TIM MOYA ASSOCIATES

Arboricultural Report

Tree report for planning purposes

72 Harefield Road
Uxbridge
UB8 1PL

December 2020

190603-PD-11

Project	190603-PD-11 – 72 Harefield Road
Report Type	Arboriculture
Author	Edward Cleverdon
Checked by	Tim Moya
Date Checked	10/12/2020

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1 SUMMARY

Conclusions

1.1 The proposals will require the loss of 7 C category trees, and 2 shrubs. All trees and shrubs to be removed are of low amenity value and stature within the landscape. Trees and vegetation items of greater significance such the tree offsite lime tree T28, holly tree T17 and boundary trees T1 & T9 will be retained, with room for new planting incorporated into the design. Further details of tree impacts and mitigation are discussed in section 5 below. See Appendix B for a full schedule of tree works.

1.2 The impact on retained trees has been considered and the appropriate tree protection measures recommended in accordance with best practice to ensure retained trees can be successfully safeguarded during the proposed works. Where root protection area (RPA) incursions occur, these have been detailed and justified within the section 5.

1.3 The rear garden parking area will require no-dig cellular confinement system with permeable surfacing to be installed to facilitate the works. Options have been explored regarding the relocation and resizing of proposed parking, but the location and alignment is necessary to meeting the minimum parking standards for the site. This means the overall proposed area for new hard surfacing exceeds the 20% upper limit within any individual RPA and has been located closer than the 500mm offset from tree stems as recommended within BS5837:2012.

1.4 These are cautious recommendations however[1] and should not be considered an absolute in such cases where the area available is confined, the trees to be retained are of low amenity value and where the retention of the trees is key to softening views of the developed site.

1.5 A detailed landscape plan has not yet been formulated; however, space for new tree planting has been incorporated into the design the detail of which may be secured within suitably worded planning conditions. This can enhance the visual and ecological value of the site and therefore have a positive impact on the character of the local area in the future.

1.6 The conclusions of this report are that the proposed development complies with the requirements of planning policy as they relate to trees and construction can be successfully achieved by following the information outlined within this report.

Findings

1.7 This report includes:

1 - Arboricultural Association, 2020. The use of cellular confinement systems near trees - a good practice guide

- an assessment of the character of the local area in relation to trees and other vegetation;
- a description of the Application Site and the landscape significance of the trees and other vegetation;
- observations on the trees relevant to the proposed development;
- the planning policies relevant to the consideration of the trees on the site;
- the impact of the proposed development upon the tree population in and around the site;
- methods of reducing impacts on trees;
- measures to be taken to protect trees during the proposed works; and
- indicative new tree planting and landscaping.

Instructions

1.8 This arboricultural report has been instructed by Twiglet Development Ltd, to provide information to assist all parties involved in the planning process, so that they may make balanced judgements with regard to arboricultural features in relation to the proposed development at 72 Harefield Road, Uxbridge, UB8 1PL (the 'Application Site').

1.9 The proposed development is for the demolition of existing structures to construct a new residential apartment block with associated access, parking and landscaping.

2 INTRODUCTION

2.1 This report has been prepared by Edward Cleverdon. Edward is a senior arboricultural consultant dealing with trees in relation to all forms of human activity including the built environment. Edward is a professional member of the Arboricultural Association, an associate member of the Institute of Chartered Foresters, graduated with a BSc (hons) degree in Arboriculture from The University of Central Lancashire, is a LANTRA qualified professional tree inspector; and a registered user of Quantified Tree Risk Assessment.

Scope and limitations

2.2 This report has been provided to assist all parties involved in the planning process and has been prepared following a survey of the trees and other vegetation in accordance with *British Standard 5837 - Trees in relation to design demolition and construction - Recommendations (2012)*[2], hereafter referred to as BS5837.

2.3 The survey is an assessment in accordance with BS5837 and is not an assessment of the health and safety of trees and no recommendations for tree works have been provided unless required for development reasons. However, any trees identified as a current risk to health and safety have been highlighted in the tree works schedule at Appendix B, where appropriate.

Background and documents provided

2.4 This report has been prepared with reference to the following supplied information:

- topographical survey; and
- proposed site layout.

Other submitted information

2.5 This report should be read in conjunction with the application documents and drawings, including:

- the architect's Design and Access Statement; and
- other submitted drawings and documents.

2 - BSI. (2012) British Standard 5837: Trees in relation to design, demolition and construction - Recommendations. UK: British Standards Institution.

3 OBSERVATIONS AND CONTEXT

Application Site visit

3.1 Trees on the Application Site were surveyed on 18th June 2019 by my colleague Christopher Wright, to identify key trees and to inform the client team of the main tree constraints. Trees on and around the Application Site were inspected from ground level only. The survey methodology has followed the recommendations of BS5837.

Description of the Application Site

Image 1: Aerial photograph of the site with indicative redline boundary, Google images not to scale.

3.2 The site is comprised of a single residential property with vehicle access from Harefield Road, front and rear amenity spaces and pedestrian access around the building along the northern and southern boundaries.

3.3 Trees and shrubs on the site are mostly confined to boundary locations with some small specimens within the central rear extent of the back garden.

3.4 Individual trees and shrubs are broadly of low amenity value based on their condition and remaining useful life expectancy, while the offsite lime tree T28 at the front of the site and the holly tree T17 within the rear garden provide a moderate level of amenity benefits to the site. Collectively however, the lower amenity trees and shrubs on the northern boundary of the rear garden provide the site with a verdant character and filtered views into and out of the site.

3.5 Some vegetation on the site has been left unmanaged for some time, outgrowing their relative locations within close juxtaposition to the existing building and access routes.

3.6 Vehicle and pedestrian accesses at the front of the site have been cut into the rising topography between the road and the house, creating sharp level reductions and a resultant banking of the soil, which will be affecting the rooting area of T27 and T28.

3.7 The surrounding area is broadly suburban with large gardens, mature trees and shrubs making up approximately 30-40% of the total area. This affords the site a degree of tolerance to the loss of low amenity vegetation with appropriate replanting.

Image 2: Aerial photograph of the wider area with indicative redline boundary, Google images not to scale.

Views of trees on the Application Site

Image 3: Northern boundary trees and vegetation which will be retained as screening.

Image 4: The cherry laurel S21 on the southern boundary that will be removed to facilitate construction.

Image 5: Low amenity value trees T7 (centre left), T8 (left) and T5 (right) which will be removed to facilitate parking construction.

Image 6: Low branching form of the cherry laurel S21.

Image 7: Offsite bay trees T22 and T23 which will be crown lifted over site.

Image 8: The holly tree T17 on the left of the image which will be retained and protected.

Image 9: The existing site access on the southern boundary with T27 yew in the foreground which will be removed to improve site lines and the lime tree T28 to the rear which will be retained.

Image 10: Existing pedestrian access cut into the bank in front of T27 and T28 which will form the edge of the proposed vehicle access.

Image 11: Wider view of the of the existing site access and T27 / T28 to the right.

