the banksman to ensure that all parts of the machinery avoid contact with the retained trees and hedgerows.
- 5.6.5 Any damage to trees must be reported to the Project Arboriculturist for immediate assessment.
- 5.6.6 No diesel, petrol, hydraulic fluid, cement dust, concrete slurry or other materials hazardous to tree health shall be deposited or be allowed to enter the retained trees RPAs (fenced off and covered with ground protection measures) as shown on the Tree Protection Plan Ref. 415.065296.00001-ARB-D-001 Rev. A. Nappy matts and/ or bundled filling areas are also to be utilised to prevent the spillage of harmful materials within the RPAs of all retained trees where the RPA cannot be fully fenced and thus ground protection measures are utilised to protect these trees RPAs.
- 5.6.7 During the development works, any pedestrian access required within areas protected by Tree Protection Fencing, shall only be allowed following discussions and authorisation by the Project Arboriculturist.
- 5.6.8 A copy of this Arboricultural Method Statement and associated Tree Protection Plan Ref. 415.065296.00001-ARB-D-001 Rev. A shall be kept on Site at all times and be available for inspection by the LPA and/ or Project Arboriculturist within normal working hours. All Site personnel, including external and sub-contractors shall be informed of the tree and hedgerow protection measures and requirements of this Arboricultural Method Statement and Tree Protection Plan at the Site induction stage, prior to commencing work on Site.

5.7 Target Note 1 - Excavations and Root Pruning

- 5.7.1 The footprint of development works falls within the RPAs of the following retained tree T28 and hedgerow H2. Excavations are to be undertaken and if roots are found during the excavations, root pruning will be required.
- 5.7.2 The extent of the excavations and potential root pruning are shown on Tree Protection Plan Ref. 415.065296.00001-ARB-D-001 Rev. A, labelled 'Target Note 1'.
- 5.7.3 The nearest edge of the excavations required to tree T28 and hedgerow H2 shall be marked out on the ground by a topographical surveyor. Along this edge, an excavation will be made using compressed air e.g. an airspade and/ or manually using hand tools to a minimum depth of 300mm or more, until no roots are found. These excavations shall be supervised and directed by the Project Arboriculturist.



Only when the Project Arboriculturist deems that no further roots will be found, can an excavator be utilised to complete the excavations. Any roots found during the excavations, will be cleanly pruned using sterilised secateurs or hand saw, back to the edge of the excavated area by the Project Arboriculturist. If significant structural roots are found and have to be removed, the Project Arboriculturist will assess the impact on the safe retention of the impacted tree and hedgerow and will make appropriate recommendations to address the risk if the tree and/ or hedgerow are significantly impacted by root loss. As the RPA excavation impacts are at the outer edge of the RPAs, well outside of the T28's rooting zone of rapid taper, it is unlikely that major structural roots are likely to be found. Where any roots become exposed, including the cut ends of the roots, they shall be dampened with clean potable water when there is no risk of frost and then the roots will be covered with hessian sacking to prevent desiccation and death of the roots, whilst they are exposed. Where there are pruned root ends present and concrete is to be poured into the excavated trench for the dwelling foundation adjacent to tree T28, a layer of visqueen or an alternative non-porous material will be placed between the roots and the concrete to be poured to prevent damage to the roots, whilst the concrete cures.

5.8 Target Note 2 - No-Dig Footway Construction Within Retained Trees RPAs

- 5.8.1 The existing PRoW is to be surfaced with Hoggin. This encroaches within the RPAs of individual trees T4 and T5. Excavating to install the sub-base for Hoggin wearing course, would result in significant root loss due to excavations, therefore within the RPAs of these two trees, the PRoW footway will be constructed in accordance with the specification and methodology detailed below:
- 5.8.2 The sub-base for the PRoW footway shall consist of an appropriate non-woven needle punched geotextile such as Treetex or similarly approved (further details in Appendix I) placed directly onto the ground, with a three-dimensional geogrid appropriate to the expected loading, such as Cellweb or similarly approved (Further details in Appendix K) placed on top of the geotextile and pegged out within the footprint of the PRoW within the RPAs of trees T4 and T5 as shown with purple cross hatch and labelled as 'Target Note 2' on the Tree Protection Plan Ref. 415.065296.00001-ARB-D-001 Rev. A. The three-dimensional Geogrid shall be then charged with clean (e.g. no fines) angular 20-40 mm stone (no limestone to be used) to the top of the geogrid. A needle punched geotextile will then be placed on top of the charged geo-grid sub-base and then the final Hoggin wearing course shall then be installed on the top of the charged three-dimensional geogrid. The installation of the no-dig sections will adhere to the manufacturer's installation instructions and be supervised and directed by the Project Arboriculturist. A Cellweb installation guide is included in Appendix I of this report. The geogrid will be installed from the north first, with the installation traffic and pedestrian movements working from on-top of the previously installed geogrid sections.
- 5.8.3 Following the installation of the three-dimensional geogrid subbase, the Hoggin wearing course shall be applied in accordance with the manufacturer's recommendations.
- 5.8.4 Proposed hard surfaced footways encroach within the RPAs of trees T17, tree groups G6 and G7 and woodland W1, therefore within these RPAs the hard surfaced footways will be constructed will be constructed in accordance with the specification and methodology detailed below:
- 5.8.5 The sub-base for these footways shall consist of an appropriate non-woven needle punched geotextile such as Treetex or similarly approved (further details in



Appendix I) placed directly onto the ground, with a three-dimensional geogrid appropriate to the expected loading, such as Cellweb or similarly approved (Further details in Appendix K) placed on top of the geotextile and pegged out within the footprint of the PRoW within the RPAs of trees T17, tree groups G6 and G7 and woodland W1 as shown with purple cross hatch and labelled as 'Target Note 2' on the Tree Protection Plan Ref. 415.065296.00001-ARB-D-001 Rev. A. The three-dimensional Geogrid shall be then charged with clean (e.g. no fines) angular 20-40 mm stone (no limestone to be used) to the top of the geogrid. A needle punched geotextile will then be placed on top of the charged geo-grid sub-base and then the final wearing course, which should be porous shall then be installed on the top of the charged three-dimensional geogrid. The installation of the no-dig sections will adhere to the manufacturer's installation instructions and be supervised and directed by the Project Arboriculturist. A Cellweb installation guide is included in Appendix I of this report. The geogrid will be installed from the Site side first, with the installation traffic and pedestrian movements working from on-top of the previously installed geogrid sections.

- 5.8.6 Care shall be taken to prevent soil compaction when installing the three-dimensional geogrid foundation subbases. No vehicles or heavy plant shall enter the RPAs of the trees to be retained, as shown on the Tree Protection Plan Ref. 415.065296.00001-ARB-D-001 Rev. A. Pedestrian movements shall be kept to a minimum essential for installation of the geogrid sub-base. The geogrids shall not be installed when the soil within the RPAs of the retained trees is saturated after heavy rainfall. If this is the case the installation/ removal would have to be delayed until the soil has dried out enough to ensure damage is prevented from pedestrian movements.
- 5.8.7 Where required, to ensure finished levels are correct, the three-dimensional geogrid shall be built up in layers to accommodate the changes in levels and to provide acceptable gradients, in accordance with guidance on this matter from the manufacturer.
- 5.8.8 The installation of the footways within the retained trees shall be supervised by the Project Arboriculturist.

5.9 Target Note 3 - Wall Installation Within Retained Trees RPA

- 5.9.1 A proposed wall is within the RPAs of retained tree T17 and woodland W1. Ground protection measures are specified in S5.5 of this report to prevent unnecessary damage to the underlying soil when the wall is constructed.
- 5.9.2 The area to be excavated for the footings for the wall shall be marked out on the ground. The ground shall be excavated using compressed air e.g. an airspade and/ or manually using hand tools to the depth of the proposed footings. These excavations shall be supervised and directed by the Project Arboriculturist. Any roots found during the excavations, will be cleanly pruned using sterilised secateurs or hand saw, back to the edge of the excavated area by the Project Arboriculturist. If significant structural roots are found and have to be removed, the Project Arboriculturist will assess the impact on the safe retention of the impacted tree(s) and will make appropriate recommendations to address the risk if the tree and/ or are significantly impacted by root loss. Where any roots become exposed, including the cut ends of the roots, they shall be dampened with clean potable water when there is no risk of frost and then the roots will be covered with hessian sacking to prevent desiccation and death of the roots, whilst they are exposed. Where there are pruned root ends present, a layer of visqueen or an alternative non-porous material will be placed between the roots and the concrete to be poured for the footings to prevent damage to the roots, whilst the concrete cures.



5.10 Dust Prevention

- 5.10.1 If dust from development works falls onto accumulates on the retained trees and hedgerows, this dust shall be removed by hosing down the trees and hedgerows with clean water until the dust is removed from the trees. This hosing down shall take place at least once a week where dust has accumulated, during the active works to prevent a build-up of dust on the retained trees and hedgerows.

5.11 Location of Plant, Material Storage and Site Compound

- 5.11.1 The Site office, welfare units and the location of plant and storage materials are not known at this stage, however they shall be sited outside of the RPAs of retained trees and hedgerows and sufficiently far from all retained trees and hedgerows to not impact those trees.

5.12 Removal of Tree Protection Fencing and Ground Protection Measures

- 5.12.1 The Tree Protection Fencing and the Temporary Ground Protection Measures shall only be removed when all active development construction works (apart from landscaping) have been completed and following the final inspection and authorisation by the Project Arboriculturist (See S5.4.6).
- 5.12.2 The removal of the Tree Protection Fencing and Temporary Ground Protection Measures shall be undertaken by hand or using plant or machinery, only if located outside of the retained trees and hedgerows RPAs as detailed on the Tree Protection Plan Ref. 415.065296.00001-ARB-D-001 Rev. A. The Tree Protection Fencing shall be removed first, so that the ground protection measures continue to protect the RPAs whilst the fencing is dismantled and removed from Site. The Temporary Ground Protection Measures shall then be removed working backwards from the footprint of the ground protection measures and/ or from outside the RPAs of the retained trees, to minimise impacts on the underlying soil. Heavy machinery shall not be used, unless working from outside the RPAs of retained trees as shown as the fenced off areas on the Tree Protection Plan Ref. 415.065296.00001-ARB-D-001 Rev. A. Woodchip utilised for the ground protection can be spread within the trees RPAs, provided it has not become contaminated. The Tree Protection Fencing and Temporary Ground Protection Measures shall not be removed when the soil within the RPAs of the retained trees is saturated, in order to avoid compaction of the underlying soil.
- 5.12.3 Details of the final inspection of the Tree Protection Fencing and Temporary Ground Protection Measures shall be recorded on the Arboricultural Site Supervision Form, which can be found in Appendix H and kept on file on Site by the Site Manager.

