Arboricultural report for the proposed development at Land off Eyhorne Street, Hollingbourne, Kent ME17 1TX

Client: Cantium Land Developments Ltd

Reference GRS.37.25

Local Planning Authority: Maidstone Borough Council.

GRS
ARBORICULTURAL CONSULTANT LTD

Arboricultural
ASSOCIATION
Professional Member

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Authored by: Guy Stephens Fd.Sc M.Arbor.M
Tel:01622 817516
Email:guy@grstrees.co.uk
www.grstrees.co.uk
COMPANY No. 14181976

APPENDICES:

1. EXECUTIVE SUMMARY

1.1 This report provides an analysis and an evaluation of the proposed development comprising the erection of 17 no. new homes and proposed pedestrian and vehicle arrangement will have on the existing tree stock.

1.2 To facilitate this development, it will not be necessary to remove any trees and therefore the local canopy cover will not be diminished. The location of a SuDs is located within the root protection area of one tree, T9 however the extent of incursion is minimal and will not have affect its structural integrity.

1.3 The dwellings are positioned central area significant distance from the trees, by positioning them in this area means all there is sufficient distance to allow them to mature without the need to carry remedial works to address issues such as branches overhanging branches or being too close to the dwelling causing anxiety to the occupants.

2. INTRODUCTION

2.1 I have been instructed by Cantium Land Developments Ltd to provide a tree survey undertaken in accordance with BS5837:2012 Trees in relation to design, demolition and construction – Recommendations (BS). From the data collected, an arboricultural impact assessment (AIA) has been carried out to assess the impact the proposed development will have on the existing tree stock and wider landscape.

2.2 This report, along with the tree protection plan (**TPP - 01**) and the draft arboricultural method statement (**AMS**) will demonstrate that this development can be implemented in its entirety, whilst ensuring the trees showed to be retained can be protected during the course of the development and therefore incorporated into the proposed layout.

3. PURPOSE OF REPORT

3.1 To follow the core objectives to prepare a concept design including outline proposals for structural design following the guidance set out in BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations (BS).

3.2 By following the principles set out in the BS will ensure there is a sustainable relationship between the built form and the trees and therefore allowing the retained trees to continue to grow and contribute to the character of the local landscape.

4. BASE LINE DATA

4.1 The survey was carried out in accordance with section 4.4 – 4.5 of the BS 5837:2012 'Trees in relation to design, demolition, and construction – Recommendation', hereafter to be identified as 'BS' Where it was not possible to gain access to record the relevant data, certain fields such as crown spread and diameter at breast height (dbh) were estimated.

4.2 If defects were noted and required further inspection the following inspection aids were used: laser distometer was used to measure the crown spread, binoculars to inspect the upper crown, magnifying glass for inspection of pest and diseases, steel probe to test strength of wood/depth of cavities and a mallet to give an audible indication of the extent of cavities.

4.3 Trees within the report were inspected from ground level only and any external faults and features were recorded. The following inspections were not carried out: aerial inspection, detailed excavation of the rooting system or the use of internal decay detection equipment. The use of such equipment would require an additional report.

4.4 Detailed ecological considerations are beyond the scope of this report. UK and European wildlife legislation may affect the timing and even prohibit the enhancement of works and operations described in this report. Most of the information regarding wildlife can be found in the Wildlife and Countryside Act 1981 (as amended). It is recommended that consideration is given to the requirement for ecological surveys. Bats in particular are afforded particular protection and a specialist may be required to determine if bats are present or could be affected when carrying out tree works.

4.5 Trees are living organisms whose health and condition can change rapidly. Trees should be checked on a regular basis. The conclusions and recommendations of this report are valid for one year. It is recommended that the trees within the site be inspected after adverse weather conditions such as high winds.

4.6 Stem diameters are used to calculate Root Protection Areas (RPA) (**see appendix C**); where ivy or dense undergrowth has been noted in the comments section of the tree survey a precise stem diameter measurement may not have been possible. The stem diameter and RPA given in this instance is therefore provisional until such time that the ivy has been removed and the stem recalculated.

4.7 The following documents were provided:

Table 1 – Relevant documents supplied, date and format

Drawing title	Drawing reference	Date	Rev	Format
Topographical survey		16th October 2024		CAD/PDF
Proposed block plan	4500	11th September 2025	A	CAD/PDF

4.8 Local geology.

4.9 No soil samples were taken during the site visit; however, a desktop assessment using the British Geological interactive map[1] interactive map describes the bedrock geology is identified as Gault mudstone. This information will provide guidance for selecting the right tree species to act as mitigation against those removed to facilitate this development. The depth of foundations and other structures in relation to trees can be found within NHBC Standards Chapter 4.2

4.10 Protecting soil from compaction is essential, failure to do so will affect the physical, chemical and biological properties and functions of soil. It reduces the permeability which inhibits tree growth, increase run - off, erosion and reduces soil biodiversity

5. SITE DESCRIPTION

5.1 The application is an area of land bounded by a railway to the north, open fields to the east and south. In the southwest and western side of the site are the rear gardens of the neighbouring garden where G13, T14 – T24 are located.

6. DESIGN PROCESS

6.1 Tree survey (**appendix B**). This provides a sequential reference number; species; height; stem diameter branch spread; crown clearance; age of tree, general observations, and estimated remaining contribution to the landscape. Each tree/group of trees will be allocated a grading based on Table 1 – Cascade chart for tree quality assessment forming a tree location plan (**TLP-01**).

6.2 Where it is necessary to implement remedial tree pruning a specification shall be provided that complies with best arboricultural practice set out in BS3998:2010 Tree works – Recommendations.

6.3 As part of the design process a tree constraints plan (**TCP - 01**) is produced which shows the RPAs of all the trees that were surveyed.

6.4 In accordance with guidance set out in the BS the RPA is shown as a circle centred on the base of the trunk. Where there are underground constraints that will change in the shape of the RPA, these are shown on the TCP - 01 and TPP - 01.

6.5 Ideally incursions into the RPA shall be avoided, however should there be a need to encroach into the RPA this will be assessed, and a solution provided, for example of low impact foundation design such as mini piles or the use of cellular confinement system located on unmade ground.

6.6 Where possible the underground services will be located outside the RPAs of the retained trees, however, should they be located within the RPA of any trees, the most appropriate methodology in accordance with NJUG Guidance Notes 2007 and guidance set out in sections 7.7 of the BS will be followed.

6.7 Areas where soft landscaping can be implemented to mitigate against trees that are removed to facilitate the proposed scheme.

6.8 The arboricultural impact assessment **(AIA**) is based on the findings from the tree survey and the **TCP - 01** and evaluates any direct or indirect effects the existing trees may have on the proposed scheme.

6.9 The tree protection plan **(TPP – 01)** identifies any issues which must be addressed during the construction phase. In addition, any pruning works that are necessary to facilitate plant machinery are also identified.

[1] https://www.bgs.ac.uk/map-viewers/bgs-geology-viewer/

6.10 A draft arboricultural method statement (**AMS**) identifies the relevant tree protection measures that must be implemented and maintained during the development to ensure all the trees shown to be retained are incorporated into the final layout.

6.11 Ancient woodland status

6.12 Ancient woodland is an irreplaceable commodity and of great historical and cultural significance for the local landscape. The revised National Planning Policy Framework2 sets out the government's planning policies for England and identifies the importance of conserving and enhancing the natural environment.