Legal status of trees

3.8 An online search of the London Borough of Hillingdon website on 4th November 2020 found that trees south of the site within the adjacent properties are protected by Tree Preservation Order (TPO) Area TPO 75, which prevents the cutting down or pruning of any part of the protected trees (including the roots) without prior written permission from the local authority.

3.9 The site however is not within a conservation area and is not covered by a TPO.

Soil conditions

3.10 The British Geological Survey suggests that the soils on site will be Lambeth group. Vertically and laterally variable sequences mainly of clay, some silty or sandy, with some sands and gravels

3.11 Lambeth group soils typically form clay loams or silty clay loams. These soils can be described as intermediate loamy soils which tend to retain moisture but allow considerable root development. Most tree species will not grow to a depth of more than about 2m in alluvial soils but some species can root to a greater depth. However, in all soils, the majority of tree roots are likely to be found in the upper soil horizons at a depth of no more than 600-1000mm.

National planning policy

3.12 Planning policy at national level is set out in the governments *National Planning Policy Framework* (NPPF)[3], which was revised in February 2019. The NPPF sets out overarching planning policy, and at its core is a presumption in favour of sustainable development. Sustainable development is defined in the NPPF as having economic, social, and environmental strands that are interdependent, and in these areas planning should meet the needs of the present without compromising the ability of future generations to meet their own needs.

3.13 The NPPF states that the purpose of the planning system is to contribute to the achievement of sustainable development. To achieve sustainable development, the planning system has three overarching objectives (economic, social, and environmental), which are interdependent, and need to be pursued in mutually supportive ways.

3.14 Paragraph 170 of the NPPF states that planning policies and decisions should contribute to and enhance the natural and local environment by "*protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan)*" and "*recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland.*"

3.15 Paragraph 175 of the NPPF states that, in order to protect and enhance biodiversity and geodiversity, Local Planning Authorities should apply the following principle, when determining planning applications that may affect ancient or veteran trees: "*development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists.*"

Regional / Spatial planning policy

3.16 The *London Plan 2016*[4] includes a policy for Trees and Woodland (Policy 7.21), which states that: *Existing trees of value should be retained and any loss as the result of development should be replaced following the principle of 'right place, right tree'. Wherever appropriate, the planting of additional trees should be included in new developments, particularly large-canopied species."* Additionally, this policy also states that: *"Boroughs should follow the advice of paragraph 118 of the NPPF to protect 'veteran' trees and ancient woodland where these are not already part of a protected site."* Since the publication of the new NPPF (2019), this reference now must direct to paragraph 175.

3 - HMCLG. (2019) National Planning Policy Framework. UK: HMSO.
4 - Mayor of London. (2016) The London Plan. UK: Greater London Authority.

3.17 The emerging (in draft) *New London Plan*[5] contains draft policies of relevance to trees. These are: G1 (Green Infrastructure), G5 (Urban Greening), and G7 (Trees and Woodland). These polices emphasise the need for Local Planning Authorities to develop appropriate polices, in order to protect green and open spaces, trees, and woodlands. G5 states that major development projects should contribute to urban greening; G7 states that trees and woodlands should be protected, and that new trees and woodland should be planted in appropriate locations, in order to increase the extent of London's urban forest. G7 also states that *"development proposals should ensure that, wherever possible, existing trees of quality are retained*" and that "*if it is imperative that trees have to be removed, there should be adequate replacement based on the existing value of the benefits of the trees removed, determined by, for example, i-tree or CAVAT"*. The draft New London Plan makes it clear that *existing trees of good quality*" refers to *"Category A and B trees as defined by BS 5837:2012"*.

Local planning policy

3.18 The Local Plan for [Local Auth], adopted in January 2020, provides local guidance that helps direct development proposals in a direction that meets the needs of the local area. In relation to this planning application, there are policies that are relevant, with respect to the trees surveyed (see Appendix A). These policies are listed below, and relevant parts of individual policies are included.

3.19 Policy DMH 6: Garden and Backland Development.

- There is a presumption against the loss of gardens due to the need to maintain local character, amenity space and biodiversity. In exceptional cases a limited scale of backland development may be acceptable, subject to the following criteria:
- iv) features such as trees, shrubs and wildlife habitat must be retained or re-provided.

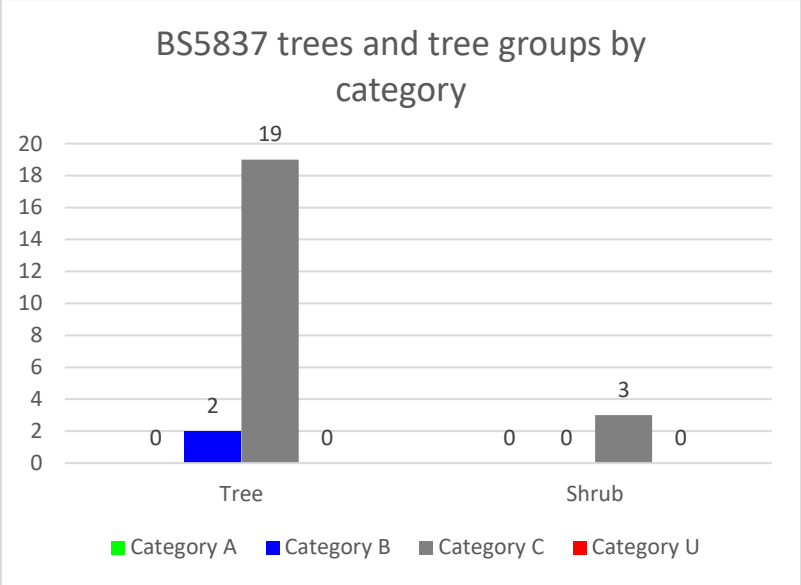
3.20 Policy DMHB 14: Trees and Landscaping

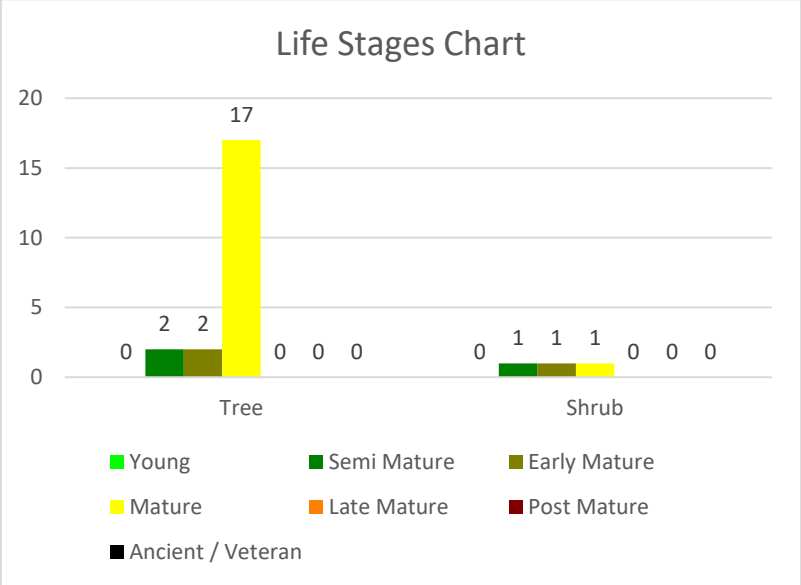
- All developments will be expected to retain or enhance existing landscaping, trees, biodiversity or other natural features of merit.
- Development proposals will be required to provide a landscape scheme that includes hard and soft landscaping appropriate to the character of the area, which supports and enhances biodiversity and amenity particularly in areas deficient in green infrastructure.
- Where space for ground level planting is limited, such as high rise buildings, the inclusion of living walls and roofs will be expected where feasible.