5.13 Landscaping Within Retained Trees & Hedgerows RPAs

- 5.13.1 Where landscape planting works are to be undertaken within the RPAs of retained trees and hedgerows that are fenced off in order to protect the underlying soil structure from compaction and other types of damage, the Project Arboriculturist shall be consulted, and the landscaping works shall be undertaken in strict compliance with the directions of the Project Arboriculturist. To ensure that retained trees and the soil structure within their RPAs is not damaged during the landscaping works, the following shall be adhered to:
- No rotovating of soils within the RPAs of retained trees.



- No heavy plant used for landscaping works to be used within the RPAs of retained trees.
- No lowering or raising of ground levels within the RPAs of retained trees.

5.14 Arboricultural Supervision

- 5.14.1 In addition to the specified inspection of the Tree Protection Fencing and Temporary Ground Protection Measures as detailed in S5.4.6 in this report, supervision and direction of various works within retained trees RPAs by the Project Arboriculturist is specified, as detailed in this report and listed in the Arboricultural Site Supervision Schedule in Appendix H.



6.0 Summary and Recommendations

- 6.1.1 The requirements of BS 5837:2012 have been complied with during the initial tree survey and subsequently in assessing the arboricultural impacts arising from the proposed development and in specifying protection measures and working methodologies in this report.
- 6.1.2 An area of Ancient Woodland has been identified to the north of the Site, which is protected by TPO. There are no veteran or ancient trees on Site or outside the Site boundary within influencing distance of the Site.
- 6.1.3 The arboricultural impacts arising from the development design are discussed in Table 3, along with proposed mitigation and compensation measures. An Arboricultural Method Statement is included, with providing step by step specifications and methodologies to be adhered to ensure that the retained trees located on Site and those adjacent to the Site are protected during the development's construction timeframe.
- 6.1.4 All works requiring arboricultural supervision and/or inspections are detailed in the Arboricultural Site Supervision Schedule, which can be found in Appendix H. All arboricultural supervision works shall be recorded on the Site Supervision Form, which can also be found in Appendix H.



7.0 References

- British Standard, BS 3998:2010 Tree work. Recommendations. (The British Standards Institution, 2010).
- British Standard, BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations. (The British Standards Institution, 2012).
- NJUG Volume 4 - Guidelines for the planning, installation and maintenance of utility apparatus in proximity to trees (Issue 2:16th November 2007).
- Quantified Tree Risk Assessment User Manual, (QTRA User_Manual_V5.1.4_2015_01). (Incorporating extracts).
- Ministry of Housing, Communities and Local Government (2014) Tree Preservation Orders and Trees in Conservation Areas.
- <https://www.gov.uk/guidance/tree-preservation-orders-and-trees-in-conservation-areas>
- Forestry Commission (2007) Tree Felling – Getting Permission.
- Claus Mattheck (2007) Updated field guide for Visual Tree Assessment.
- Forestry Commission & Natural England (Updated 14th January 2022) Ancient Woodland and Veteran Trees: Protecting them from Development – Guidance.
- <https://www.gov.uk/guidance/ancient-woodland-and-veteran-trees-protection-surveys-licences#veteran-trees>

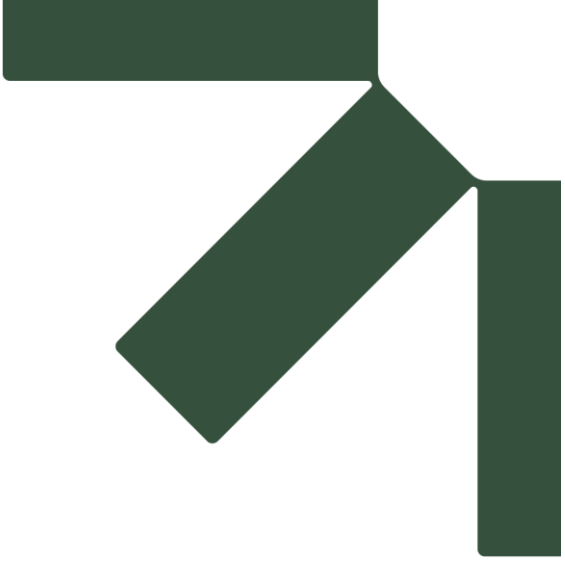
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Appendix A Tree Survey Schedule

Arboricultural Impact Assessment & Method Statement

Roslyn Avenue, Netherton

Harron Homes Ltd (Yorkshire)

SLR Project No.: 415.065296.00001415.065296.00001

30 October 2025

Location: Netherton (Job. No. 415.065296.00001)

Surveyor: Kelly Stewart

Weather: Fine

Estimated Stem Diameters & Other Measurements highlighted in this colour

Survey Date: 9th October 2025

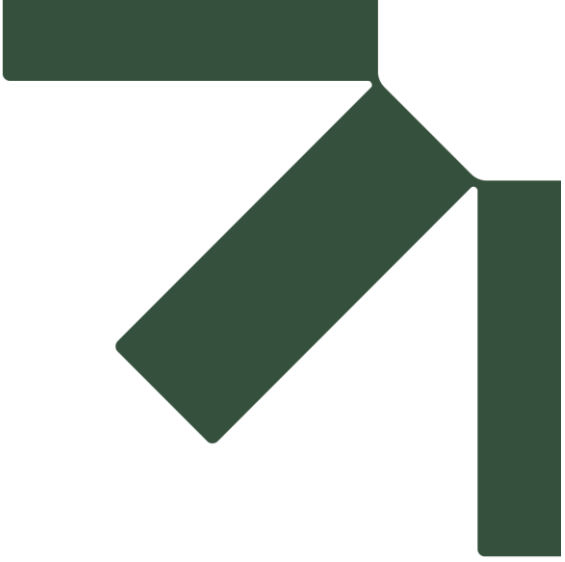


Item type: T (tree), G (group), H (hedge), W (woodland)	Tree/ Group Ref. No.	Previous Tree Survey No./ Tree Tag No. (Where Different from Tree No.	Common Name	Height(m)	Crown Clearance (m) & compass direction	Crown Spread (m)				Stem Diameter @ 1.5m (mm)						Number of stems	Age Class: Y (Young), SM (Semi- Mature), EM (Early-Mature), M (Mature), LM (Late-mature), V (Veteran)	Condition		Estimated Remaining Contribution: (<10 , 10+, 20+, 40+)	BS5837 Categorisation Grading		Comments	Preliminary management recommendations/ further works	BS 5837 Root Protection Area (m²)	BS 5837 Root Protection Radius (m)	Veteran Tree Root Protection Radius (m)
						North	East	South	West									Physiological Condition: G (Good), F (Fair), P (Poor), D (Dead)	Structural Condition: G (Good), F (Fair), P (Poor)		Sub Category						
T	1	N/A	Hawthorn	2.5	0	1	1	1	1	80	80	80			3	EM	G	G	40+	C	1	Located outside site boundary west of stone wall.	None in current environment.	8.7	1.7	N/A	
T	2	2.1	Rowan	4.5	1E	0.5	2.5	2.5	0.5	220					1	M	F	F	20+	C	1	Located against wall within site. Missing bark on eastern base of stem to 1m high. Possibly as a result of grazing damage, occluded 10%. Extensive epicormic growth around base of stem.	None in current environment.	22	2.6	N/A	
T	3	N/A	Holly	4.5	0	1.5	1.5	1.5	1.5	200					1	EM	G	G	40+	B	1	Located outside site boundary in private garden therefore unable to fully inspect. Good form.	None in current environment.	18	2.4	N/A	
T	4	4.10	Wild Cherry	4	2W	1	1	1	1	140					1	SM	F	F	10+	C	1	Tree located in overgrown area of vegetation, engulfed in ivy therefore unable to inspect.	Recommend ivy is severed and removed.	8.9	1.7	N/A	
T	5	1.4	Goat willow	11.5	5N	8.1	8.5	8	8	500	700	800			3	M	G	F	20+	B	1	Tree is located outside site boundary in beer garden but unable to access fully to inspect. Northern union has possible included bark. Tree is in a partially elevated and exposed location from the south. Evidence of historical crown raise and possible crown reduction/ crown failure management. There are a couple of snapped branches ($<10\text{cm}$ diameter) in the crown from recent storm damage.	None in current environment.	624	14.1	N/A	
T	6	1.6	Elder	2	1N	0.5	0.5	1	1	120					1	EM	P	F	<10	U		In decline/ dying. Located along field edge verge close to stone wall.	None in current environment, as low risk due to snall size	6.5	1.4	N/A	
T	7	1.5	Silver birch	9.1	2N	4.1	5.8	6	2.5	350					1	M	G	G	40+	B	2	Located outside site boundary in pub garden, however unable to access to fully inspect. Previously crown raised pruned, resulting in a 'lion tailing' the lowest scaffold limb, potentially increasing its risk of failure due to increased end-weight loading and reduction in mass dampening of this limb.	None as located outside red line boundary.	55	4.2	N/A	