6.13 The most relevant parts of Paragraph 193 state:

> *development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons[703] and a suitable compensation strategy exists.*

6.14 Using the data provided on the government's website[4] there are no woodlands designated as Ancient Semi Natural Woodland that will be affected by the proposed scheme

[2] updated December 2024
[3] 70 For example, infrastructure projects (including nationally significant infrastructure projects, orders under the Transport and Works Act and hybrid bills), where the public benefit would clearly outweigh the loss or deterioration of habitat.
[4] www.magic.gov.uk

7. ARBORICULTURAL IMPACT ASSESSMENT

7.1 In total twenty individual trees, four groups and two hedgerows surveyed in accordance with section 4.4 of the BS (see appendix A). Table 2 summarises the categories for all the trees that were surveyed.

Tree no.	Category
T14, T22, T24	U
	A
T9, T17, T21, T26	B
T1, T4, T5, T6, T10, T12, T15, T16, T18 T19, T20, T23, T25, G2, G8, G11, G13 H3, H7	C

Table 2 - Results of the original tree survey

7.2 Description of trees

7.3 None of the trees both within the site and off-site have been classed as veteran.

7.4 Although T1 is prominent compared to the other trees that were surveyed, the early stages of Ash dieback[5]were present throughout the crown and it is likely to continue to deteriorate and ultimately will need to be felled. Along the northern boundary is G2 (Figs 1 and 2) which is a mixed group of even aged trees growing on the embankment, although there are no trees of significance, they provide an established screen between the site and the railway which runs along the northern edge.

7.5 G2 extends along the entire length of the northern boundary at the east end H3 (Fig 3) starts and covers the southeastern edge, at the end of this stretch are three individual trees T4, T5 and T6 are three even aged Field maples which have been plotted as individual specimens because of their size. Along the southern boundary is H7 and like H3 provides valuable screening.

7.6 H3 only extends part way along this boundary, approximately halfway along is G8 which is an off-site copse comprising a mixture of trees, only three individual trees located at the edge T9, T10 and T12 were plotted individually.

7.7 The trees along the northwestern boundary comprise mainly individual specimens and of these T17 is the most prominent due to its broad crown. Within this group T14, T23 and T24 (Fig 7) have been classed as U grade because they are dead. As they are off-site it will be owners responsibility to remove them as they pose a risk. At the front of the site are a group of trees, only T25 (Fig 8) have been plotted.

[5] Symptoms: Minor signs of disease, such as early leaf fall or some leaf browning.
Crown: Appears mostly healthy with good leaf coverage.

7.8 Images of surveyed trees

Figure 1 – View G2 looking north

Figure 2 – view of G2

Figure 3 - Eastern corner of the site G2 and H3

Figure 4 – T4, T5 and T6

Figure 5 – H7

Figure 6 – Central part of the site

Figure 7 – T23 and T24

Figure 8 - T25 and the entrance to the site

7.9 **Remedial Tree Works**

7.10 This assesses the impact of the retained trees will have during the construction phase. This type of work involves reducing or removing individual branches to allow the movement of machines, erection of scaffolding and create sufficient working space during the development phases and must not have a detrimental impact on their visual amenity.

7.11 Based on this layout it will not be necessary to remove any trees to facilitate this proposed layout.

7.12 **Direct impact** - Assessment of incursions into the RPA and where there is an incursion into the rooting area will be assessed a solution will be provided to ensure there is minimal impact on the rooting environment.

7.13 In accordance with guidance set out in the BS[6] the RPA is plotted as a circle centred at the base of the trunk.

7.14 During the excavation of the SuDs temporary ground protection shown as purple hatching on TPP-01 shall be placed within the RPA of T9. The part of the SuDs within the RPA shown as an orange line will be supervised by the project arboriculturist (PA) who assess any roots that may be found will be severed correctly.

7.15 **Post development**

7.16 When assessing the likely impact the proposed development will have on the retained trees, it is important to consider a number of factors to ensure the finalised layout does not result in the retained trees either being removed unnecessarily or being reduced excessively pruned. The most common reasons are placing new dwellings to close to the large trees which can cause anxiety, perceived excessive shading and leaf litter. The number of dwellings and their location in relation to the retained trees means there is sufficient space to allow their continual growth without the need to carry out works in the immediate and near future.

7.17 A Daylight/Sunlight Analysis in accordance BR 209 has not been carried out for this site, however the shading arcs shown on the tree constraints plan show which parts of the site will experience greater amounts of shading. Given the size of the site and the distribution of the trees there will not be excessive shading throughout the site.

7.18 Soft landscaping opportunities

7.19 There is sufficient space for additional tree planting within the site which overtime will enhance the site, increase the local canopy cover and bring benefits to future residents.

8. CONCLUSION

8.1 This report has demonstrated the following:

- The spatial distance between the line of protected trees and the built form is significant and will allow them to mature without the need to undertake any tree work that may affect their visual amenity.
- Where there are incursions into RPAs of nearby trees, these have been assessed, and the solutions comply with the relevant sections as outlined in the BS.
- Subject to the measures identified on the tree protection plan being implemented and maintained during the course the development the retained trees will be incorporated into the final layout.

[6] Section 4.6.2

9. DRAFT ARBORICULTURAL METHOD STATEMENT

THIS PART OF THE REPORT MUST BE READ IN CONJUNCTION WITH THE TREE PROTECTION PLAN ATTACHED WITH THIS REPORT. FAILURE TO ADHERE TO THE RECOMMENDATIONS OUTLINED IN THIS SECTION MAY RESULT IN A TEMPORARY STOP NOTICE BEING SERVED.

9.1 To ensure an effective tree protection regime is implemented the following logical sequence of events and arboricultural inspection/supervision must be always adhered to. These stages and the arboricultural input are listed below.

- Pre-commencement meeting
- Protective fencing installed
- Temporary ground protection installed
- Installation of underground services
- Excavating within the RPA
- Soft landscaping
- Removal of protective fencing

9.2 A pre-commencement meeting will be held on site before any site clearance or construction work begins and the following parties should be in attendance.

Name of person	Title	Telephone	Email address
Mr P Hegley	Tree Officer	TBC	paul.hegley@maidstone.gov.uk
TBC	Site manager	TBC	TBC
Mr Guy Stephens	Arboricultural Consultant	07970675828	guy@grstrees.co.uk

Table 3- List of contacts

9.3 The pre-commencement meeting will be used to clarify and make understood all aspects of the implementation of tree protection and sequencing to all relevant parties. The specific works or events during which the arboricultural consultant will need to visit the site to undertake supervision or inspection will be confirmed, and a suitable length of time between monitoring visits will be agreed. When the project arboriculturist is not on site, a person will be appointed to undertake a daily inspection of the approved tree protection measures are in place. The inspections will be recorded and sent to the project arboriculturist. The LPA tree officer will receive monitoring reports on a regular basis, as agreed during the pre-commencement meeting.

9.4 A copy of the AMS and TPP will be kept on site at all times and be made available to all those who are to undertake works directly adjacent to the trees that are to be retained. It is the developer's responsibility to ensure that details of this AMS and any agreed amendments are known and understood by all site personnel.

9.5 If there is a change in site manager then the arboricultural consultant must be informed and a meeting must take place within 5 days of such a change, so that the important aspects of the AMS and TPP can be discussed and made clear to the site manager.

9.6 The table below identifies the phases of the project arboriculturist will be on site to oversee works which have the potential to harm the retained trees. A monitoring form will be sent to the LPA confirming they have been completed satisfactorily.