5 - Mayor of London (2019). The Draft London Plan. UK: GLA.

- Planning applications for proposals that would affect existing trees will be required to provide an accurate tree survey showing the location, height, spread and species of trees. Where the tree survey identifies trees of merit, tree root protection areas and an arboricultural method statement will be required to show how the trees will be protected. Where trees are to be removed, proposals for replanting of new trees on-site must be provided or include contributions to offsite provision.

4 TECHNICAL INFORMATION





5 ANALYSIS OF THE PROPOSED DEVELOPMENT IN RESPECT OF TREES

Loss of trees

5.1 The proposals will require the loss of 7 C category trees and 2 shrubs. All trees and shrubs to be removed are of low amenity value and stature within the landscape. Trees and vegetation items of greater significance such the tree offsite lime tree T28, holly tree T17 and boundary trees T1 & T9 will be retained, with room for new planting incorporated into the design.

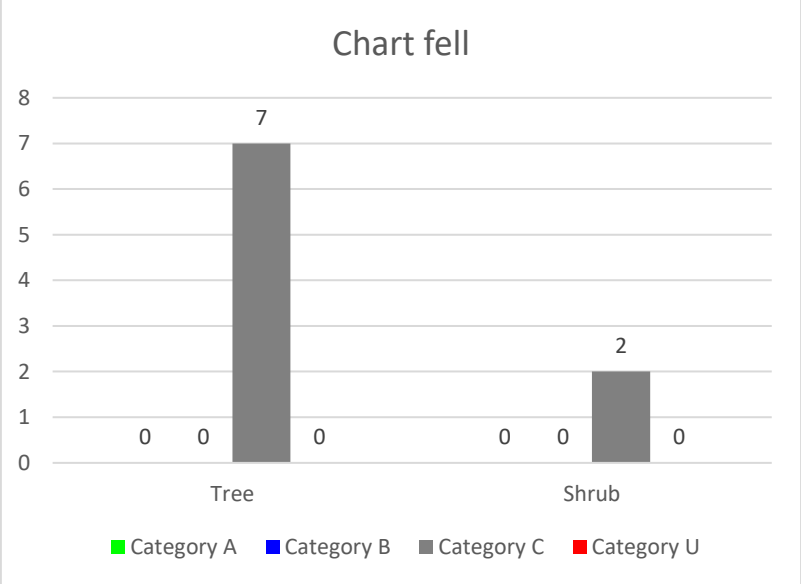


Fig 3: Chart showing the proposed tree removals broken down by BS5837 category

Pruning to facilitate development

5.2 Pruning works proposed will include the crown lifting of trees to provide sufficient clearance above the pedestrian / construction access and car parking / driveway; as well as a 2m lateral reduction of primary branches within the overhanging crown of T28 to improve the trees juxtaposition with the proposed building.

5.3 The works proposed are typical to those carried out on a regular basis within the urban environment and will not impact the long term health or condition of the trees concerned. Proposed tree pruning specifications are attached at Appendix B.

Future growth of retained trees

5.4 Future pruning works will be required in order to maintain separation and a harmonious relationship between the existing trees and proposed buildings. All future pruning works may be undertaken on a 3 - 5 year management cycle, with many being feasibly managed on 5 year+ pruning regime. Tree form and resultant re-growth have been considered in order to provide separation without detriment to tree health or visual appearance.

Site compound implications

5.5 Site compound and construction access has not yet been designed. The main contractor must take into consideration the existing trees on site, ensuring the proposed tree protection measures are installed prior to works commencing as detailed on the tree protection plan at Appendix A. Any alterations to the tree protection measures on site can be controlled by planning conditions and will therefore require written permission from the local authority tree officer and alternative tree protection measures installed.

Daylight and sunlight

5.6 Shading by trees is not considered a significant issue in relation to these proposals given the manageable juxtaposition between trees and the proposed building.

Demolition operations

5.7 The demolition of the existing building/s and hard surfaces / light structures on the site does not require works within the root protection area (RPAs) of retained trees. No special methods of work are therefore proposed.

Construction operations

5.8 The construction of the main built elements of the proposals will require excavation and other ground works within the RPA of retained trees. While the proposed building and level reductions to facilitate construction are within the theoretical RPA of T22/T23 and T28, the boundary wall within the RPA of T22/T23 and the historic earthworks within the RPA of T28 will have limited root ingress into site.

5.9 T22/T23 are small low amenity specimens which will have overhanging foliage cut back to the boundary. The species, bay, is tolerant of this form of management and will likely be unaffected by enacting this common law right to prune above and below ground encroachment into the site.

5.10 The lime tree T28, a species also tolerant of pruning and construction impacts, will lose only 6sqm of viable rooting area at a distance of 4.7m from the tree, with 26sqm retained as amenity space behind a retaining wall.

5.11 No special construction methods are therefore required to prevent root damage. However, arboricultural supervision will be necessary to ensure that site operations do not encroach beyond the proposed extents, causing damage to trees or the soil environment upon which they rely. Details of the measures to be taken to protect trees are included at Appendix A.

Proposed highway access

5.12 The enlargement of the existing highway access will involve the construction of an expanded crossover. However, the proposed crossover has been located within the current site access, below the rooting area of T28, and therefore no adverse impacts are anticipated.

Hard surface installation

5.13 New hard surfaces are proposed within the RPAs of retained trees to form the proposed car park. In order to ensure that damage does not occur to the roots of trees or the structure and function of the soil in which they are growing, a no-dig / low impact design cellular confinement system is proposed. This will ensure that significant roots and the rooting environment remain undamaged and functional.

5.14 The anticipated rise in levels has been considered in the design of the parking areas and hand dug trial excavations prior to installation of the system to remove surface vegetation will ensure significant roots are not impacted.

5.15 BS5837:2012 recommends that new permanent hard surfacing should not exceed 20% of any existing unsurfaced ground within the root protection area of a tree. However this is a cautious recommendation and should not necessarily be considered an absolute. In this circumstance the proposed parking area will only cover a higher proportion of the root zone of low amenity value trees, it will facilitate their retention and retain filtered views site area while allow the site to meet the require vehicle parking standards.

5.16 Details of the areas for proposed hard surface installation are highlighted on the Tree Protection Plan at Appendix A.

Image 14: A geo-textile membrane is laid across the sand bed and the cellular confinement system stretched and pinned across the surface area before being filled with no-fines aggregates.

Image 15: The finished porous surfacing is then laid and the edges pinned to create an above-ground parking system.