T	8	1.7	Cherry plum	3.5	1N	2.6	2.5	2.5	2.5	150	150	150	50	40	5	M	G	G	40+	C	1	Located along field edge verge close to stone wall.	None in current environment.	32	3.2	N/A
T	9	N/A	Caucasian fir	7.5	0	1.5	1.5	1.5	1.5	300					1	EM	G	G	40+	B	1	Located outside site boundary in private garden, therefore unable to inspect.	None in current environment.	41	3.6	N/A
T	10	N/A	Cypress	4.7	0	1	1	1	1	140					1	SM	G	G	40+	B	1	Located outside site boundary in private garden, therefore unable to inspect.	None in current environment.	8.9	1.7	N/A
T	11	W3	Holly	6.5	1S	3	4.1	3.5	4	300					6	M	G	G	40+	B	2,3	Woodland edge tree outside site boundary. Animal excavation in rooting zone.	Recommend inspection by qualified ecologist for potential protected species habitat prior to works in close proximity to tree.	244	8.8	N/A
T	12	W3	Common oak	8.5	1.3S	5.5	6	6.1	5.5	450	450				2	EM	G	G	40+	B	2,3	Woodland edge tree located outside site boundary on steep bank north of retaining wall.	None in current environment.	183	7.6	N/A
T	13	W3	Common oak	10	0	8	8	8	8	450	400	400			3	M	G	G	40+	B	2,3	Woodland edge tree located outside site boundary on steep bank north of retaining wall.	None in current environment.	236	8.7	N/A
T	14	W3	Common oak	8	0	3.7	3.5	3.5	3.5	300					1	EM	G	G	40+	B	2,3	Woodland edge tree located outside site boundary on steep bank north of retaining wall.	None in current environment.	41	3.6	N/A
T	15	W3	Common oak	7	1S	1	3.5	3.5	3.5	300					1	EM	G	G	40+	B	2,3	Woodland edge tree located outside site boundary on steep bank north of retaining wall.	None in current environment.	41	3.6	N/A
T	16	W3	Common oak	8	1S	2.4	1	5.5	5.4	250	250				2	EM	G	F	40+	B	2,3	Woodland edge tree located outside site boundary at the top of steep outcrop face. There is some soil erosion in the eastern rooting zone.	None in current environment.	57	4.2	N/A
T	17	W3	Sessile oak	11	0W	1	2.9	3.6	4	160	250				2	EM	G	G	40+	B	2,3	Woodland edge tree located outside site boundary.	None in current environment.	40	3.6	N/A
T	18	W3	Sessile oak	8	3W	3.1	1	3	4.4	200	400				2	M	G	F	20+	B	2	Woodland edge tree.	None in current environment.	90	5.4	N/A
T	19	W3	Goat willow	8.5	0	5.4	3	3	1.3	300	300	300	300	300	5	M	G	P	20+	C	3	Decay cavity in northern base of stem approximately 30cm diameter. Open cavity in southern stem from the base of the tree to 2m which extends to a small opening at 1m high on the northern side of the stem. Possible habitat.	None in current environment. If land use intensifies in close proximity to the tree, recommend that a full tree risk safety inspection is undertaken prior to land use intensification. Prior to any recommended works being undertaken, an inspection by professionally qualified ecologist for the presence of protected species habitat will likely be required.	204	8.0	N/A

T	20	W3	Sessile oak	12	2W	4	3	2.8	4.7	390					1	EM	G	G	40+	B	2	Woodland edge tree.	None in current environment.	69	4.7	N/A
T	21	W3	Sessile oak	12	2W	5.5	5	5.5	5.5	390					1	EM	G	G	40+	B	2	Woodland edge tree.	None in current environment.	69	4.7	N/A
T	22	W3	Alder	3	1S	2	3	4	4	300	100				2	M	G	G	40+	C	2	Woodland edge tree.	None in current environment.	45	3.8	N/A
T	23	W3	Sessile oak	12	0S	5	6	6	6	400					1	EM	G	G	40+	B	2	Woodland edge tree.	None in current environment.	72	4.8	N/A
T	24	W3	Sessile oak	12	0S	5	5	5	5	400					1	EM	G	G	40+	B	2	Woodland edge tree.	None in current environment.	72	4.8	N/A
T	25	G4.1	Sessile oak	8	0.5W	1.5	1.5	1	3.8	120					1	SM	G	G	40+	C	2	High water demand tree located within wider group (G7).	None in current environment.	6.5	1.4	N/A
T	26	G4.1	Sessile oak	10	0W	3	3	3	3.3	350					1	EM	G	G	40+	B	2	High water demand tree located within wider group (G7).	None in current environment.	55	4.2	N/A
T	27	G4.1	Holly	3.7	0	1.5	1.5	1.5	1.6	75	100				2	SM	G	G	40+	C	2	High water demand tree located within wider group (G7).	None in current environment.	7.1	1.5	N/A
T	28	4.7	Beech	6	0	4.5	4.5	4.5	4.5	400					1	EM	G	G	40+	C	2	Tree located outside site boundary within private garden, therefore unable to fully inspect.	None in current environment	72	4.8	N/A
T	29	4.4	Sycamore	6.5	0	4	4	4	4	250					1	EM	G	G	40+	C	2	Tree located outside site boundary within private garden, therefore unable to fully inspect.	None in current environment	28	3.0	N/A
G	1	N/A	Wild cherry	6.8	0E	Eastern edge plotted with GPS and western edge plotted manually				300					1	EM	G	G	40+	B	2	Located east of field boundary wall. Good vitality.	None in current environment	41	0.7m from the canopy edge	N/A
G	2	2.2	Rowan, lilac, prunus sp.	4.5	1W	Western edge plotted with GPS and Eastern edge plotted manually				120					1	SM-EM	G	G	20+	C	2	Located east of wall outside boundary, in private garden.	None in current environment	6.5	0.4m from the canopy edge	N/A
G	3	N/A	Himalayan birch	8.6	2N	Northern edge plotted with GPS and Southern edge plotted manually				200					1	EM	G	G	40+	B	2	Group located outside site boundary within private garden, therefore unable to fully inspect.	None in current environment	18	0.4m from the canopy edge	N/A
G	4	G4.1	Wild cherry	12	2N	Plotted using aerial imagery				500					1	M	G	G	20+	B	2	Group located outside site boundary in pub beer garden but unable to access to fully inspect.	None in current environment	113	2m from the canopy edge	N/A
G	5	4.2, 4.3	Cypress	11	0	Western edge plotted with GPS and Eastern edge plotted manually				500					1	EM	G	G	40+	B	2	Group located outside site boundary on the eastern side of boundary fence.	None in current environment	113	2.6m from the canopy edge	N/A
G	6	4.5, 4.6, 4.7, 4.8	Cypress, laurel	11	0	Western edge plotted with GPS and Eastern edge plotted manually				500					1	SM-EM	G	G	40+	B	2	Group located outside site boundary on the eastern side of boundary fence.	None in current environment	110	2.6m from the canopy edge	N/A
G	7	1.2, 1.3	Birch, rowan, lime, sessile oak, beech.	10.5	0	Western edge plotted with GPS and Eastern edge plotted manually				300					1	EM	G	G	40+	B	2	Established stand of even age trees located along the field boundary.	None in current environment	41	To the canopy edge	N/A
H	1	N/A	Cherry laurel	1.5	0	Western edge plotted with GPS and Eastern edge plotted manually.				70					1	SM	G	G	40+	N/A		Well maintained garden hedge outside site boundary, east of boundary wall.	None in current environment.	2.2	0.5m from the canopy edge	N/A

H	2	1.8	Cherry laurel	2	0	Northern and Eastern edges plotted with GPS and to topographical survey plan and Southern and Western edges plotted manually to topographical survey plan.	100					1	EM	G	G	40+	N/A	Well maintained garden boundary hedgerow.	None in current environment.	4.5	0.7m from the canopy edge	N/A
W	1	N/A	Oak, silver birch, rowan, wych elm, elder, holly, field maple, alder, blackthorn	10	0	Plotted to topographical survey plan	400					1	M	G	G	40+	A2,3	Broadleaved woodland, located outside site boundary to the north of the site and a wall at the top a steep outcrop. Desire lines and PRow run through the woodland. Likely good habitat.	None in current environment.	72	To the canopy edge	N/A



Appendix B Survey Methodology

Arboricultural Impact Assessment & Method Statement

Roslyn Avenue, Netherton

Harron Homes Ltd (Yorkshire)

SLR Project No.: 415.065296.00001415.065296.00001

30 October 2025

Appendix B

Survey Methodology

The following survey process and data recorded for each surveyed individual tree, tree group, woodland and hedgerow and recommendations made where appropriate and applicable, with these detailed in the Arboricultural Data Sheets (**See Appendix 1**):

- **Item Type:** T (Individual Tree); G (Tree Group), H (Woodland), W (woodland). Where a number of surveyed trees forms a cohesive feature, such as trees with their crowns converging, woodland compartments and whole woodlands, they are recorded, assessed and plotted as either groups (G) or as woodland (W). Whilst not every tree within groups and woodlands is surveyed, a representative sample of the largest edge trees were measured in order to be able to plot the group and/ or woodlands canopy spreads and RPAs. Where detailed plans show development proposed within a group or woodland, all trees within influencing distance of the development proposals are usually recorded, plotted and assessed.
- **Tree/ Group/ Woodland/ Hedgerow Reference Number:** Each individual surveyed tree (T), tree group (G), woodland (W) and hedgerow (H) is given a sequential reference number. These identifying numbers are referenced on plans, in the survey data schedule and in the report/ Technical Note.
- **Species Common Name:** The tree species identified by their common name. Where a common name isn't available, the Latin name is used;
- **Height:** Tree height measured in metres from the stem base. Where the ground has a significant slope, the higher ground is selected for the measurement. This informs crown/stem ratio assessment and calculated shading (shadow paths). Heights are measured with laser measuring devices, unless marked as estimated in the Tree Survey Data Schedule;
- **Crown Clearance Height & Compass Direction:** Height from ground level to where the crown begins e.g. height of the lowest branches in the crown. Compass direction is the direction the lowest part of the crown is at in relation to the stem position. This is measured in metres using a laser measuring devices, unless marked as estimated in the Tree Survey Data Schedule;
- **Crown Spread:** The extent of the crown spread at the four cardinal compass points (North, East, South, West) to derive an accurate representation of the crown spread, which is then shown on the Tree Location & Constraints and Tree Protection Plans. Measured in metres using a laser measuring devices, unless marked as estimated in the Tree Survey Data Schedule and taken at the four cardinal points;
- **Stem diameter(s):** These are measured in millimetres at 1.5m above the adjacent ground level (upslope on sloping ground) with a standard diameter measuring tape. Root Protection Areas are derived from stem diameter measurements;
- **Number of Stems:** Used to calculate Root Protection Areas;