Phase	Works to take place	Tree Protection measures to be installed	Project arboriculturist to attend	Site monitoring report to be sent to LPA
Pre-start meeting	Sequence of monitoring regime to be agreed.	N	Y	Y
Construction phase	Erection of approved scheme	Tree fencing to be installed	N	Y
		Installation of temporary ground protection	Y	Y
		Excavation within the RPA of T9	Y	Y

Table 4 - Site monitoring phases

9.7 **Stages of the erection and removal tree protective fencing and signs.**

9.8 Protective fencing must be erected in accordance with either figure 2,3a or 3b BS5837: 2012 'Trees in relation to design, demolition and construction – Recommendation', prior to the commencement of any site clearance, demolition or construction is carried out. The location and extent of the fencing is shown as a continuous blue line on **TPP- 01**. Notices stating, "Tree Protection Zone, Keep Out!" will be attached with cable ties to every third panel.

9.9

- Delivery of all plant machinery
- Soft landscaping including the removal of soil.
- Installation of underground services
- Construction of the approved development
- Hard and soft landscaping

9.10 Installing and maintaining the TPF.

1. Existing vegetation that prevents the TPF from being installed in its entirety is to be removed using hand tools only.
2. Mark out the fencing points
3. Fencing contractors erect the fencing and attach tree protection signs
4. Site meeting with the project arboriculturist and site foreman to inspect and sign it off.

9.11 As soon as the construction works start the fencing must remain in place, in the event of it having to be removed or relocated the project arboriculturist must be contacted immediately who will inform the local planning authority. Any alternative fencing to be used must be approved by the project arboriculturist and a revised TPP will be issued and sent to the local planning authority for approval.

9.12 Examples of protective fencing.

9.13 An assessment will be made by the project arboriculturist whether the default protective fencing can be implemented and be a robust form of protection during the demolition and construction phase, the fencing can be changed to either figures 3a or 3b depending on the site. The project arboriculturist will informing the tree officer of any changes in the type of fencing. To avoid potential enforcement action, it may require issuing a new tree protection plan to the LPA which will need to be formally discharged.

9.14 In the first instance the tree protective fencing will be the default specification as shown as figure 2 of BS5837:2012 Trees in relation to design, demolition and construction and will comprise the following elements; standard scaffold poles, heavy gauge 2 m tall galvanised tube and welded mesh infill panels, panels secured to uprights and cross members with wire ties, ground level, Upright driven into the ground until secure (minimum depth 0.6 m) and standard scaffold clamps.

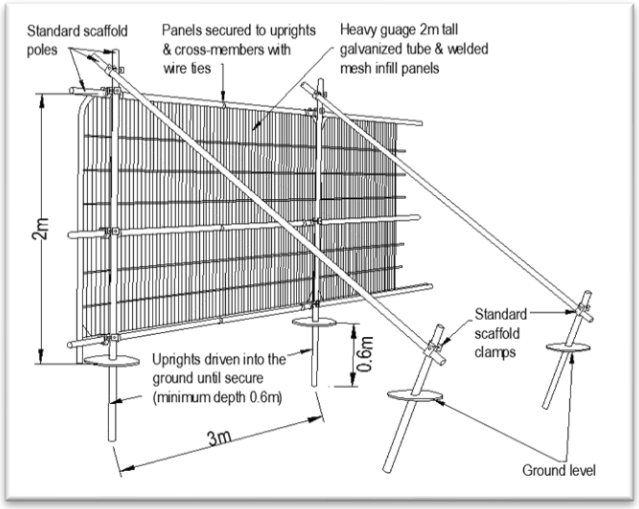


Figure 9 – Figure 2 of the British Standard.

9.15 The protective fencing shall consist of a vertical and horizontal framework, well braced to resist impacts. Scaffolding equipment should conform to current recommendations; galvanised scaffold tubes shall be used to make the framework; vertical poles shall be spaced at a maximum interval of 3m and driven securely into the ground to a minimum depth of 600mm. Welded mesh panels shall be securely fixed and secured to the uprights and cross members with wire ties. Care shall be exercised when locating the vertical poles to avoid underground services and, in the case of the bracing poles, also to avoid contact with structural roots. Notices stating, “Tree Protection Zone, Keep Out!” will be attached with cable ties to every third panel.

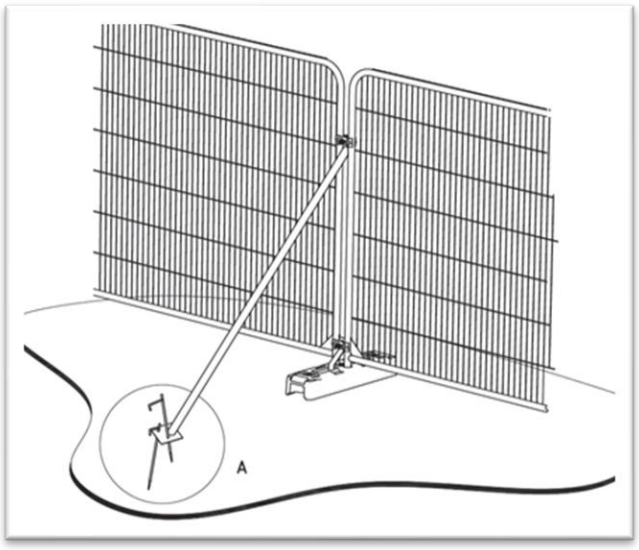


Figure 10 - Figure 3a of the British Standard.

9.16 Protective fencing shall consist of a scaffold framework in accordance with figure 3a of British Standard 5837 (2012), comprising 2m tall, welded mesh panels on rubber or concrete feet. Onto this, weldmesh panels shall be securely fixed with wire or scaffold clamps joined together using a minimum of two anti-tamper couplers, installed so that they can only be removed from inside 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 by stabilizer struts, attached to a base plate secured with ground pins.

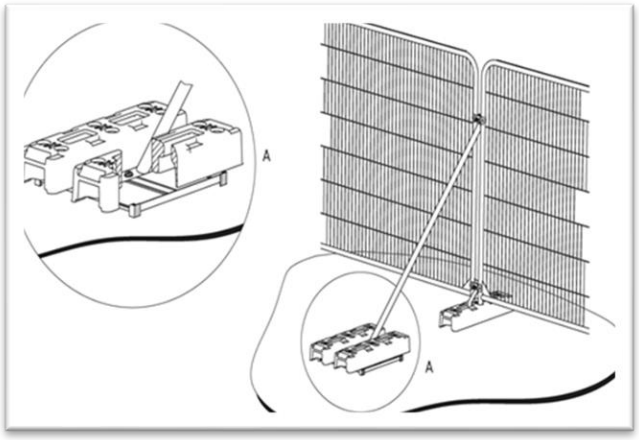


Figure 11 Figure 3b of the British Standard

9.17 Protective fencing shall consist of a scaffold framework in accordance with figure 3b of British Standard 5837 (2012), comprising 2m tall welded mesh panels on rubber or concrete feet. Onto this, weldmesh panels shall be securely fixed with wire or scaffold clamps joined together using a minimum of two anti-tamper couplers, installed so that they can only be removed from inside 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 by stabilizer struts mounted on a block tray.

9.18 Examples of tree protection warning signs. Notices stating, “Tree Protection Zone, Keep Out!” will be attached with cable ties to every third panel

Figure 12 Example of warning signs

9.19 Assessing and treating roots within the RPA.

9.20 To move the soil efficiently a toothless bucket attached to a mechanised digger will be used and the area shown on TPP-01 within the RPA of T9 will be overseen by the project arboriculturist. Roots encountered of less than 25mm diameter may be cut cleanly by the arboricultural consultant with secateurs or a sharp pruning saw (except where they occur in clumps of 25mm diameter or larger). If roots (or clumps of roots) of 25mm in diameter or larger are encountered, they shall be retained and protected.