Installation of drainage

5.17 We do not currently have details of the condition of existing drainage runs or any information which suggests that there will be a requirement to install new drains. However, if new drainage runs are required, they should be located outside the RPAs of retained trees. If it is found to be necessary to locate new drainage runs within the

RPAs of retained trees it is recommended that these works are carried out under arboricultural supervision. Methods of work should follow the recommendations in the National Joint Utilities Group (NJUG) guidance. BS5837 (2012) recommends the NJUG guidance as a normative reference to be used in these circumstances.[6]

Landscaping operations

5.18 Landscaping operations will typically take place at the end of the construction period. These works will normally require the removal of protective fencing to facilitate access for works. There is a risk that plant and machinery may damage soil structure where tree roots are growing. However, these risks can be managed by maintaining good professional standards of work and working to a method statement. The principle of avoiding soil disturbance or changes in levels within the RPAs of retained trees should be followed unless arboricultural advice has been sought.

6 - NJUG. (2007) Volume 4: Guidelines for the planning, installation and maintenance of utility apparatus in proximity to trees - Issue 2. UK: National Joint Utilities Group.

6 DISCUSSION

General change

6.1 Taking into account the above impacts and mitigation, my assessment is that while the proposed loss of trees and shrubs will have a minor impact in the short term the retained good quality trees can be protected and the potential for high quality new planting will compensate for these losses, resulting in a neutral impact in the medium term with a positive impact in the longer term. The proposals are therefore considered sustainable in landscape terms.

New landscaping

6.2 Landscape proposals have not yet been formulated but sufficient space has been afforded on site to plant new trees which can contribute significantly to the amenities of the local area.

Arboricultural implications and mitigation

6.3 The impacts do not include the loss or unacceptable pruning of good quality trees. The inclusion of arboricultural input into the design of the proposals has minimised the impacts on existing trees and provided opportunities for new planting which will mitigate for these impacts.

7 CONCLUSIONS

Arboricultural sustainability

7.1 The approach to trees and landscape on the site is sustainable; best practice guidance has been followed to identify the key trees for arboricultural and landscape value and all of trees to be removed are of low or poor quality and value. The landscape opportunities on the site for new trees can, over a relatively short space of time after the development is completed, mitigate for the loss of trees and significantly improve canopy cover; bringing a positive benefit to the site and the local area generally.

Planning policy

7.2 The proposed development has complied with local planning policies, in relation to trees. Specifically, trees have been properly considered in formulating these proposals and alterations have been made to accommodate the retention of trees and to minimise impacts on retained trees. New tree planting is proposed as part of the development proposals and these trees are located in positions where they can make a contribution to public amenity.

Arboricultural impacts and mitigation

7.3 The right approach to trees has been followed on this site; by assessing their constraints before designing the layout has ensured that the key trees are retained and the juxtaposition with buildings is tenable for the long term. Where impacts will occur, these are identified specifically in this report and they can be addressed using sensitive design for footpaths, roads and light structures, or for underground services by following best practice guidance for their installation.

7.4 The protection of retained trees on this site during the proposed development works can be achieved by continuing to follow the recommendations in BS5837:2012 and by compliance with suitably drafted planning conditions, which can require an arboricultural method statement including on site supervision of key activities and tree protection during demolition and construction works.

8 RECOMMENDATIONS

Planning conditions

8.1 The Town and Country Planning Act 1990 places a duty on the Local Planning Authority to ensure that planning permissions are granted making adequate provision for the preservation and planting of trees by the imposition of conditions.

8.2 Appropriately worded planning conditions can ensure that trees are adequately protected during construction work which can include arboricultural supervision during key stages of the development process.

Tree works

8.3 It will be necessary to carry out some tree pruning and removal works in order to facilitate the proposed development. These works are listed in the tree work schedule at Appendix B.

8.4 Where tree works are necessary it is strongly recommended that a reputable and experienced tree surgery company is employed to carry out these works. Some local authorities will provide approved lists of tree surgeons and the Arboricultural Association publishes a list of Approved Contractors which can be searched by location. All tree works should be carried out in accordance with the guidance in BS3998[7].

8.5 Before authorising or undertaking tree removals or any works which may involve the severing of tree roots or branches it will be necessary to ensure that the affected trees are not legally protected. Legal protection may consist of Tree Preservation Orders, trees in Conservation Areas or trees protected by the Forestry Act or other legislation.

8.6 Where tree removals or pruning works have been specified within the submitted planning application documents, and where planning permission has been granted for these works, this permission overrides the statutory protection and the planning permission includes permission to carry out the approved tree works. However, these conditions only apply where the approved development is being implemented. Carrying out works to protected trees without permission, or where the planning consent is not being implemented may constitute an offence[8].

Tree protection

8.7 Protective fencing which is fit for purpose[9] will be required in order to prevent damage to trees, and the soil environment in which they grow, during development works. The

7 - BSI. (2010) British Standard 3998: Tree works - Recommendations. UK: British Standards Institution.
8 - DCLG. (2014) Tree preservation orders and trees in conservation areas [Online]. Available at: https://www.gov.uk/guidance/tree-preservation-orders-and-trees-in-conservation-areas.
9 - British Standards Institute, 2012. BS 5837: Trees in relation to design, demolition and construction. Section 6.2.2

specification for the construction and positioning of protective fencing is shown on the plans at Appendix A. Protective fence will need to be erected prior to the arrival of plant and materials on the site. The specification and positioning of protective fencing for this project will remain the same for both demolition and construction activities.

8.8 Temporary ground protection to a suitable specification[10] will be required in order to prevent damage the soil environment within the root protection areas (RPAs) of retained trees during development works. This is to allow plant and machinery to travel or operate within the RPAs during works. The specification for the type and positioning of ground protection is shown on the plans at Appendix A. Ground protection will need to be installed prior to the arrival of plant and materials on the site.

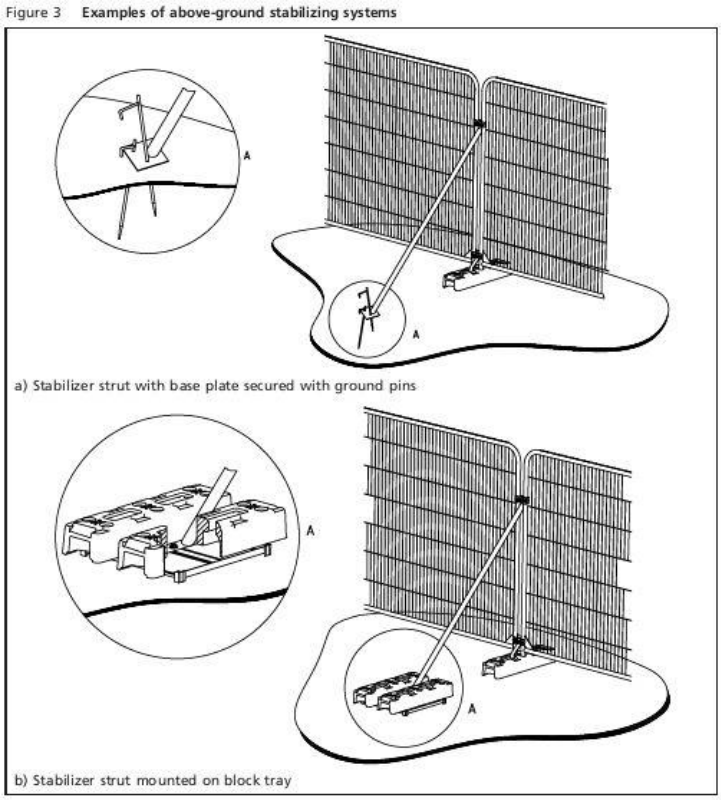


Image 16 - Protective fencing, ground stabilizing image: Image sourced from BS5837: Trees in relation to design, demolition and construction - Recommendations