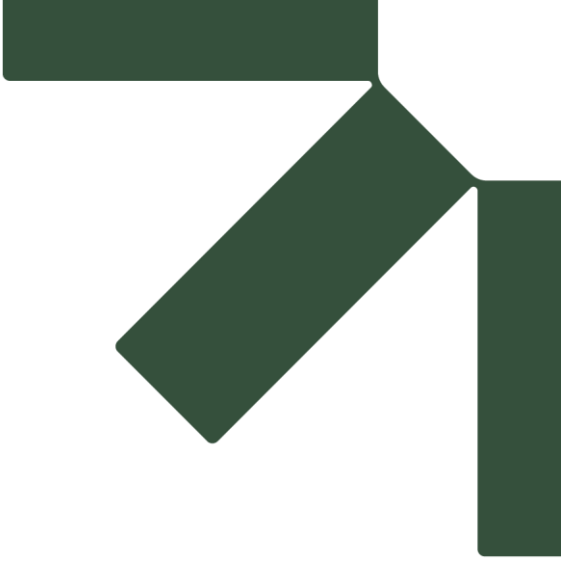
- **Age Class:** Estimated age ranges which are young, semi-mature, early-mature, mature, late-mature and veteran as further detailed below. Note, BS 5837 describes veteran as an age class, despite it being a condition and habitat value definition. For BS 5837 purposes, ancient trees fall within the veteran classification.
 - Young – Newly planted trees and self-seeded trees;
 - Semi-mature – Large nursery stock that can be newly planted or self-seeded trees still in the early stages of establishment;
 - Early mature – Trees in the first third of their life cycle which is characterised by their quickness of growth and subsequently significant increase in size;
 - Mature – Trees in the second third of their life cycle, characterised by reaching their ultimate size and slowing of annual incremental growth;
 - Late mature – Trees in the final third of their life cycle, often characterised by showing signs of decline; and
 - Veteran – Trees that show ancient tree characteristics irrespective of their age, such as crown retrenchment and decaying wood habitat.
- **Physiological Condition:** Classed as good, fair, poor, or dead. This is an indication of the health of the tree and takes into account vitality, presence of disease and dieback.
- **Structural Condition:** Classed as good, fair or poor. This is an indication of the structural integrity of the tree and takes into account significant wounds, decay and quality of branch junctions.
- **Estimated Remaining Contribution:** This is the expected safe life expectancy under current conditions and is estimated as: less than 10 years (<10); at least 10 years (10+); at least twenty years (20+) and at least 40 years (40+).
- **BS 5837 Categorisation Grading:** Quality of the trees designated in accordance with BS 5837:2012 criteria. 'A' quality is the highest quality, 'B' trees are of moderate quality; 'C' quality trees are of lower quality and 'U' quality trees are those trees with an expected life expectancy of less than ten years. **See Appendix 3** for further information on the grading of trees under BS 5837.
- **BS 5837 Categorisation Sub-Category:** Sub-categories for quality grading. Sub-category one is for arboricultural reasons, two is impact in the landscape and three is for heritage, biodiversity and ecology reasons. Trees can be categorised with more than one sub-category. **See Appendix 3** for further information.
- **Comments:** These include a brief description of the tree with comments on the tree's value, form, vitality, health and any significant defects and reaction growth that may be present where applicable.
- **Preliminary management recommendations/ further works:** Recommended actions to be undertaken based on the current land use, usually for health and safety and or to abate a nuisance but may also be made to assist with improving the protection, health and growth of the tree. Recommended timescales may be given for the works where appropriate. Note, the timescale given are estimates based on an inspection to BS 5837 standards and



are not based on a detailed safety and risk management inspection, and therefore the timescales can only be considered indicative. Where detailed timescales for works are required, we recommend that the tree(s) are inspected using the Visual Tree Assessment system to determine safety factors and an applicable risk quantification and management system, where the Risk of Harm needs to be quantified.

- **Root Protection Area:** Calculated in metres squared and in accordance with BS 5837 formula. This gives a polygon area that should be protected from development activities. For individual trees with no impediments to circular root growth, the area is represented as a circle. Where there are impediments to circular root growth, the Root Protection Area is represented as a polygon that takes into account that the tree is unlikely to be rooting within the impediment area to rooting.
- **BS 5837 Root Protection Radius:** Calculated in metres and in accordance with BS 5837 formula. This gives a radius measurement from the trees stem centre that should be protected from development activities.
- **Veteran Tree Buffer Zone:** This is a circular area centred on the tree's stem, and which is based on 15 times the tree's stem diameter or 5 metres beyond the canopy spread, whichever is greater. No development works should occur within this buffer zone. Veteran tree buffer zones are also applicable to ancient trees. The circular buffer zone is not amended to accommodate rooting constraints.





Appendix C Tree Categorisation Method

Arboricultural Impact Assessment & Method Statement

Roslyn Avenue, Netherton

Harron Homes Ltd (Yorkshire)

SLR Project No.: 415.065296.00001415.065296.00001

30 October 2025

Appendix C

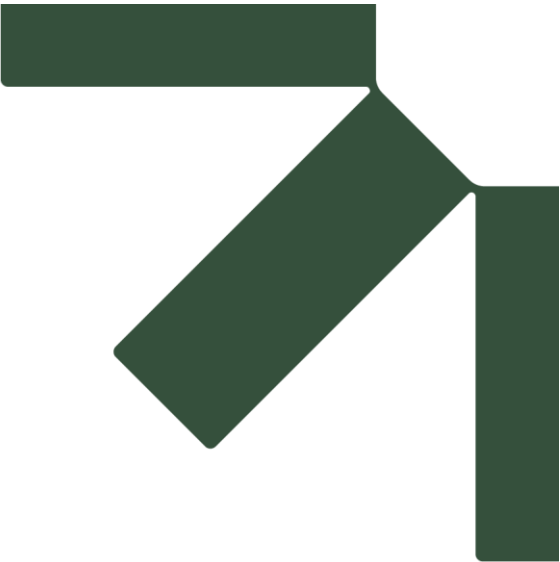
Tree Categorisation Method

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

A single tree, group or woodland can come under one or more sub-headings. This does not confer on it a higher value than a tree with a single value.





Appendix D General Tree Constraints

Arboricultural Impact Assessment & Method Statement

Roslyn Avenue, Netherton

Harron Homes Ltd (Yorkshire)

SLR Project No.: 415.065296.00001415.065296.00001

30 October 2025

Appendix D

General Tree Constraints

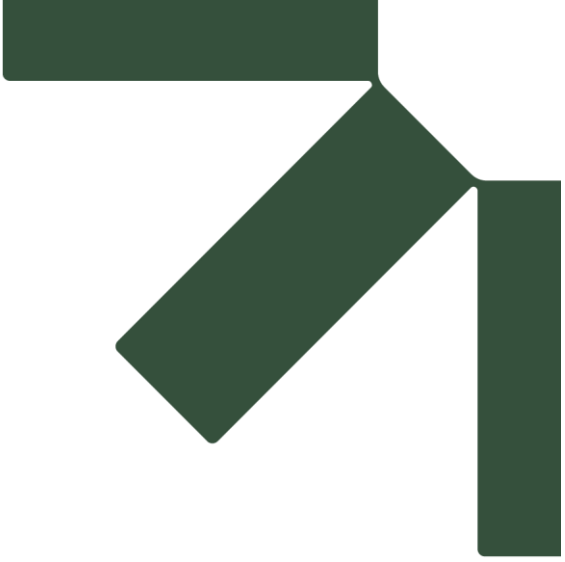
- Trees impose a constraint to development in a variety of ways. These principally include their rooting areas, referred to as Root Protection Areas (RPAs), their current and future crown spread, and their species characteristics (e.g. branch and fruit drop, production of 'honey dew', density of foliage etc). Where located on shrinkable clay soils, trees can also contribute to subsidence damage to buildings.
- Consideration should be given during the design stage to any incompatibilities between the design and tree retention. These include (but are not limited to) the effects on the amenity value provided by existing trees, working space required during construction, infrastructure/utility requirements, highway visibility requirements and foundation design to prevent the effects of subsidence.
- The RPA is calculated using the tree's diameter at 1.5m and represents the minimum area which should be left undisturbed around each retained tree to enable its survival following development.
- Tree root morphology is influenced by many factors including, but not limited to; past land use, the presence of roads, structures and underground services, drainage and soils. Any of these factors may result in non-uniform root growth and therefore result in an RPA represented as a polygon RPA that reflects suitable protection of the root system.
- The majority of tree roots are generally found within the top 600mm of soil, depending on soil types and profiles. Any disturbance or sudden changes to the rooting environment can result in damage being caused to roots and alterations to the roots physiological ability to absorb water, nutrients and undertake gaseous exchange.
- Where alterations have been made within the trees' rooting environment, the damage can often be observed within the crown of the trees, reduced vitality and increased deadwood production. Trees are likely to decline progressively, or in some circumstances may become a hazard where stability and structural integrity has been compromised by Site operations.
- The RPA must be protected by the installation of tree protection fencing prior to the commencement of development work on Site. The fencing provides a physical barrier that is secured, to prohibit activities considered detrimental to the retention of healthy trees (e.g. excavations, soil stripping, discharge of substances harmful to trees, storage of materials, fires). In addition to this, it may be necessary to install specialist temporary ground protection which enables access within the RPA, without causing long-term detriment to the health of the tree/s.
- No traditional construction works should take place within the RPA of retained trees. However, in some circumstances and where there is an overriding requirement for construction and the retention of trees, it may be appropriate to employ techniques and use materials that allow trees to be retained, whilst enabling the construction. For hard



surfacing, such as drives, roads and footways, utilising no-dig construction techniques and using three-dimensional geogrids and permeable wearing course materials may be appropriate. For built structures within RPAs, the use of pile and above ground level beam foundations and/or cantilevered engineering solutions can enable structures to be constructed within RPAs. The project arboriculturist should be consulted on the appropriateness of building within retained tree RPAs, as this is not appropriate for all trees and soil types.