9.21 If roots of 25mm diameter and above are found, they will be covered with Hessian sacking and a minimum depth of 50mm of topsoil and sharp sand. Exposed roots will be covered with sand or hessian sacking and be kept moist at all times; they will not be left exposed to frost, wind or direct sunlight.

9.22 Landscaping and reinstatement

9.23 All protective barriers must remain in place until the construction activity is finished and there is no realistic risk of damage to the protected soil surfaces.

9.24 The final soft landscaping and reinstatement shall only be undertaken after all the protective fencing and ground protection has been removed. It is important to note that great care is needed by all the contractors to avoid damage to the trees.

9.25 Soil compaction shall be avoided around existing vegetation, including trees, and in areas where new planting or seeding is proposed: No plant shall enter or be used within RPAs, which specifically includes rotovators.

9.26 There shall be no changes to soil levels within the RPAs of trees.

9.27 After the removal of the ground protection and final landscaping works the arboricultural consultant shall assess the condition of the underlying soil. It may be the case that regardless of the protective measures that soil compaction has occurred in the vicinity of existing trees.

9.28 Potential remedial works may include sub-soil aeration using compressed air, and the addition of other materials, preferably of a bulky, organic nature (but excluding peat), to improve structure. Heavy mechanical cultivation such as ploughing or rotavating should not occur within the RPA.

9.29 Any cultivation operations should be undertaken carefully by hand in order to minimize damage to the tree, particularly the roots. De-compaction measures include forking, spiking, soil augering and tilthed radial trenching. Care should be taken during such operations to minimize the risk of further damage to tree roots.

9.30 Construction Exclusion Zones.

9.31 The protective fencing shall form the Construction Exclusion Zones (“CEZ’s”) and will restrict any access by people or machinery into these areas. These areas are based on the RPA’s of the trees and the protective measures are designed to protect the soil within RPAs and the trees from damage or harm.

9.32 Where construction activity cannot be fully excluded from within the RPA’s of trees to be retained the parts of the RPA’s that are outside of the protective fencing shall be protected by appropriate ground protection.

9.33 The protected areas shall be regarded as sacrosanct, and once installed, the protective fencing and the ground protection shall not be removed or altered without prior recommendation by the appointed arboricultural consultant.

9.34 No activity shall occur within the CEZ’s; this means:

- No storage of equipment or materials.
- No access to people, plant or vehicles.

- The actions to be carried out within or directly adjacent to the CEZ's shall only be carried out in accordance with this method statement. Where specified these works shall only be carried out under the direct supervision of the arboricultural consultant.

- Provision shall be made to avoid the spillage of chemicals that are toxic to roots into the RPA. It is now standard practice to have emergency spillage kits made available. Liquid chemicals such as oil, bitumen, diesel, and cement shall not be stored, mixed or discharged onto the ground within 10 m of the trees.

- No notice boards, or above ground services, shall be attached to any of the trees. No fires shall be lit within the RPAs of the trees or near enough to the extent of the canopy that branches might be damaged.

- Planning of site operations shall take sufficient account of wide loads, tall loads and plant with booms, jibs and counterweights (including drilling rigs), in order that they can operate without coming into contact with retained trees. Such contact can result in serious damage to the trees and might make their safe retention impossible. Consequently, any transit or traverse of plant in proximity to trees shall be conducted under the supervision of a banksman, to ensure that adequate clearance from trees is maintained at all times.

- Unwanted vegetation shall be removed by hand or by using chemicals that do not damage the roots of the trees that are to be retained.

10. GLOSSARY OF TERMS

Arboricultural method statement ('AMS')	Methodology for the implementation of any aspect of development that is within the root protection area (RPA), or has the potential to result in loss of or damage to a tree to be retained.
Arboricultural consultant	Appointed person to oversee all tree related matters and who has, through relevant education, training and experience, gained expertise in the field of trees in relation to construction.
Tree protection plan ('TPP')	Scale drawing, informed by descriptive text where necessary, based upon the finalized proposals, showing trees for retention and illustrating the tree and landscape protection measures
Root Protection Area ('RPA')	The minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority.
Construction Exclusion Zone ('CEZ')	Area based on the RPA from which access is prohibited for the duration of a project
Protective fencing	Temporary fencing that excludes potentially harmful demolition or construction activity adjacent to trees to be retained.
Ground protection	Ground protection within RPAs capable of supporting traffic entering or using the site without being distorted or causing compaction of underlying soil or damage to surface roots.
Arboricultural monitoring & supervision	Throughout the demolition and construction process the arboricultural consultant shall undertake regular site monitoring visits and supervise specific works adjacent to trees. All supervisory and monitoring visits will be formally confirmed in writing and circulated to all relevant parties.

Figure 13 Glossary of terms

11. GENERAL ADVICE

Extent and form of the root system	Within a short distance of the stem, the roots are highly branched, so as to form a network of small-diameter woody roots, which can extend radially for a distance much greater than the height of the tree, except where impeded by unfavourable conditions. All parts of this system bear a mass of fine, non-woody absorptive roots, typically concentrated within the uppermost 600 mm of the soil.

	Damage to roots	All parts of the root system, but especially the fine roots, are vulnerable to damage. Once roots are damaged, water and nutrient uptake is restricted until new ones have grown. Mature trees recover slowly, if at all, from damage to their woody roots.
	Soil compaction	Soil that has been compacted will not provide suitable conditions for the survival and growth of vegetation, whether existing or new, and is a common cause of post-construction tree loss on development sites. Compacted soil will adversely affect drainage, gas exchange, nutrient uptake and organic content, and will seriously impede or restrict root growth.

Figure 14 General advice

12. REFERENCES

AL Shigo (1991) 'Modern Arboriculture', Shigo and Trees Associates

BS 3998:2010 'Recommendations for Tree Work', British Standards Institution, London.

BS5837: 2012 'Trees in relation to design, demolition and construction – Recommendation', British Standards Institution, London.

D. Lonsdale (1999) 'Principles of Tree Assessment and Management' HMSO

Mattheck and Broeler (1994) 'The Body Language of Trees' HMSO

Strouts and Winter (1994) 'Diagnosis of Ill Health in Trees' HMSO

National Joint Utilities Group. Volume 4, GUIDELINES FOR THE PLANNING, INSTALLATION AND MAINTENANCE OF UTILITY APPARATUS IN PROXIMITY TO TREES", Issue 2: 16th November 2007

Appendix A –Tree survey information - undertaken in accordance with section 4, BS5837:2012 'Trees in relation to design, demolition and construction – Recommendations