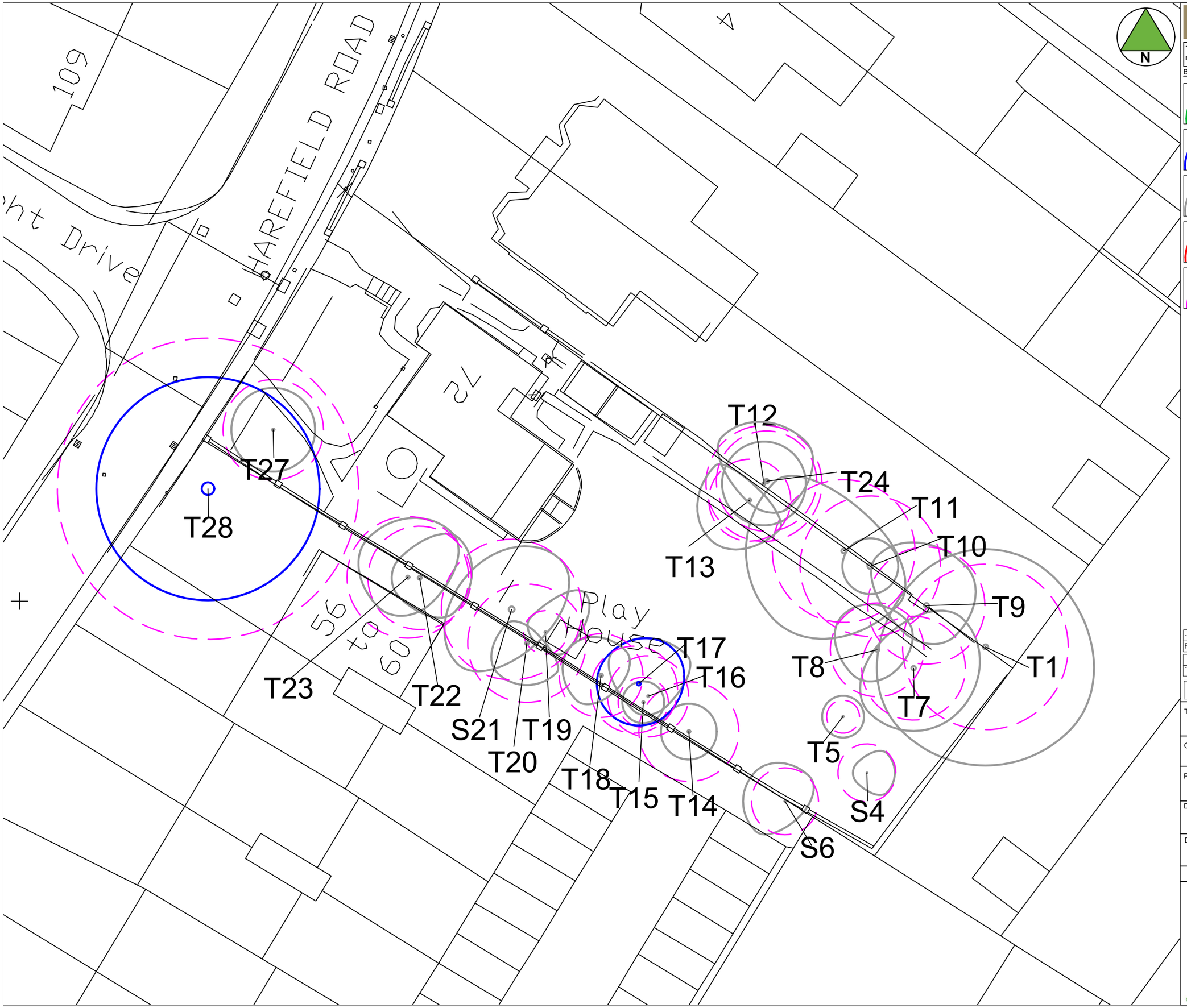
10 - British Standards Institute, 2012. BS 5837: Trees in relation to design, demolition and construction. Section 6.2.3

Image 17 - Ground protection, interlocking mats image: Photo shows the use of heavy duty interlinking plastic ground protection for temporary ground protection close to trees

TIM MOYA ASSOCIATES

APPENDIX A - Plans

- 190603-P-10 Tree Survey (PDF)
- 190603-P-11 Proposed
- 190603-P-12 Tree Protection Plan



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BS 5837:2012 TREE RETENTION CATEGORIES

Category A
Trees of high quality with an estimated remaining life expectancy of at least 40 years.

Category B
Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.

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

Category U
Those in such a condition that the tree cannot realistically be retained as living trees in the context of the current land use for longer that 10 years.

BS5837 Root Protection Areas
Precautionary areas within which tree roots and soil structure must be protected. All works within these areas will require special methods of work