- Where aerial parts of the tree crowns extend beyond the edge of the RPA, consideration should be given to protection of these parts, allowing for protection during development processes including working space. It may be appropriate to consider pruning of aerial parts to allow construction clearances and future nuisance abatement, this however must be considered by the project arboriculturist and the LPA. Where development proposals identify a need for working within the RPA/crown spread of retained trees and it can be demonstrated that retained trees remain viable, then it is important that the project arboriculturist is contacted to advise and prepare an AMS and identify appropriate stages of supervision.





Appendix E Report Limitations

Arboricultural Impact Assessment & Method Statement

Roslyn Avenue, Netherton

Harron Homes Ltd (Yorkshire)

SLR Project No.: 415.065296.00001415.065296.00001

30 October 2025

Appendix E

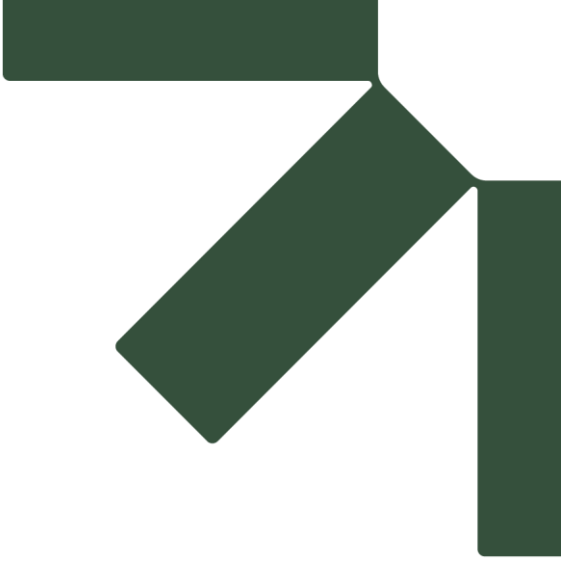
Report Limitations

- Trees are influenced by a variety of environmental variables, which can affect the health of trees causing biomechanical and physiological changes. All comments made on tree health reflects their physical condition at the time of the survey. Due to the changeable nature of trees and other site/environmental conditions, which may influence trees, the preliminary management recommendations/ further works for the surveyed trees undertaken, which can be found in Appendix 1 of this report, are only valid for a period of 12 months from the date of the Site survey (9th October 2025). These recommendations relate specifically to the general maintenance of tree health and safety and do not affect the implications of this Arboricultural Impact Assessment and therefore, the results of the survey remain valid beyond (9th October 2025).
- This AIA/AMS report and the associated TPP is based on a topographical survey plan supplied by the client. Where tree stem locations are not shown on the topographical survey, these are plotted using GPS plotting and/ or the utilisation of site features to manually plot the tree stem locations and canopy spreads for tree groups. Aerial photography is also utilised to plot tree group canopy spreads, where utilisation of GPS is not feasible. These methods provide a good representation of the surveyed trees; however, please note that the GPS used is not sub-metre accurate. SLR cannot be held responsible for inaccurate tree locations, where we are not supplied with a topographical plan showing tree locations or where trees are not shown on the topographical survey plan supplied to us by the client
- Although comments and recommendations on the safety of particular trees may have been made, this survey is not a Tree Risk Management Survey and thus should not be treated as such. All trees were surveyed from ground level only and in a solely visual nature. However, where trees have been identified as presenting an imminent safety risk due to structural defects, this has been brought to the attention of the client and treated as a separate matter. Should trees require further detailed assessment (decay detection, aerial inspections) and do not present an imminent safety risk, the information will be detailed within the survey schedules.
- Any management recommendations have been made in accordance with BS3998: 2010 Tree Works – Recommendations; and/or industry best practice. Works have been recommended in accordance with any statutory obligations on the landowners or occupiers.
- This survey did not include an ecological survey of vegetation or habitat areas. Any ecological issues incidentally observed during the survey are reported on in the tree schedule.
- For the purpose of this report no samples were obtained from Site for analysis or any other reason.



- The survey did not include soil sampling to determine whether the soil is shrinkable. Such analysis should be carried out by a specialist to ensure building foundations are adequate in accordance with current National House Building Council Guidelines (NHBC).





Appendix F Tree Protection Fencing

Arboricultural Impact Assessment & Method Statement

Roslyn Avenue, Netherton

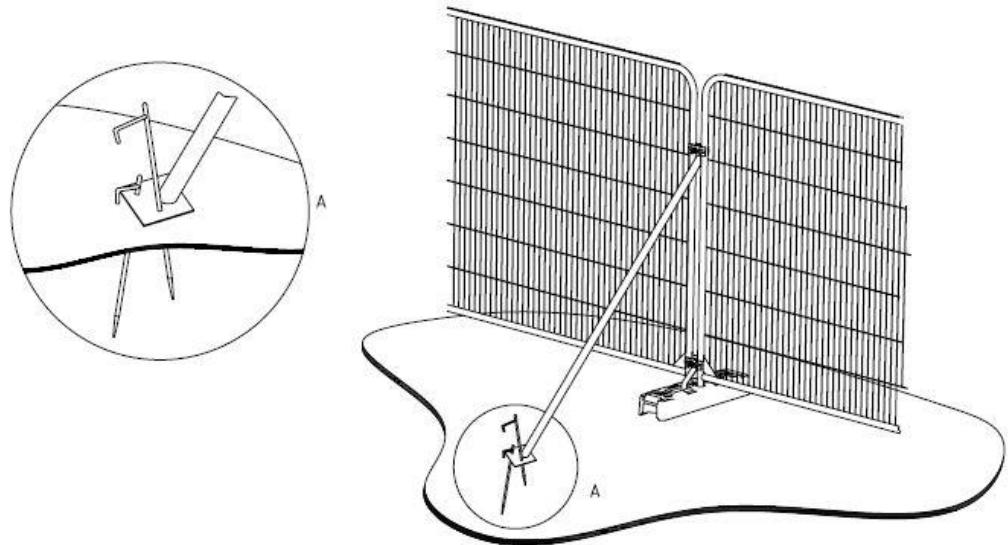
Harron Homes Ltd (Yorkshire)

SLR Project No.: 415.065296.00001415.065296.00001

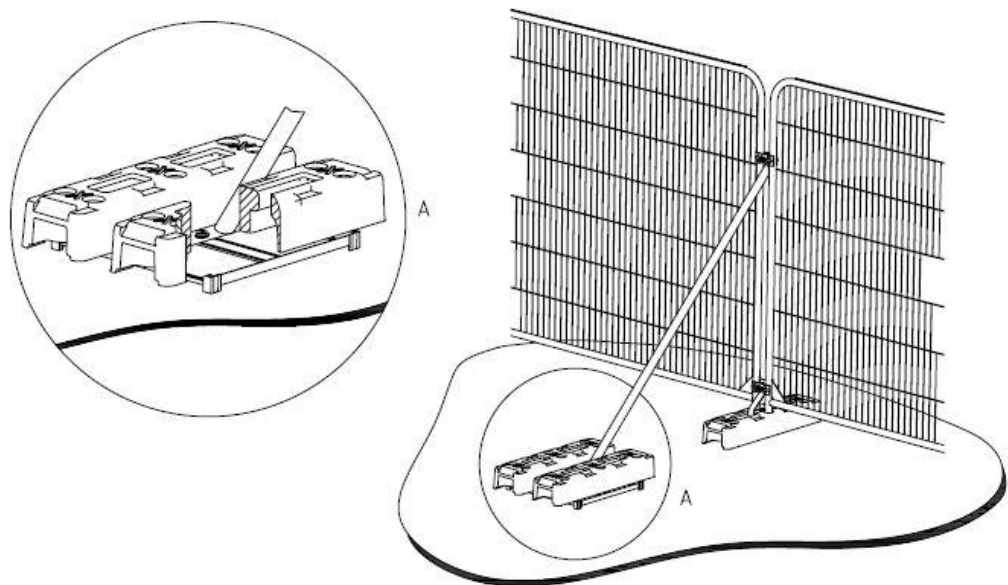
30 October 2025

Appendix F

Tree Protection Fencing



a) Stabilizer strut with base plate secured with ground pins



b) Stabilizer strut mounted on block tray





Appendix G Tree Protection Signage

Arboricultural Impact Assessment & Method Statement

Roslyn Avenue, Netherton

Harron Homes Ltd (Yorkshire)

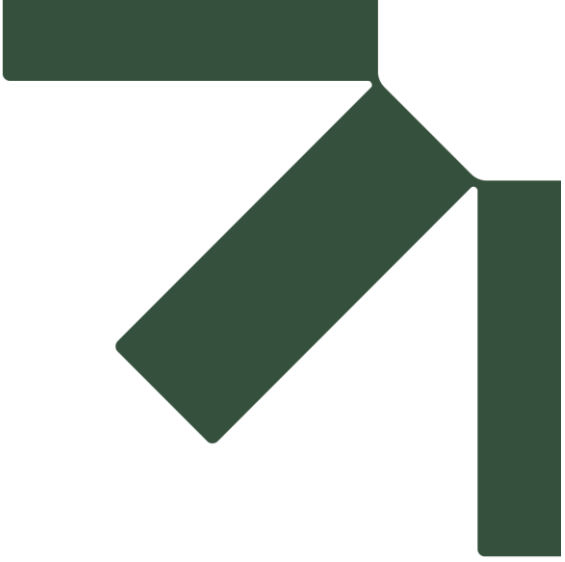
SLR Project No.: 415.065296.00001415.065296.00001

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Appendix G

Tree Protection Signage





Appendix H Arboricultural Site Supervision Schedule and Forms

Arboricultural Impact Assessment & Method Statement

Roslyn Avenue, Netherton

Harron Homes Ltd (Yorkshire)

SLR Project No.: 415.065296.00001415.065296.00001

30 October 2025

Appendix H Arboricultural Site Supervision and Inspection Schedule

SITE NAME: ROSLYN AVENUE, NETHERTON	PLANNING REF: TBC	
Project Arboriculturist	Name: TBC	Contact Number: TBC
Site Manager	Name: TBC	Contact Number: TBC