Tree no:	Sequential reference number of trees or groups of trees commencing at "1". Prefixed with a letter indicating type: T: Tree. G: Group. H: Hedge. W: Woodland. A: Area
Tree Preservation Order/ (TPO) conservation area (CA)	Served on individual, groups, woodland or as an area when the local planning authorities (LPA) consider it necessary to protect the visual amenity of the local area. Consent from the LPA must be sought prior to undertaking any works, failure to do so may lead to unlimited fines. Conservation area is an area designated under 69 of the Planning (Listed Buildings and Conservation Areas) Act 1990. Works to trees located within a CA require six weeks notification (S211 notice) to be submitted to the LPA. If the works are considered excessive and will have an impact on the visual amenity of the CA a TPO can be served.
Name	Species listed by common name/ latin name
Height	Estimated height of tree shown in metres.
Trunk Dbh:	Diameter at breast height measured at approximately 1.5 m above ground level given in millimetres and to the nearest 100 mm. Where there are more than 1 stem the average diameter is provided**.**
Radial crown spread (M)	Given as a radial measurement in metres from the centre of the stem to the furthest point of the canopy at the four main compass points N, E, S, W
Crown clearance (M)	First branch above ground level
Height to first branch	Height and orientation of first significant branch.
Age Class	**Y: Young**: Age less than 1/4 life expectancy **SM: Semi Mature:** 1/4 to 1/2 life expectancy **EM: Early Mature**: 1/2 to 3/4 life expectancy **M**: **Mature:** Over 3/4 life expectancy **OV: Over-mature:** Mature, and in a state of decline **V: Veteran:** tree that, by recognized criteria, shows features of biological, cultural or aesthetic value that are characteristic of, but not exclusive to, individuals surviving beyond the typical age range for the species concerned.
Physiology At the time of inspection the general health of the tree based upon its general appearance, vigour and the presence or absence of symptoms associated with poor health and physiological stress	• **Good:** Typical for species and age • **Fair:** Signs of physiological stress or dysfunction; but not significant enough that the tree may not recover. • **Poor:** Signs of physiological stress or dysfunction; significant enough that the tree might not recover. • **Dead:** Dead specimen.

Structure Structural condition of the tree based on the structure of its roots, trunk and major stems and branches in relation to the presence of any physiological, pathological or mechanical defects.	• **Good:** No significant structural defects. • **Fair:** Significant structural defects; but these are either remediable or do not put the tree at immediate or early risk of collapse. • **Poor:** Significant and irremediable structural defects, such that there may be a risk of early or premature collapse. • **Hazardous:** Significant and irremediable structural defects, such that there is a risk of imminent collapse.
Landscape value	• **High**: Individuals specimens considered to be of visual importance • **Moderate**: trees growing in a group no individual tree/s of significance: • **Low;** located within woodland, or provide little landscape value
Estimated Years	Estimated life expectancy based on current condition. • 0 Dead trees. • <10 Less than ten years. • 10+ more than ten years. • 20+ more than twenty years. • 40+ more than forty years
Comments:	General comments relating to identified structural defects or hazards, vitality, pathogens or observational notes.
Recommendation of work	**Arboricultura**l – Remedial tree works that involves pruning to a specification in accordance with the arboricultural best practice BS3998: 2010 Tree work – Recommendations. Examples include crown reduction, crown thinning, reducing specific branches and crown lifting. **Safety works**- nature of the works is to ensure the trees are kept in a safe manner. **Facilitative** – one off pruning works associated with development works whereby branches are removed to allow the movement of plant machinery within the grounds of the site without harming the trees visual appearance.
Category	**A**-Trees of high quality; **B**- Trees of moderate quality; **C**- Trees of low quality; **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 1- Mainly arboricultural qualities 2- Mainly landscape qualities 3 – Mainly cultural values , including conservation values
Root Protection Area: (RPA)	• The RPA represents the minimum area of soil that the tree requires supporting a healthy and effective root system. The amount shown is based on the calculations set out in section 4.6 of the BS see attached appendices for the method of calculation.
Root Protection Area m^2	• Root Protection Area (RPA) as radius (m) from the centre of the trunk

APPENDIX C - Calculation of the Root Protection Area (RPA)

The RPA for single stem trees is an area equivalent to a circle with a radius 12 times the stem diameter.

For trees with more than one stem the following calculation methods should be used. Guidance is provided within the BS (Annex C) which provides details on how to measure the stem diameters. The calculated RPA for each tree should be capped to 707m²

a) Trees with two to five stems, the combined stem diameter should be calculated as follows:

$$\sqrt{(\text{stem diameter1})^2 + (\text{stem diameter2})^2 \ldots + (\text{stem diameter 5})^2}$$

b) Trees with more than five stems (not shown in Annex C), the combined stem diameter should be calculated as follows:

$$\sqrt{(\text{mean stem diameter})^2 \text{ x number of stems}}$$

APPENDIX D - NJUG Guidance Notes 2007 - Acceptable techniques for excavating near trees as stated by NJUG Guidelines for the Planning, Installation and Maintenance of utility Apparatus in Proximity to Trees.

Volume 4 – Issue 2: 16th November 2007

Trenchless

Wherever possible trenchless techniques should be used. The launch and reception pits should be located outside the Prohibited or Precautionary Zones.

In order to avoid damage to roots by percussive boring techniques it is recommended that the depth of run should be below 600mm. Techniques involving external lubrication of the equipment with materials other than water (e.g., oil, bentonite, etc.) must not be used when working within the Prohibited Zone. Lubricating materials other than water may be used within the Precautionary Zone following consultation and by agreement.

Broken Trench - Hand-dug

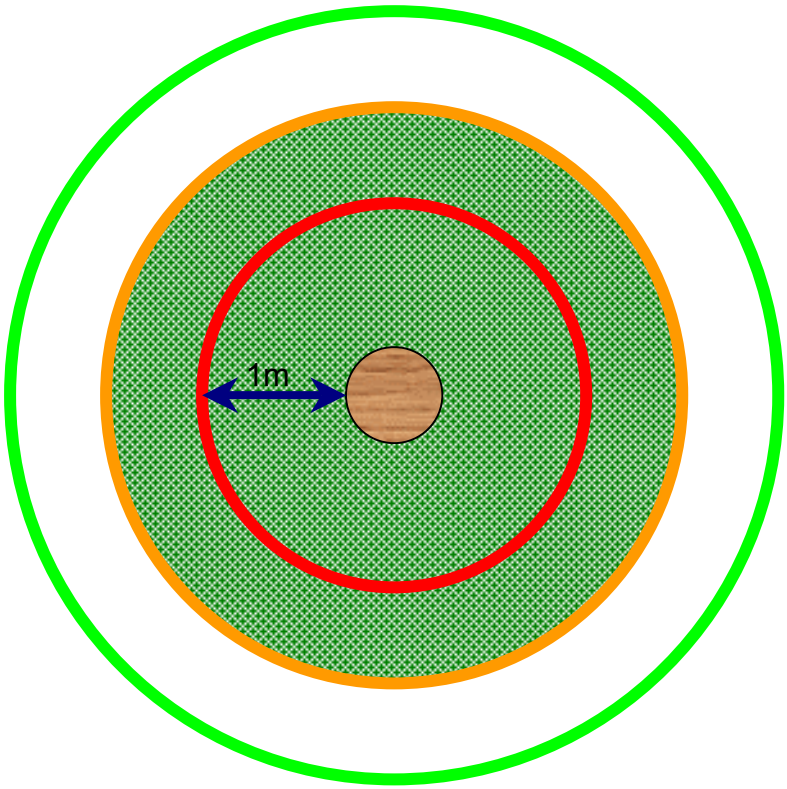
This technique combines hand dug trench sections with trenchless techniques if excavation is unavoidable. Excavation should be limited to where there is clear access around and below the roots. The trench is excavated by hand with precautions taken as for continuous trenching. Open sections of the trench should only be long enough to allow access for linking to the next section. The length of sections will be determined by local conditions, especially soil texture and cohesiveness, as well as the practical needs for access. In all cases the open sections should be kept as short as possible and outside of the Prohibited Zone.

Continuous Trench - Hand-dug

The use of this method must be considered only as a last resort if works are to be undertaken by agreement within the Prohibited Zone. The objective being to retain as many undamaged roots as possible.

Hand digging within the Prohibited or Precautionary zones must be undertaken with great care requiring closer supervision than normal operations.