REV	DATE	DESCRIPTION	DRAWN
-	xx.xx.xx	-	xx
Base Drawing			
-	-	-	

0 1m 5m 10m

Title
Tree Survey

Client
Twiglet Development Ltd

Project
72 Harefield Road, Uxbridge UB8 1PL

Date	Drawn by	Checked by
June 2019	HR	-

Drawing No	Rev	Scale
190603-P-10	-	1:250@A3

DO NOT SCALE Use only figured dimensions

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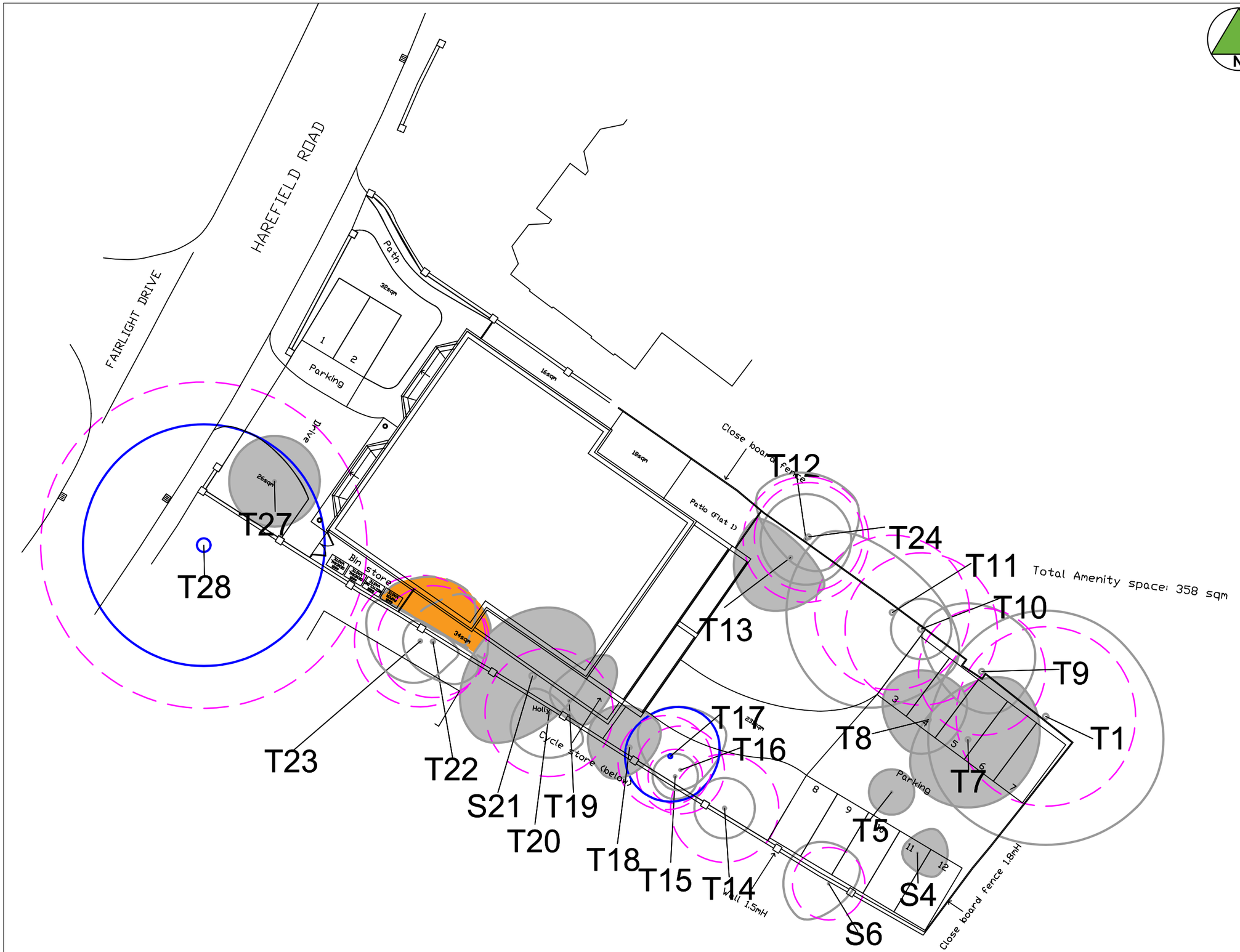
arboriculture ecology landscape innovation



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BS5837 Root Protection Areas
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Trees to be removed shown shaded grey.

Trees to be reduced back shown shaded orange.

REV	DATE	DESCRIPTION	DRAWN
-	xx.xx.xx	-	xx
-	28.10.10	Base Drawing 19_01 72 Harefield Road, Uxbridge, Middx UB 8 1PJ - Client - 27-10-20	

0 1m 5m 10m

Title
Proposed Layout and Tree Works

Client
Twiglet Development Ltd

Project
72 Harefield Road, Uxbridge UB8 1PL

Date	Drawn by	Checked by
October 2020	HR	-

Drawing No	Rev	Scale
190603-P-11	-	1:250@A3

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ARBORICULTURAL METHOD STATEMENT

BRITISH STANDARD 5837(2012)

This method statement is in accordance with British Standard 5837: Trees in relation to design, demolition and construction - Recommendations (2012) which provides a methodology for the assessment and protection of trees and other significant vegetation on development sites.

TREE SURGERY WORKS

Only tree works specified within this document may be carried out. Any uncertainty regarding trees to be pruned will be immediately confirmed with the arboricultural consultant and local authority tree officer.

All tree works will be carried out in accordance with the recommendations given in the current BS 3998 (2010).

All tree works should be carried out in accordance with the Wildlife and Countryside Act 1981 (as amended) and the Habitat Regulations 2010.

SITE SUPERVISION

All key / critical activities that will affect trees during construction will be inspected and monitored by the approved arboricultural consultant and reports issued to the client and local authority.

Supervision visits will occur as follows;

- Inspection of tree works, tree protection prior to demolition and construction works
- Monthly visits to inspect tree protection measures
- During works that may affect retained trees

PROTECTIVE FENCING

No materials or equipment other than those required to erect protective fencing, will be delivered to the site before the fencing is installed. The position of protective fencing for demolition is shown on this drawing.

Protective fencing will be constructed of robust barriers fit for the purpose of excluding demolition and construction traffic. Signs will be fixed to every third panel stating '**Tree Protection Area Keep Out - Any incursion into the protected area must be with the agreement of the local authority or arboricultural consultant**'.

The main contractor will inform the local authority officer and the arboricultural consultant that tree protection is in place before demolition or site clearance works commence.
No alteration, removal or repositioning of the tree protection for demolition will take place during the demolition phase without the prior consent of the arboricultural consultant.

SERVICES AND DRAINAGE

Methods of working for installation of the drainage runs or services will follow the guidance within Table 3 of BS 5837 (2012), or National Joint Utilities Group (NJUG) *Guidelines for the planning, installation and maintenance of utility apparatus in proximity to trees*. Volume 4, issue 2, London NJUG 2007.
No works will occur within the tree protection zone without prior agreement from the arboricultural consultant. No machinery will be permitted within the TPZ at any time.