ACTIVITY	DESCRIPTION	PERSON RESPONSIBLE	SIGNED	DATE
Tree Removals	Removal of trees as specified in S5.2 of the AIA/MS report Ref. 415.065296.00001 Rev.0.1 and as shown on the Tree Protection Plan Ref. 415.065296.00001-ARB-D-001 Rev. A.	Project Manager/ Contracting Arborist (Tree Surgeon)		
Tree pruning	Tree Pruning as specified in S5.3 of the AIA/MS report Ref. 415.065296.00001 Rev.0.1 and as shown on the Tree Protection Plan Ref. 415.065296.00001-ARB-D-001 Rev. A.	Project Manager/ Project Arboriculturist/ Contracting Arborist (Tree Surgeon)		
Tree Protection Fencing Installation	The Tree Protection Fencing (TPF) shall be installed as specified S5.4 of the AIA/MS report Ref. 415.065296.00001 Rev.0.1 and as shown on the Tree	Project Manager/Fencing Contractor		



ACTIVITY	DESCRIPTION	PERSON RESPONSIBLE	SIGNED	DATE
	Protection Plan Ref. 415.065296.00001-ARB-D-001 Rev. A.			
Target Note 4 - Installation of Temporary Ground Protection Measures	Installation of Temporary Ground Protection measures within the working areas as specified in S5.5 of the AIA/MS report Ref. 415.065296.00001 Rev.0.1 and as shown on the Tree Protection Plan Ref. 415.065296.00001-ARB-D-001 Rev. A.	Project Manager/ Contractor		
Tree Protection Fencing & Temporary Ground Protection Measures Inspections	Following the installation of Tree Protection Fencing (TPF) and Temporary Ground Protection Measures, the location and integrity will be inspected within two weeks of installation and then on a monthly basis, by the Project Arboriculturist, as detailed in S2.4.6 of the AIA/MS report Ref. 415.065296.00001 Rev.0.1 and as shown on the Tree Protection Plan Ref. 415.065296.00001-ARB-D-001 Rev. A.	Project Manager/ Project Arboriculturist		



ACTIVITY	DESCRIPTION	PERSON RESPONSIBLE	SIGNED	DATE
Target Note 1 - Excavations and Root Pruning	Excavations and root pruning to be undertaken as specified in S5.7 of the AIA/MS report Ref. 415.065296.00001 Rev.0.1 and as shown on the Tree Protection Plan Ref. 415.065296.00001-ARB-D-001 Rev. A.	Project Manager/ Project Arboriculturist/ Ground Works Contractor		
Target Note 2 - No-Dig Footway Construction	Footways within retained trees RPAs to be installed as specified in S5.8 of the AIA/ AMS report Ref. 415.065296.00001 Rev.0.1 and as shown on the Tree Protection Plan Ref. 415.065296.00001-ARB-D-001 Rev. A.	Project Manager/ Project Arboriculturist/ Contractor		
Target Note 3 - Wall Installation Within Retained Trees RPA	The wall's footings to be in accordance with S5.9 of the AIA/MS report Ref. 415.065296.00001 Rev.0.1 and as shown on the Tree Protection Plan Ref. 415.065296.00001-ARB-D-001 Rev. A.	Project Manager/ Project Arboriculturist/ Contractor		
Dust Control	Dust control measures to accord with S5.10 of the AIA/MS report Ref. 415.065296.00001 Rev.0.1	Project Manager/ Contractor		



ACTIVITY	DESCRIPTION	PERSON RESPONSIBLE	SIGNED	DATE
Location of Plant, Material Storage and Site Compound	The location of Site office, welfare units and the location of plant and storage materials to accord with S5.11 of the AIA/MS report Ref. 415.065296.00001 Rev.0.1	Project Manager		
Tree Protection Fencing & Temporary Ground Protection Measures Inspections	Following the completion of the development works, but before the final landscaping is undertaken, the Tree Protection Fencing and Temporary Ground Protection Measures locations and integrity shall be checked by the Project Arboriculturist prior to being removed, as detailed in S5.4.6 and S5.12 of the AIA/MS report Ref. 415.065296.00001 Rev.0.1 and as shown on the Tree Protection Plan Ref. 415.065296.00001-ARB-D-001 Rev. A.	Project Manager/ Project Arboriculturist		



ARBORICULTURAL SITE SUPERVISION

Planning Ref No:	TBC
SLR Ref. No.	415.065296.00001
Developer/ Client:	Harron Homes Ltd (Yorkshire)
Site Address:	Roslyn Avenue, Netherton, Huddersfield, HD4 7EW
Project/ Site Manager:	TBC
Visit Date:	TBC
Arboricultural Supervisor:	TBC

Site Supervision

Was all Tree Protection Fencing and/ or ground protection measures in place? Yes ☐ No ☐

Was any evidence of damage to trees and/ or soil within the fenced off Construction Exclusion Zones? Yes ☐ No ☐

Details:

Are any amendments proposed to the approved plans or specifications? Yes ☐ No ☐

Details:

Signed:

(For and on behalf of Wardell Armstrong LLP)

Signed:

(For and on behalf of _____)

Circulation:

Wardell Armstrong LLP
Developer Head Office
Site Agent/ Manager
Local Planning Authority
Architect

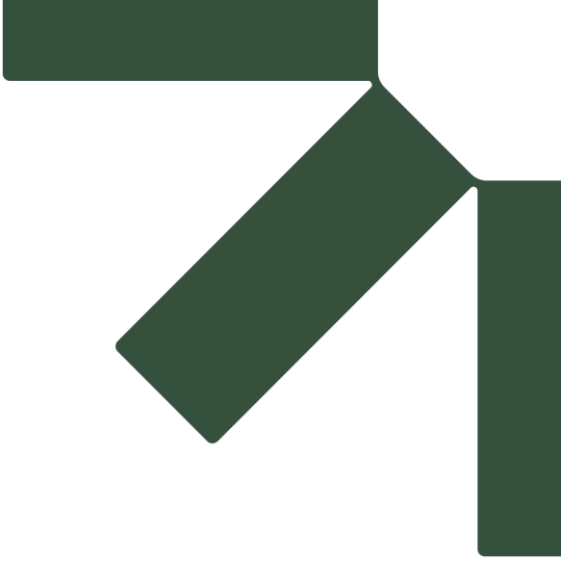
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Further Comments:





Appendix I Treetex Geotextile Data Sheet

Arboricultural Impact Assessment & Method Statement

Roslyn Avenue, Netherton

Harron Homes Ltd (Yorkshire)

SLR Project No.: 415.065296.00001415.065296.00001

30 October 2025

Treetex™

Treetex™ is a heavy duty needle punched geotextile fleece. Manufactured from polypropylene, Treetex™ is ideal for use in a Tree Root Protection system as it is easily moulded to the shape of the aggregate and has been proved to absorb 1.7 litres of oil per m² ensuring that the roots are not damaged by pollutants from the surface.

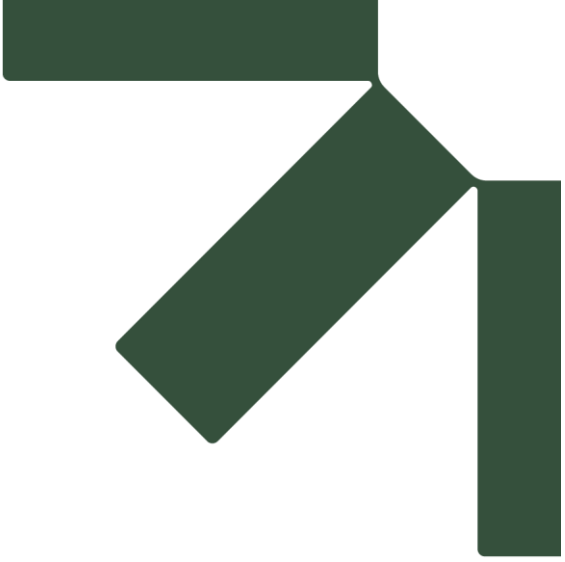
Essential characteristics		Performance		Test standard
		Mean Value	Tolerance	
Tensile Strength Tmax	MD	23 kN/m	-3 kN/m	EN ISO 10319
Tensile Strength Tmax	CMD	25 kN/m	-3.25 kN/m	EN ISO 10319
Elongation εmax	MD	60%	±4.56%	EN ISO 10319
Elongation εmax	CMD	60%	±8.09%	EN ISO 10319
Dynamic Perforation Resistance		9.8 mm	+2.44	EN ISO 13433
Static Puncture Resistance (CBR)		4 kN	-0.37	EN ISO 12236
Characteristic Opening Size		58µm	±17	EN ISO 12956
Water flow rate q _N		63 l/(m ² s)	-19	EN ISO 11058
Flow capacity in the plane Gradient q20/1.0		6.06*10 ⁻⁶ m ² /s	-30%	EN ISO 12958
Flow capacity in the plane Gradient q200/1.0		2.28*10 ⁻⁶ m ² /s	-30%	EN ISO 12958
Thickness under 2 kPa		2.4mm	±14.2%	EN ISO 9863/1
Durability	To be covered on the date of installation for reinforcement and within 3 months for other applications. Avoid contact with other geotextiles as this can cause damage or modification.			EN ISO 12224
Oxidation resistance	Predicted to be durable for a minimum of 100 years in natural soil with 4<pH<9 and soil temperature <25°C			EN ISO 13438
Protection effectiveness		0.8%	+0.16	EN ISO 13719

This information corresponds to our current knowledge on the subject. It is offered solely to provide possible suggestions for your own experimentation. It is not intended, however, to substitute for any testing you may need to conduct to determine for yourself the suitability of our products for your particular purposes. This information may be subject to revision as new knowledge becomes available. Since we cannot anticipate all variations in actual end use conditions, Geosynthetics Limited makes no warranties and assumes no liabilities in connection with this information. Nothing in this publication is to be considered as a licence to operate under or a recommendation to infringe any patent right.

DR: 10/V2/22.12.14



Geosynthetics



Appendix J SafeMat Ground Protection Specification Sheet

Arboricultural Impact Assessment & Method Statement

Roslyn Avenue, Netherton

Harron Homes Ltd (Yorkshire)

SLR Project No.: 415.065296.00001415.065296.00001

30 October 2025

safesite[®]

F A C I L I T I E S

SafeMat

SPECIFICATION SHEET



SafeMat

HEAVY DUTY, EASY TO HANDLE ACCESS!
Our SafeMat system is a stand out market leading product for temporary access and ground protection, the SafeMat product is ideal for usage over soft or sensitive ground and can cope with loads of up to 120 tonnes*
(*Depending on ground conditions).