After careful removal of the hard surface material digging must proceed with hand tools. Clumps of roots less than 25mm in diameter (including fibrous roots) should be retained in situ without damage. Roots, whilst exposed, shall immediately be wrapped by hessian to prevent dessication and to protect them from rapid temperature changes. Any wrapping shall be removed prior to backfilling, which will take place as soon as possible. Throughout the excavation works great care should be taken to protect the bark around the roots. All roots greater than 25mm diameter should be preserved and worked around.



TREE PROTECTION ZONE

Key to Diagram

Trunk of Tree

Spread of canopy or branches

PROHIBITED ZONE – 1m from trunk. Excavations of any kind must not be undertaken within this zone unless full consultation with Local Authority Tree Officer is undertaken. Materials, plant and spoil must not be stored within this zone.

PRECAUTIONARY ZONE – 4 x tree circumference. Where excavations must be undertaken within this zone the use of mechanical excavation plant should be prohibited. Precautions should be undertaken to protect any exposed roots. Materials, plant and spoil should not be stored within this zone. Consult with Local Authority Tree Officer if in any doubt.

PERMITTED ZONE – outside of precautionary zone. Excavation works may be undertaken within this zone however caution must be applied and the use of mechanical plant limited. Any exposed roots should be protected.

DAMAGE TO TREES

Tree roots keep a tree healthy and upright. Most roots are found in the top 600mm of soil and often grow out further than the tree's height. The majority of these roots are very fine; even close to a tree few will be thicker than a pencil. Most street tree roots grow under the footway but may also extend under the carriageway. If roots are damaged the tree may suffer irreversible harm and eventually die.

PROTECTING ROOTS - DO'S and DON'TS

There are three designated zones around a tree each of which has its own criteria for working practices.

THE PROHIBITED ZONE

Don't excavate within this zone.

Don't use any form of mechanical plant within this zone

Don't store materials, plant or equipment within this zone.

Don't move plant or vehicles within this zone.

Don't lean materials against, or chain plant to, the trunk.

Do contact the local authority tree officer or owner of the tree if excavation within this zone is unavoidable.

Do protect any exposed roots uncovered within this zone with dry sacking.

Do backfill with a suitable inert granular and top soil material mix as soon as possible on completion of works.

Do notify the local authority tree officer or the tree's owner of any damage.

THE PRECAUTIONARY ZONE

Don't excavate with machinery. Where excavation is unavoidable within this zone excavate only by hand or use trenchless techniques.

Don't cut roots over 25mm in diameter, unless advice has been sought from the local authority tree officer.

Don't repeatedly move / use heavy mechanical plant except on hard standing.

Don't store spoil or building material, including chemicals and fuels, within this zone.

Do prune roots which have to be removed using a sharp tool (e.g. secateurs or handsaw). Make a clean cut and leave as small a wound as possible.

Do backfill the trench with an inert granular material and top soil mix. Compact the backfill with care around the retained roots. On non highway sites backfill only with excavated soil.

Do protect any exposed roots with dry sacking ensuring this is removed before backfilling.

Do notify the local authority tree officer or the tree's owner of any damage.

THE PERMITTED ZONE

Don't cut roots over 25mm in diameter, unless advice has been sought from the local authority tree officer.

Do use caution if it is absolutely necessary to operate mechanical plant within this zone.

Do prune roots which have to be removed using a sharp tool (e.g. secateurs or handsaw). Make a clean cut and leave as small a wound as possible.

Do protect any exposed roots with dry sacking ensuring this is removed before backfilling.

Do notify the local authority tree officer or the tree's owner of any damage.

No.	Species	Height	Trunk Dia.	Radial Crown Spread	Crown Clear-ance	Height to 1st Branch	Life Stage	Physiology	Structure	Landscape Value	Est. Years	Comments	Recommendation	Category	RPA Radius	RPA m^2
T1	Ash	22m	600mm ivy est	N8m E8m S9m W7m	N7m E6m S12m W5m	6m W	EM	Fair	Fair	Moderate	10+	Dominant canopy; medium and major deadwood present in the lower canopy possibly the early stages of ash dieback.		C (2)	7.2m	162.9m^2
T4	Field maple	15m	400mm ivy est	N5m E5m S5m W5m	N4m E4m S8m W3m	3.5m E	SM	Good	Good	Low	20+	Hedgerow tree.		C (12)	4.8m	72.4m^2
T5	Field maple	15m	400mm ivy est	N2m E5m S4.5m W3.5m	N2m E3m S4m W3m	3m E	SM	Good	Good	Low	10+	Hedgerow tree.		C (12)	4.8m	72.4m^2
T6	Field maple	10m	350mm ivy est	N1.5m E3m S6m W3m	N4m E3m S3m W2.5m	2m S	SM	Good	Good	Low	20+	Hedgerow tree; one-sided crown as suppressed by adjacent tree.		C (12)	4.2m	55.4m^2
T9	Ash	25m	2 stems @ 600mm est	N7m E6.5m S7m W8m	N3m E4m S3.5m W8m	3m W	SM	Fair	Fair	Moderate	10+	Off site tree. No access. Remote inspection only; twin stemmed from base; unable to view lower trunk due to ivy; slightly sparse leaf coverage.		B (13)	10.2m	325.7m^2
T10	Ash	18m	300mm est	N4.5m E3m S4.5m W2m	N4m E6m S8m W10m	5m N	SM	Fair	Good	Low	10+	Off site tree. No access. Remote inspection only; slightly sparse bud density; minor deadwood.		C (1)	3.6m	40.7m^2
T12	Ash	18m	600mm est	N5m E3m S6m W7m	N3m E4m S5m W2m	4m N	EM	Good	Fair	Moderate	10+	Lapsed coppice.		C (1)	7.2m	162.9m^2
T14	Ash	18m	500mm est	N3m E7m S4.5m W3.5m	N12m E5m S15m W8m	5m SE	SM	Dead	Hazardous	Low	0	Dead tree; off site tree. No access. Remote inspection only.		U	6.0m	113.1m^2
T15	European larch	17m	400mm est	N1m E6m S5m W5m	N14m E6m S6m W6m	4.5m SE	SM	Good	Good	Low	10+	Off site tree. No access. Remote inspection only.		C (12)	4.8m	72.4m^2
T16	European larch	17m	350mm est	N3.5m E6m S4m W3.5m	N6m E5m S4.5m W8m	6m S	SM	Good	Good	Low	10+	Off site tree. No access. Remote inspection only.		C (12)	4.2m	55.4m^2
T17	Ash	20m	1000mm est	N9m E13.5m S8m W5m	N4m E3.5m S7m W6m	6m E	EM	Good	Fair	Moderate	20+	Off site tree. No access. Remote inspection only; broad dominant crown; divides at c. 8m two trunks c.900mm; medium and major deadwood.		B (1)	12.0m	452.4m^2