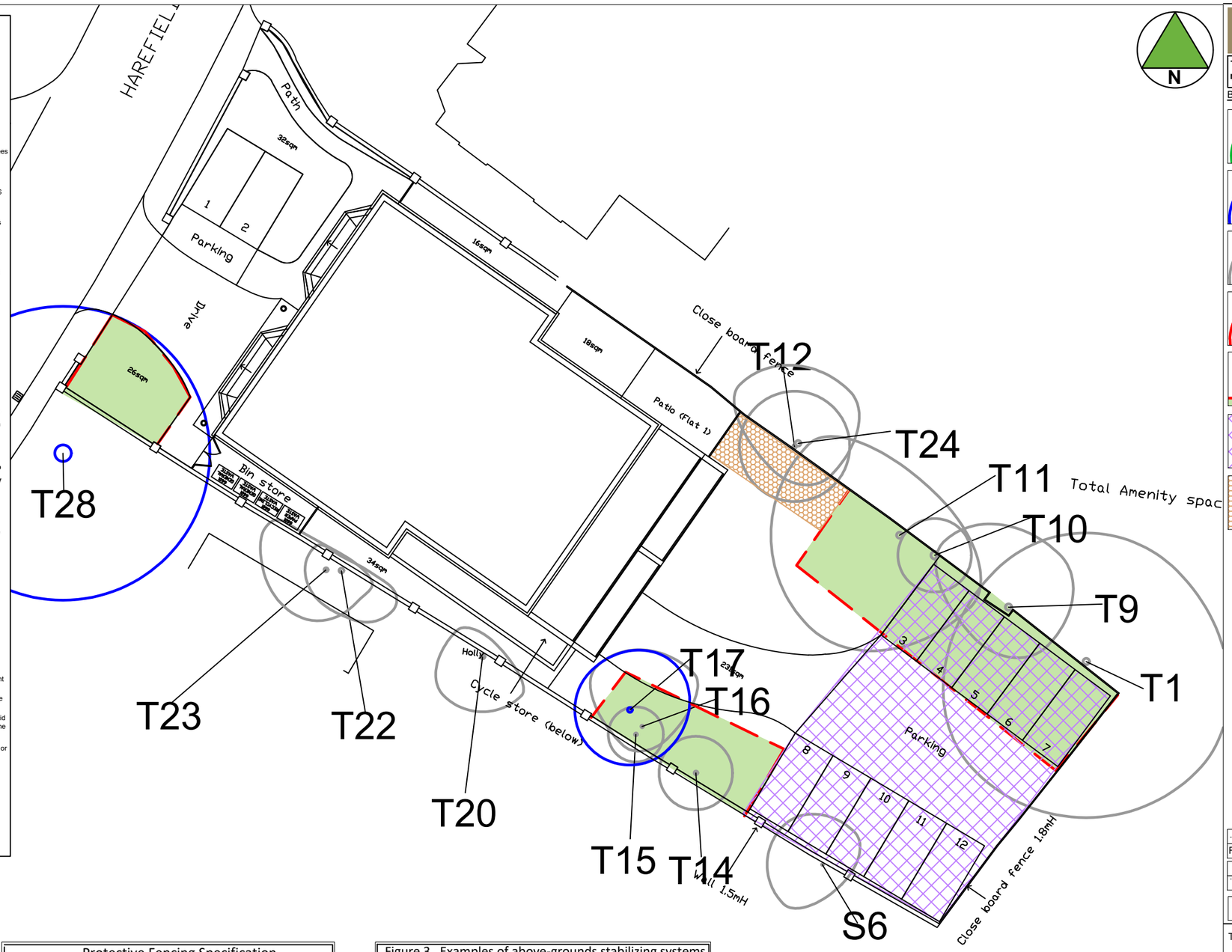
GENERAL PROTECTION METHODS

No fires will be permitted within 20m of the crown of any tree.
No changes in soil levels will take place within the tree protection zones without prior written consent of the local authority.
No materials, vehicles, plant or personnel will be permitted into the tree protection zones at any time without the prior consent of the arboricultural consultant.
Any liquid materials spilled on site will be immediately cleared up and removed from the site. If liquid fuel or cement products are spilled within 2m of the tree protection zone, the contractor will report the incident to the arboricultural consultant immediately.
The contractor will report any damage to trees or shrubs, whether caused by construction activities or from any other cause, to the arboricultural consultant immediately.

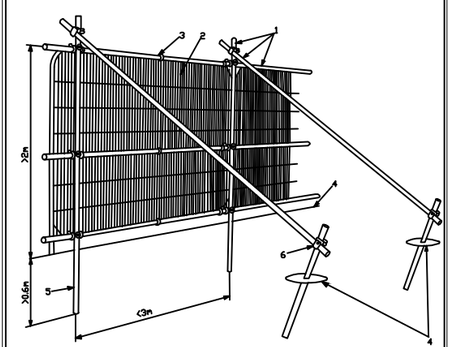
NO-DIG CONSTRUCTION AREAS

Areas requiring no-dig methods of construction are indicated on this drawing. No-dig will involve either excavating existing hard surfacing down to sub base and building up, or laying materials to create new hard surfacing onto existing ground levels. No scraping or reducing of existing soft ground levels in the areas indicated on this plan will be undertaken, and all construction in these areas will avoid the use of machinery.

The specification for no-dig construction is shown below.

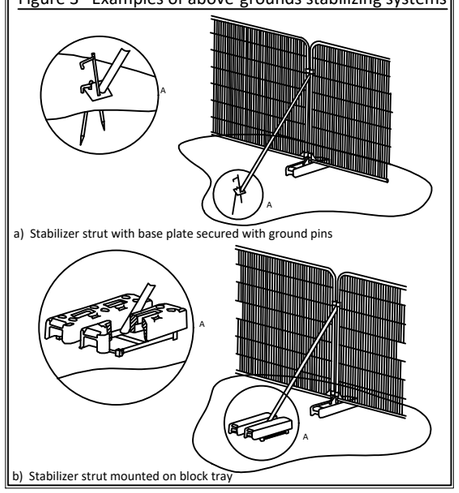


Protective Fencing Specification



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

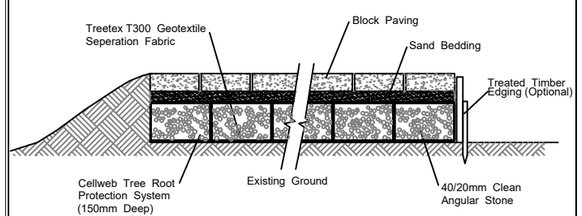
Figure 3 Examples of above-grounds stabilizing systems



a) Stabilizer strut with base plate secured with ground pins

b) Stabilizer strut mounted on block tray

Example of No-dig Construction



Geosynthetics Ltd	TITLE	DRAWING NO
Fleming Road, Harrowbrook Industrial Estate, Hinckley, Leicestershire. LE10 3DU Tel: 01455 617139 Fax: 01455 617140 www.geosyn.co.uk	Cellweb Section - Tree Root Protection c/w Block Paving Surface	GS-CW-BP-150

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The original of this drawing was produced in colour -a monochrome copy should not be relied upon.

BS 5837:2012 TREE RETENTION CATEGORIES

Category A
Trees of high quality with an estimated remaining life expectancy of at least 40 years.

Category B
Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.

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

Category U
Those in such a condition that the tree cannot realistically be retained as living trees in the context of the current land use for longer that 10 years.

Position of protective fencing and tree protection zones.

Cellualr confinement parking system.

Area of ground protection.