The SafeMat is essential for scenarios such as construction, civil engineering and groundwork industries, although they can also be used within the festival outdoor event sectors.

Specification

Length	Width	Depth	Weight
2400mm	1200mm	15mm	45kg

Key Features

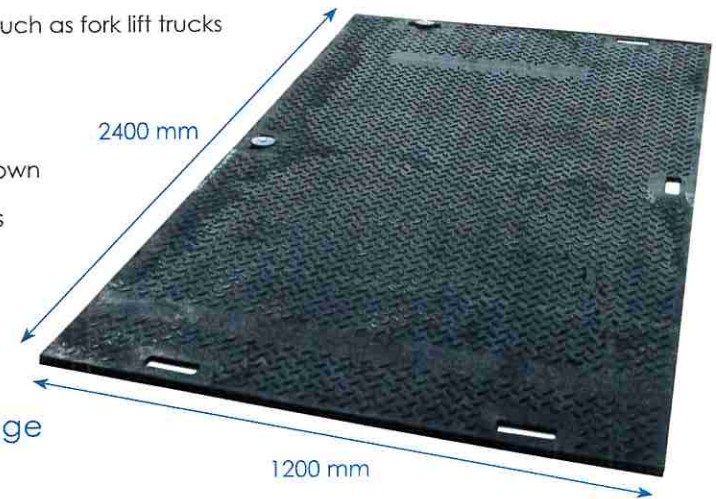
- 6 Hand holes for easy handling and rapid installation
- Maximum weight loading - 120+ tonnes (depending on ground conditions)
- Robust connection pads, locked in place by industry leading nut, screw & washer system
- Unique 'non-slip' surface for optimal grip along with additional pedestrian surface
- Reverse side ideal for lighter vehicles such as fork lift trucks
- Unique Hand Hole Connectors
- Avoids health and safety issues
- Avoids vehicles becoming bogged down
- Low transportation and handling costs

★ Trustpilot



Depth 15 mm - Weight: 45 kg

Six hand holes for ease of usage



Strong Hand Hole Connectors



Rapid Install Covering Large Areas



SafeMat cont

Our SafeMats are manufactured from 100% recycled high density polyethylene (HDPE) and are weight tested to a maximum load of 120 tonnes*
 (*Depending on ground conditions).

The mats are ideal for both short and long term projects providing access for both heavy plant and machinery, whilst also providing stability for work personnel and the public.

This product is also the perfect solution for events such as concerts and festivals to ensure pedestrian and crowd safety.

The SafeMat has strategically positioned hand holes which make it extremely easy to off-load from trucks or pallets.

Their lightweight but heavy duty nature, also reduces transport costs, as well as enabling quick and easy installation by two operatives.

Technical Details

- SafeMats have a highly engineered, 'non-slip' surface, this substantially improves the grip and reduces side way slippage, even in the most challenging weather or ground conditions.
- SafeMats can be connected together using our simple yet effective Metal Hand Connector system.
- SafeMats can be customized with either a company logo and telephone number or even produced in corporate colours - subject to minimum order quantity.

Heavy Duty Loads Of Up To 120 Tonnes*



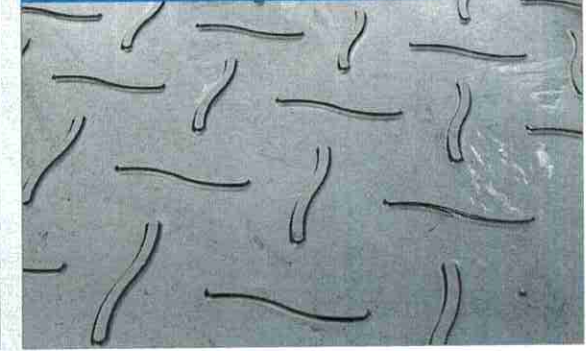
Interlock Multiple Sides

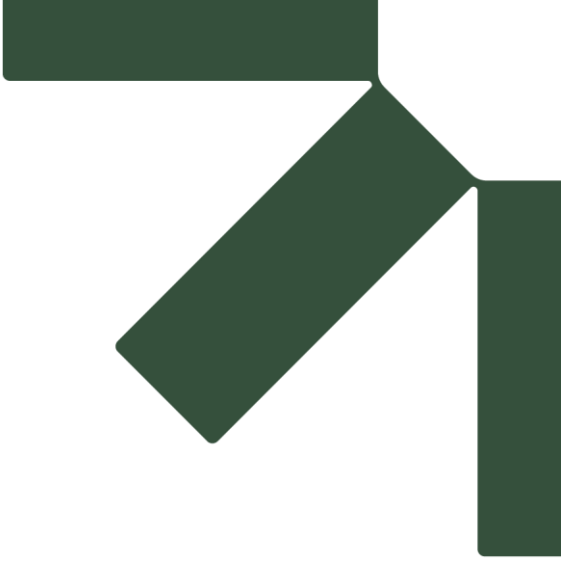


Machinery / Pedestrian Tread Pattern



Heavy Duty vehicle Tread Pattern





Appendix K Glossary of Terms Used in Arboriculture

Arboricultural Impact Assessment & Method Statement

Roslyn Avenue, Netherton

Harron Homes Ltd (Yorkshire)

SLR Project No.: 415.065296.00001415.065296.00001

30 October 2025

Appendix K

Glossary of Common Terms Used in Arboriculture

ABSCISSION. The shedding of a leaf or other short-lived part of a woody plant.
Abiotic. Pertaining to non-living agent's e.g. environmental factors.
Absorptive Roots. Non-woody short-lived roots, generally having a diameter less than one millimetre, the primary function of which is the uptake of water and nutrients.
Access Facilitation Pruning. One off pruning operation to provide access for development operation. Pruning that will not be detrimental to trees health or amenity.
Arboricultural Method Statement (AMS). A methodology for the implementation of development where encroachment within the RPA has the potential to cause damage or loss of retained trees.
Arboriculturist. Someone who through relevant training and experience has gained knowledge in the expertise of trees.
Adaptive Growth. The process by where wood formation rates increasing in the cambial zone, as well as wood quality, responds to gravity and other forces acting on the cambium.
Adaptive Roots. The adaptation of existing roots; or a production of new roots in response to damage or decay.
Adventitious Buds, Roots, Shoots. Which grow in other than primary apical control.
Anchorage. The process in which a tree uses its roots system to support itself within the soil structure.
Ancient: A tree that has passed beyond maturity and is old, or aged, in comparison with other trees of the same species.
Arisings. Parts of the tree that has been removed for disposal, branches, leaves, roots etc.
Canker. Area of dead cambium killed by overlying pathogenic tissues.
Cavity. A hole in the woody structure of the tree; often caused through decay.
Cleaning Out. The removal of dead, diseased crossing branches, damaged branches and alien structures.
Competent Person. Person with training and experience in accordance with the proposed matter being addressed, having an understanding of a particular matter being approached.



Condition. An indication of the physiological vitality of a tree, but not the stability of a tree.
Construction. A Site based operation that has the potential to affect retained trees.
Construction Exclusion Zone. An area based on the RPA from which construction activity is prohibited.
Coppicing. Removal of all aerial parts of the tree leaving a stump for regeneration of new shoot.
Crown/Canopy. The parts of the tree that supports the leaves.
Crown Lifting. The removal of limbs and small branches to a specified height above ground level.
Crown Thinning. The removal of a proportion of secondary branch growth throughout the crown to produce an even density well balanced crown structure.
Crown Reduction/Reshaping. Removal in the height to a specified description to maintain a flowing crown structure.
Deadwood. Non-functional branches which no longer support natural growing conditions of the tree but may be beneficial for the support of habitats and species, possibly including rare saproxylic invertebrates. Thus, may also be referred to as 'Decaying Wood Habitat' or 'Dysfunctional wood'. Size ranges for deadwood referred to in this report and/or Appendix 1: - Small (<75 mm diameter), Medium (76 – 150 mm), Large (151-300) mm and Very large >301 mm. For some species such as oak etc, the risk of deadwood falling from the tree can be lesser than for other species, due to the variety of wood strengths of different tree species.
Defect. Any area of the tree that longer has an optimal mechanical uniformity of stress, making the tree unsuitable for its location.
Dieback. Death of woody parts of the tree starting at distal ends of the tree.
Disease. Damage occurring to living organisms as a result of parthenogenic micro-organisms.
Distal. Furthest distance away from the main body of the tree.
Dysfunction. In woody tissues, the loss of physiological function, especially water conduction, in sapwood.
Epicormic Growth. Growth from dormant or adventitious buds, not developing from the first shoot.
Girdling Roots. A circling root which constricts the stem or roots, with the potential to cause death and the restriction of flow within the phloem.



Heartwood. Dysfunctional xylem which no longer has conductive properties, but which has become an integral structural part of the tree.
Heave. The swelling of shrinkable clay soils, often when vegetation has been removed allowing soil rehydration to develop, with the potential for listing structures (e.g. walls).
Included Bark/Acute Forks. Face to face contact of bark usually at fork unions, or branch unions.
Lopping/Topping. A term used to describe the removal of large sized branches
Monolith. Removing some or most of the trees crown and sometimes the upper stem, in order to retain as much of the tree as standing deadwood habitat for ecological reasons.
Pathogen. A micro-organism that causes disease within another organism.
Phytotoxic. Toxic to plants.
Pollarding. The removal of the tree canopy to produce knuckles where new growth develops and is removed cyclically usually performed on young trees.
Pruning. Selective removal of parts of the tree to achieve a desired outcome.
Root Protection Area(RPA). An area around a tree identified by multiplying the stem diameter at 1.5 m from ground level by 12 to produce a radial area or rooting volume around a tree to be protected Ref. BS 5837: 2012.
Service. Any above and below ground structure or apparatus for utility provision.
Size of part. Relating to risk assessments, identifying the size of the hazard, or parts of a tree which may cause harm if failure occurs.
Stem(s). The main structure from the ground up supporting the crown.
Stress. In plants, the physiological depletion as a result of environmental influences.
Structure. A manufactured object, such as building, roads, path, wall or excavated structures.
Structural Roots. The primary larger diameter roots which hold and support the aerial parts of the tree.
Subsidence. The shrinkage of soil through the absorption of water via vegetation and the sinking effects on surrounding architectural structures.