No.	Species	Height	Trunk Dia.	Radial Crown Spread	Crown Clear-ance	Height to 1st Branch	Life Stage	Physiology	Structure	Landscape Value	Est. Years	Comments	Recommendation	Category	RPA Radius	RPA m^2
T18	Sycamore	20m	400mm est	N6.5m E5m S5m W4.5m	N5m E2.5m S3m W4m	4m N	SM	Good	Fair	Moderate	20+	Off site tree. No access. Remote inspection only; part of group; of mainly low level boundary screening value.		C (12)	4.8m	72.4m^2
T19	Ash	22m	500mm est	N7m E5m S5m W6m	N5m E6m S12m W9m	6m E	SM	Good	Good	Moderate	10+	Off site tree. No access. Remote inspection only; part of group.		C (12)	6.0m	113.1m^2
T20	Ash	18m	600mm est	N2m E4m S4m W2m	N16m E14m S12m W14m	14m S	EM	Good	Fair	Low	10+	Off site tree. No access. Remote inspection only; one-sided crown as suppressed by adjacent tree; historic wound on the north side on the trunk starting at 4m up to 6 m; partially occluded. Bacteria wet wood seeping out of the wound.		C (12)	7.2m	162.9m^2
T21	Sycamore	25m	600mm est	N7.5m E5m S4m W4.5m	N2.5m E4m S4m W5m	5m N	EM	Good	Good	Moderate	20+	Part of group; off site tree. No access. Remote inspection only; behind is a larch not plotted on the drawing appears to be dead; c. 300 mm.		B (12)	7.2m	162.9m^2
T22	Ash	20m	600mm est	N7m E1m S0m W2m	12m	10m N	SM	Dead	Hazardous	Low	0	Dead tree; off site.		U	7.2m	162.9m^2
T23	Sycamore	18m	300mm est	N5.5m E2.5m S3.5m W4m	N5m E2m S2m W3.5m	5m S	SM	Good	Good	Low	20+	Off site tree. No access. Remote inspection only; suppressed as overtopped by adjacent tree; part of group.		C (12)	3.6m	40.7m^2
T24	Ash	25m	900mm est	N10m E6m S7m W8m	N6m E9m S9m W6m	7m W	EM	Poor	Fair	Moderate	<10	Off site tree. No access. Remote inspection only; twin stemmed from 3 m; no leaves; dead.		U	10.8m	366.4m^2
T25	Leyland cypress	24m	400mm est	N5m E3m S2.5m W3m	N2m E5m S5m W5m	4.5m N	SM	Good	Good	Low	20+	Off site tree. No access. Remote inspection only.		C (12)	4.8m	72.4m^2
T26	Sycamore	22m	400mm est	N5m E5m S5m W6m	N5m E8m S5m W7m	6m W	SM	Good	Good	Moderate	20+	Off site tree. No access. Remote inspection only; possibly highway tree.		B (12)	4.8m	72.4m^2
G2	Sycamore, Common or Black Elder and Hawthorn	Min 7m Max 12m	Min 100mm est Max 200mm est	N2m E2m S2m W2m	0m	0m S	Y	Good	Good	Low	10+	Mixed species group along the railway embankment.		C (2)	2.4m	18.1m^2

No.	Species	Height	Trunk Dia.	Radial Crown Spread	Crown Clear-ance	Height to 1st Branch	Life Stage	Physiology	Structure	Landscape Value	Est. Years	Comments	Recommendation	Category	RPA Radius	RPA m^2
G8	Beech, Common or Black Elder, Sycamore and Hawthorn	Min 5m Max 15m	Min 100mm est Max 300mm est	N5m E3m S3m W3m	N0.5m E0.5m S0.5m W0.5m	0m N	SM	Good	Good	Moderate	10+	Mixed species group; off site tree. No access. Remote inspection only.		C (2)	3.6m	40.7m²
G11	Ash	18m	Avg 7 stems @ 300mm ivy est	N6m E5m S4.5m W4m	N3m E3m S6m W5m	7m N	Y	Good	Fair	Low	10+	Group of even aged trees; off site tree. No access. Remote inspection only.		C (2)	3.6m	40.7m²
G13	Ash (x3) and Sycamore	15m	Avg 5 stems @ 200mm ivy est	N2m E5m S3m W7m	N5m E6m S6m W6m	6m S	Y	Good	Good	Low	10+	Off site tree. No access. Remote inspection only.		C (2)	2.4m	18.1m²
H3	Hawthorn and Hazel	Min 5m Max 12m	Min 100mm est Max 200mm est	N1m E3m S1m W3m	0m	0m W	SM	Good	Good	Moderate	10+	Mixed species hedge intersped with larger individual trees.		C (2)	2.4m	18.1m²
H7	Hawthorn	6m	Min 50mm est	N1.5m E1m S1.5m W1m	0m	0m N	SM	Good	Good	Low	10+	Hedge.		C (2)	0.9m	2.5m²

Notes	PA- Position approximate
Revisions	

Trunk of a category U tree
Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than10 years

Trunk of a category A tree
Trees of high quality with an estimated remaining life expectancy of at least 40 years

Trunk of a category B tree
Trees of moderate quality with an estimated remaining life expectancy of at least 20 years

Trunk of a category C tree
Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm

Canopy edge

1 — Tree no.
Ash — Tree species

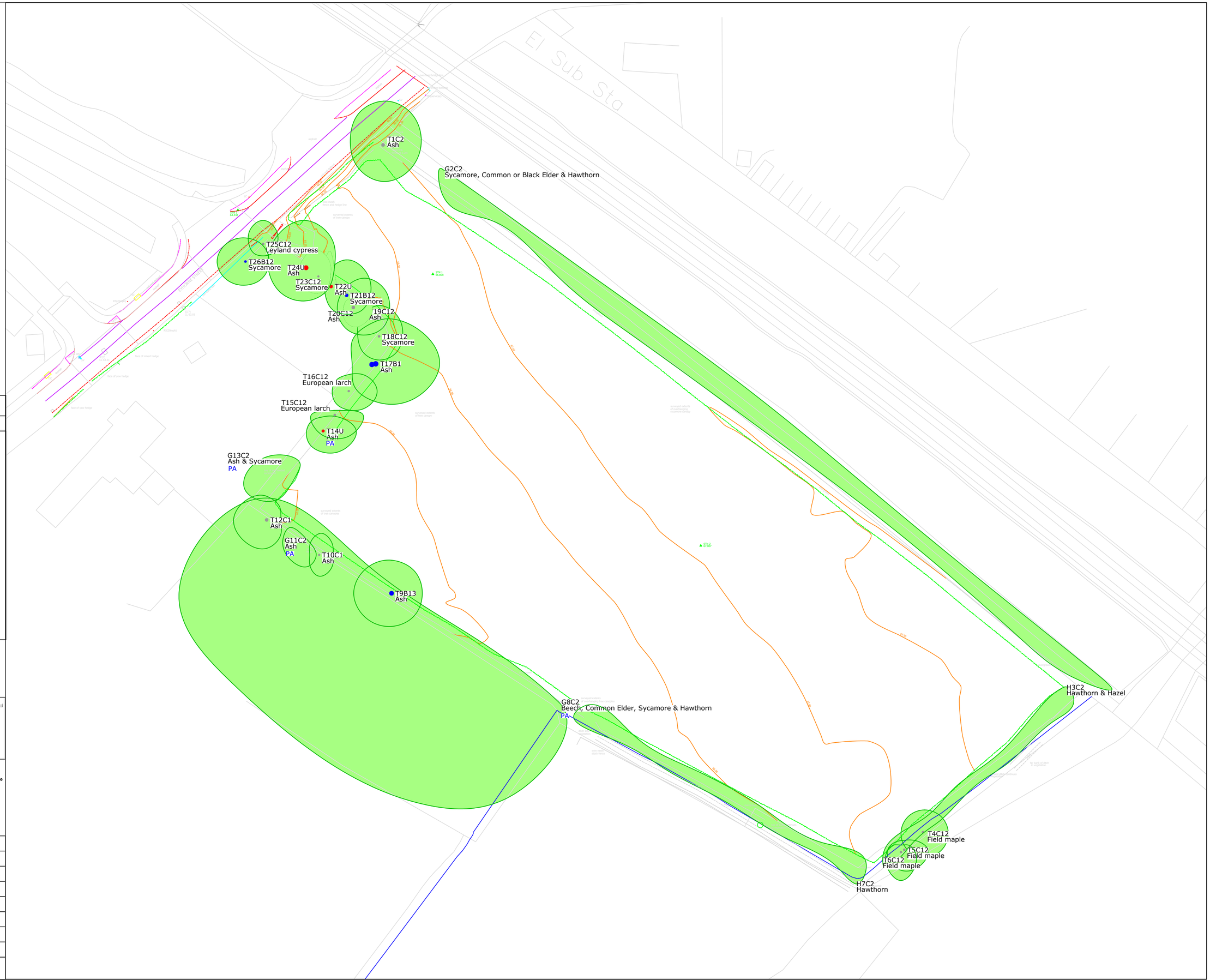
0 2 4 6 8 10 20m
1:500 Scale

GRS Arboricultural Consultant Ltd
The Old Coach House,
Waterside Mews,
Wateringbury,
Kent, ME18 5AB

Tel: 01622 817516
Email: guy@grstrees.co.uk
www.grstrees.co.uk

Please ensure all dimensions on site and any if there are any discrepancies please notify us.

Client	Esquire
Title	Tree Location Plan - TLP-01
Site	Land off Eyhorne Street, Hollingbourne, Kent, ME17 1TX
Date	4th May 2025
Drawn	GRS
Job ref	GRS.37.25
Scale	1:500
Paper size	A2
Drawing reference	Topographical survey



PRIMARY CONSTRAINTS:
BELOW GROUND = THE ROOTS = ROOT PROTECTION AREAS
ABOVE GROUND = THE BRANCHES = SPACE FOR TREE CANOPY
ABOVE GROUND = SHADING = SHADING ARCS

SHADING ARCS

Shading arcs: Indicate the passage of shading created by the tree(s) through the greater part of the day, shown by dashed lines between the north-west and east of the tree at a distance equivalent to the current height.
Windows of habitable rooms (e.g. living rooms & dining rooms) should not to directly face trees if on the tree side of the shading arcs - unless the rooms have dual or triple aspect and have at least one other window that does not directly face any trees that are causing shading.

Root Protection Area (RPA)

The RPA is a layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority.

Legend:

Shading arc:	
Root Protection Area (RPA):	RPA

Notes	PA- Position approximate
Revisions	

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GRS
ARBORICULTURAL CONSULTANT LTD
GRS Arboricultural Consultant Ltd
The Old Coach House,
Waterside Mews,
Wateringbury,
Kent, ME18 5AB
Tel: 01622 817516
Email: guy@grstrees.co.uk
www.grstrees.co.uk

Please ensure all dimensions on site and any if there are any discrepancies please notify us.

Client	Cantium Land and Development Ltd
Title	Tree Constraints Plan - TCP-01
Site	Land off Eyhorne Street, Hollingbourne, Kent, ME17 1TX
Date	4th May 2025
Drawn	GRS
Job ref	GRS.37.25
Scale	1:500
Paper size	A2
Drawing reference	Topographical survey

CHRONOLOGICAL ORDER OF EVENTS*

*See the accompanying Aboricultural Method Statement (AMS) for full details of the order of events and specifications for tree protection.

1. Pre-start meeting
2. Tree pruning
3. Protective fencing installed
4. Installation of service and drainage routes
5. Construction phase
6. Removal protective fencing

CONSTRUCTION EXCLUSION ZONES (CEZs)

Area which access is prohibited during development (based on the RPAs).

Construction Exclusion Zones shall be safeguarded during development by the installation of protective fencing and / or fit for purpose ground protection before any development works occur.

There shall be no development within CEZs including*:

- No soil disturbance
- No trenches for foundations, services or drainage
- No soil level changes
- No new hard surfaces

*If any such works are later proposed within any RPAs of trees to be retained these shall be supervised by the arboricultural consultant.

Legend:

Protective fencing:			
Supervised excavation			
Root Protection Area (RPA):	RPA	Temporary ground protection:	

Notes	PA- Position approximate
Revisions	

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Please ensure all dimensions on site and any if there are any discrepancies please notify us.

Client	Cantium Land and Development Ltd
Title	Tree Protection Plan - TPP-01
Site	Land off Eyhorne Street, Hollingbourne, Kent, ME17 1TX
Date	4th May 2025
Drawn	GRS
Job ref	GRS.37.25
Scale	1:500
Paper size	A2
Drawing reference	Proposed block plan

Temporary ground protection

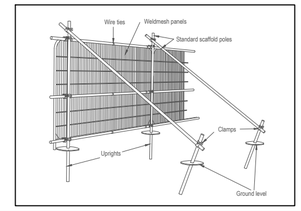
For pedestrian movements only, a single thickness of scaffold boards shall be placed either on top of a driven scaffold frame, so as to form a suspended walkway, or on top of a compression-resistant layer (e.g. 100 mm depth of woodchip), laid onto a geotextile membrane.

For pedestrian-operated plant up to a gross weight of 2t, proprietary, inter-linked ground protection boards (or similar) shall be placed on top of a compression-resistant layer (150 mm depth of woodchip), laid onto a geotextile membrane.

For wheeled or tracked construction traffic exceeding 2t gross weight, interlinking aluminium or metal track way shall be placed on top of a compression-resistant layer (200mm depth of woodchip), laid onto a geotextile membrane

Tree protective fencing

Protective fencing shall consist of a scaffold framework in accordance with *figure 2* of British Standard 5837 (2012); comprising a vertical and horizontal framework, well braced to resist impacts, with vertical tubes spaced at a maximum interval of 3m. Onto this, weldmesh panels shall be securely fixed with wire or scaffold clamps. Weldmesh panels on rubber or concrete feet are not resistant to impact and shall not be used. Construction Exclusion Zone signs shall be fixed to every forth panel.



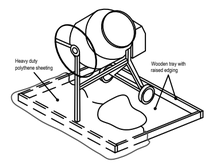
Excavations with RPA

All excavations to be undertaken within root protection areas (RPAs) shall be carried out carefully by hand, under direct supervision of the arboricultural consultant. Exposed roots that are to be retained shall immediately be wrapped or covered by hessian to prevent desiccation and to protect them from rapid temperature changes. Any wrapping shall be removed prior to backfilling, which will take place as soon as possible. Prior to backfilling, retained roots shall be surrounded with topsoil or un-compacted sharp sand (builders' sand will not be used because its high salt content is toxic to tree roots), or other loose inert granular fill, before soil or other suitable material is replaced. This material shall be free of contaminants and other foreign objects potentially injurious to tree roots.

Roots occurring in clumps or of 25mm diameter and over; shall only be severed by the arboricultural consultant after careful consideration.

All roots to be cut shall be pruned back, making a clean cut with a suitable sharp tool (e.g. bypass secateurs or handsaw).

Roots less than 25mm in diameter cut shall be pruned back, making a clean cut with a suitable sharp tool (e.g. bypass secateurs or handsaw). If any roots greater than 25mm in diameter are found during this stage they shall be retained



The mixing of cement based materials shall take place outside the Construction Exclusion Zones. In small confined areas provision will be made to prevent run-off from entering the RPA see diagram for a suitable example. All mixers and barrows shall be cleaned so the run-off does not enter the RPA. If there is sufficient space for mixing of cement to occur away from nearby trees then no precautions are necessary.

All other chemicals hazardous to tree health, including petrol and diesel, shall be stored in suitable containers as specified by current COSHH Regulations, and kept away from Root Protection Areas.