Targets. In risk assessment, persons or property at risk of harm as a result of a hazard (falling tree, branch, etc.).

Transitioning Veteran Trees: Trees with some veteran features, but not sufficient veteran features to be considered full veteran trees. They contribute to the veteran tree resource and, through the ageing process are expected to become true veterans in time, before which they offer bridge and continuity habitat for important saproxylic invertebrates and fungi.

Tree Protection Plan (TPP). A scaled drawing informed by descriptive text where necessary, based upon finalised Site proposals, showing trees for retention and illustrating the tree and landscape protection measures.

Veteran Tree. Tree that, by recognized criteria, shows features of biological, cultural or aesthetic characteristics of, but not exclusive to, individuals surviving beyond the typical age range for the species concerned.

Windthrow. The blowing over a tree at its roots.





Appendix L Cellweb Installation Guide

Arboricultural Impact Assessment & Method Statement

Roslyn Avenue, Netherton

Harron Homes Ltd (Yorkshire)

SLR Project No.: 415.065296.00001415.065296.00001

30 October 2025

Cellweb® TRP Installation Guide



Step 1: Prepare Surface



Step 2: Lay out Treetex™



Step 3: Lay out Cellweb® TRP

- Cellweb® TRP is a NO DIG tree root protection measure and it is recommended that no excavation be performed without prior approval and guidance from the Local Authority Arboricultural Officer.
- Soil compaction from vehicles, machinery and materials is to be strictly prohibited during construction within Root Protection Areas (RPAs).
- Approval must be obtained from the Local Authority that the design and the method of construction is acceptable.
- Further information is available from the following two documents;
 - British Standard BS5837: 'Trees in Relation to Design, Demolition and Construction' (2012).
 - Arboricultural Advisory and Information Service: Practice note 12 – 'Through the Trees to Development' (APN12).

Installation Method

1. Prepare the Surface

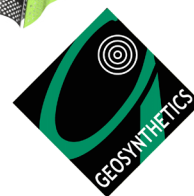
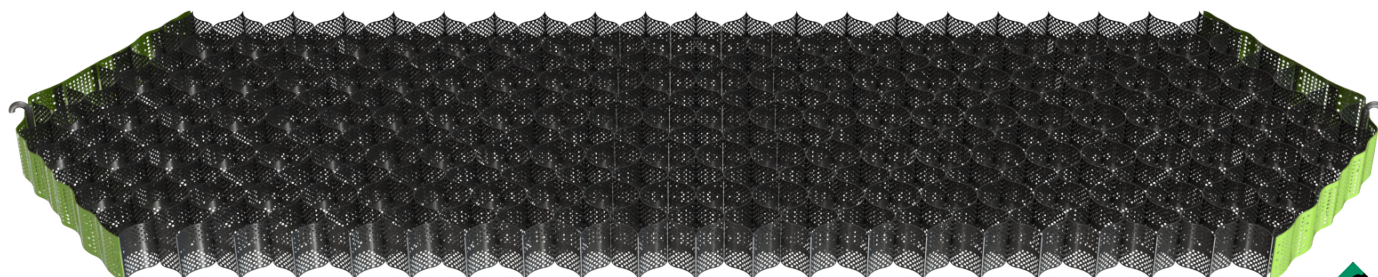
- Remove the surface vegetation using appropriate hand held tools or herbicide (see Note 1).
- Remove any surface rocks, debris and organic material.
- Create a level surface by filling any hollows with clean angular stone or sharp sand.
- Do not level off high spots or compact the soil through rolling.

2. Lay out the Treetex™ Non-Woven Geotextile

- Lay out the Treetex™ over the prepared area, overlaying the edges of the required area by 300mm.
- Overlap any joins by 300mm minimum or more, depending on soil structure (see Note 2).

3. Lay out the Cellweb® TRP Cellular Confinement System

- Lay out the collapsed Cellweb® TRP on-top of the Treetex™.
- Place one of the supplied J pins into the centre cell at the end of the panel and secure into the ground.



Cellweb® TRP - Installation Guide

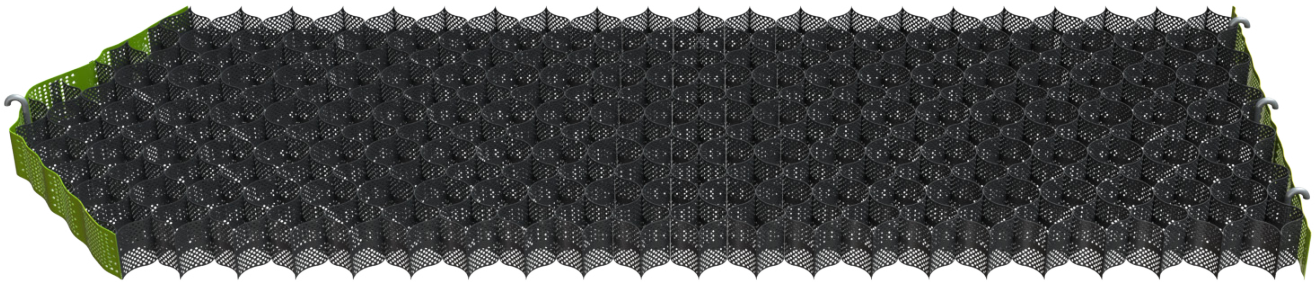


Step 3: Pinning Cellweb® TRP

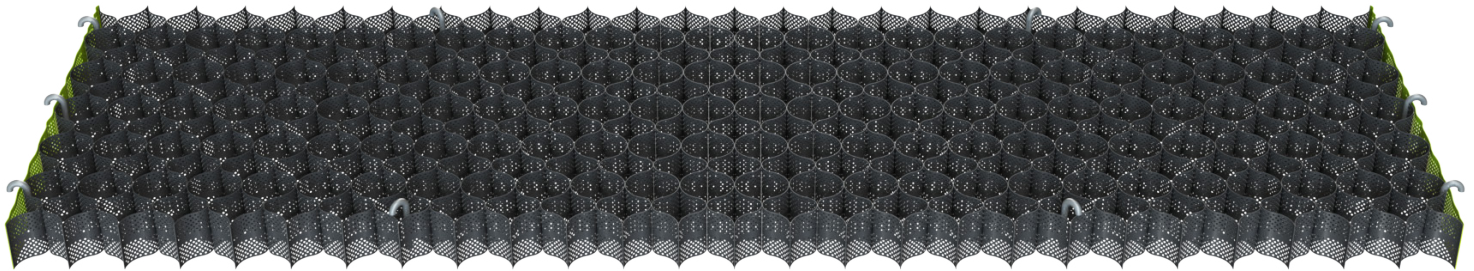


Step 3: Stapling Cellweb® TRP

- Pull out the Cellweb® TRP to its full 8.1m length and secure its length with another J pin.



- Now measure its width to 2.56m and secure in each of the corners with the J pins.
- Use 10 pins per panel to create a panel measuring 8.1m x 2.56m.



- This will produce a cell size of 259mm x 224mm which is the required cell diameter. Each cell must be fully extended and under tension.
- Staple adjacent panels together at each cell (see Note 3).
- If a curved path or shape is required, this should be cut when the Cellweb® TRP panel is pinned out to 8.1 x 2.56m, ensuring complete cells remain. Do not try to curve or bend the Cellweb® TRP panels into place.
- All cells must be fully opened to the required diameter.

Cellweb® TRP - Installation Guide



Step 4: Clean Angular Stone



Step 5: Edge Restraints



Step 6: Surface Options

4. Infill the Clean Angular Stone

- The infill material must be a clean angular stone, Type 4/20mm or Type 20/40mm (see Note 4).
- Do not use M.O.T type 1 or crushed stone with fines for tree root protection.
- Infill the Cellweb® TRP cells with the clean angular stone, working towards the tree and using the infilled panels as a platform.
- Minimum 25mm overfill of clean angular stone.
- No compaction is required of the infill. Do not use a whacker plate or other means of compaction.

5. Edge restraints

- Excavations for kerbs and edgings should be avoided within the RPAs.
- Where edging is required for footpath and light structures, a peg and treated timber board edging is acceptable
- Other options include wooden sleepers, kerb edging constructed on-top of the Cellweb® TRP system, plastic and metal edging etc.

6. Surface options

- Surfaces can include block paving, asphalt, loose gravel, grass and gravel retention systems (eg Golpla™), resin bound gravel, concrete etc.
- For Root Protection Areas this surface must be porous.

NOTES

- 1. Herbicide:** According to BS5837:2012 "The use of herbicides in the vicinity of existing trees should be appropriate for the type of vegetation to be killed, and all instructions, warnings and other relevant information from the manufacturers should be strictly observed and followed. Care should be taken to avoid any damaging effects upon existing plants and trees to be retained, species to be introduced, and existing sensitive habitats, particularly those associated with aquatic or drainage features."
- 2. Geotextile:** We recommend the installation of a Treetex™ under the Cellweb® TRP, or under the sub-base, if installed. The overlapping between adjacent rolls of Geotextile should be: CBR > 3%: 300mm minimum, CBR between 1% and 3%: 500mm minimum. CBR ≤ 1%: 750mm minimum.
- 3. Staples:** Number of staples per join: 200mm: 5 staples. 150mm: 4 staples. 100mm: 3 staples. 75mm: 3 staples.
- 4. Granular Fill:** Open graded sub-base, clean angular stone Type 4/20 or Type 20/40. Please refer to BS7533-13:2009 and to the Design Manual for Roads and Bridges (DMRB), Volume 4 Geotechnics and Drainage, Section 1 Earthworks, HA44/91, Volume 7 – IAN 73/06 Design Guidance for road pavement foundations and Manual of Contract Documents for Highway Works (MCHW), Volume 1 Specification for Highway Works for the construction and maintenance of the fill material.





Drawings

Arboricultural Impact Assessment & Method Statement

Roslyn Avenue, Netherton

Harron Homes Ltd (Yorkshire)

SLR Project No.: 415.065296.00001415.065296.00001

30 October 2025

415.065296.000001-ARB-D-001



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