REV	DATE	DESCRIPTION	DRAWN
-	xx.xx.xx	-	xx

Base Drawing
- 28.10.10 19_01 72 Harefield Road, Uxbridge, Middx UB 8 1PJ - Client - 27-10-20

0 1m 5m 10m

Title
Tree Protection Plan

Client
Twiglet Development Ltd

Project
72 Harefield Road, Uxbridge UB8 1PL

Date	Drawn by	Checked by
October 2020	HR	-

Drawing No	Rev	Scale
190603-P-12	-	1:250@A3

DO NOT SCALE Use only figured dimensions

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APPENDIX B - Schedules

- 190603-PD-10 Tree Schedule
- 190603-PD-12 Tree Work Schedule

190603-PD-10-Tree schedule (BS5837)

TIM MOYA ASSOCIATES

190603 - 72 Harefield Road

Tree ID	No.	Species	Height (m)	Stem diameter (cm)	No. of Stems	CROWN SPREAD (m) N	NE	E	SE	S	SW	W	NW	Crown clearance (m)	L.B. (m)	Life stage	Condition Notes	Survey date	RPA (m^2)	RPR (m)	Life expectancy (yrs)	BS Category
Tree T1	1	Fraxinus excelsior (Ash)	15.0	49 COM	2		7.0		8.5		8.5		7.0	8.0		Mature	Structural condition Fair. Physiological condition Fair. Access to inspect base - Restricted / obscured. Base / stems obscured - Vegetation. Excavation within root zone - Burrowing. Ivy or climbing plant.	18/06/2019	110.8	5.9	10-20	C1
Shrub S4	1	Corylus avellana (Common Hazel)	4.0	17 COM	12		2.0		2.0		1.0		1.0	1.5		Semi Mature	Structural condition Fair. Physiological condition Fair. Multi-stemmed.	29/10/2020	13.6	2.1	10-20	C1
Tree T5	1	Ilex aquifolium (Holly)	4.5	9 COM	2	1.5		1.5		1.5		1.5		1.0		Semi Mature	Structural condition Fair. Physiological condition Fair. Decay / structural defect - Base.	29/10/2020	4.4	1.2	10-20	C1
Shrub S6	1	Ficus carica (Common Fig)	5.0	20 COM	4		2.5		1.5		3.0		3.0	1.0		Early Mature	Structural condition Fair. Physiological condition Fair. Access to inspect base - Not possible. Off-site shrub.	18/06/2019	18.1	2.4	10-20	C1
Tree T7	1	Fraxinus excelsior (Ash)	15.0	31	1		5.0		4.5		4.5		3.0	2.5	4 S	Mature	Structural condition Fair. Physiological condition Good. Competition - Adjacent trees. Decay / structural defect - Bole. Leaning trunk - Minor.	29/10/2020	43.5	3.7	10-20	C1
Tree T8	1	Pyrus sp. (Pear sp.)	10.0	28	1		3.0		2.0		2.5		3.5	6.0		Mature	Structural condition Fair. Physiological condition Fair. Base / stems obscured - Vegetation. Competition - Adjacent trees. Crown reduction - Recent. Ivy or climbing plant.	29/10/2020	35.5	3.4	10-20	C1
Tree T9	1	Cerasus serrulata (Japanese Cherry)	7.0	35	1		4.0		3.0		2.5		5.0	4.0		Mature	Structural condition Fair. Physiological condition Fair. Access to inspect base - Not possible. Base / stems obscured - Structure. Base / stems obscured - Vegetation. Competition - Adjacent trees. Unbalanced crown - Major.	18/06/2019	55.4	4.2	10-20	C1

Stem **green** Estimated value
Stem **AVE** Average stem diameter for tree groups
Stem **COM** Combined stem diameter in accordance with BS5837
L.B. Height of lowest branch attachment (m) - where relevant

The survey information in this schedule has been gathered following a BS5837 survey for planning purposes. Where hazardous trees have been noted recommendations for works may have been made but this survey cannot be relied upon as a full health and safety assessment of the trees.

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190603 - 72 Harefield Road

Tree ID	No.	Species	Height (m)	Stem diameter (cm)	No. of Stems	CROWN SPREAD (m) N	NE	E	SE	S	SW	W	NW	Crown clearance (m)	L.B. (m)	Life stage	Condition Notes	Survey date	RPA (m^2)	RPR (m)	Life expectancy (yrs)	BS Category
Tree T10	1	Thuja sp. (Thuja sp.)	14.0	42	1	2.0		2.0		2.0		2.0		4.0		Mature	Structural condition Fair. Physiological condition Fair. Access to inspect base - Restricted / obscured. Base / stems obscured - Structure. Base / stems obscured - Vegetation. Die-back - Upper crown.	18/06/2019	79.8	5.0	10-20	C1
Tree T11	1	Fraxinus excelsior (Ash)	13.0	42 COM	2		3.0		5.5		7.0		7.0	2.0	3.5 S	Mature	Structural condition Fair. Physiological condition Good. Access to inspect base - Restricted / obscured. Base / stems obscured - Structure. Base / stems obscured - Vegetation. Competition - Adjacent trees. Ivy or climbing plant.	18/06/2019	82.2	5.1	10-20	C1
Tree T12	1	Crataegus monogyna (Common Hawthorn/Quick/May)	7.0	34 COM	3		3.0		3.0		3.0		3.0	3.0		Mature	Structural condition Fair. Physiological condition Fair. Access to inspect base - Not possible. Base / stems obscured - Vegetation. Ivy or climbing plant. Multi-stemmed.	18/06/2019	54.3	4.2	10-20	C1
Tree T13	1	Laburnum anagyroides (Common Laburnum (Golden Chain))	5.0	24 COM	3		1.0		3.0		4.0		3.5	2.5		Mature	Structural condition Fair. Physiological condition Good. Access to inspect base - Not possible. Base / stems obscured - Vegetation. Competition - Adjacent trees. Leaning trunk - Minor.	29/10/2020	27.1	2.9	10-20	C1
Tree T14	1	Ilex aquifolium (Holly)	7.5	29 COM	3	2.0		2.0		2.0		2.0		2.0		Mature	Structural condition Fair. Physiological condition Fair. Decline - Suspected. Decay / structural defect - Base.	18/06/2019	40.3	3.6	10-20	C1
Tree T15	1	Ilex aquifolium (Holly)	7.5	15	1	1.5		1.5		1.5		1.5		4.0		Semi Mature	Structural condition Fair. Physiological condition Fair. Competition - Adjacent trees.	18/06/2019	10.2	1.8	10-20	C1
Tree T16	1	Sambucus nigra (Elder)	7.0	24 COM	3		3.5		1.5		2.0		4.0	2.0		Mature	Structural condition Fair. Physiological condition Fair. Base / stems obscured - Vegetation. Competition - Adjacent trees. Ivy or climbing plant. Multi-stemmed.	18/06/2019	26.6	2.9	10-20	C1
Tree T17	1	Ilex aquifolium (Holly)	10.0	26	1		3.5		3.0		3.0		3.0	1.5		Mature	Structural condition Good. Physiological condition Fair. Competition - Adjacent trees. Rubbing limbs.	18/06/2019	30.6	3.1	20-40	B1

Stem **green** Estimated value
Stem **AVE** Average stem diameter for tree groups
Stem **COM** Combined stem diameter in accordance with BS5837
L.B. Height of lowest branch attachment (m) - where relevant

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190603 - 72 Harefield Road

Tree ID	No.	Species	Height (m)	Stem diameter (cm)	No. of Stems	CROWN SPREAD (m) N	NE	E	SE	S	SW	W	NW	Crown clearance (m)	L.B. (m)	Life stage	Condition Notes	Survey date	RPA (m^2)	RPR (m)	Life expectancy (yrs)	BS Category
Tree T18	1	Sambucus nigra (Elder)	8.0	25	1		2.5		1.5		2.5		3.0	4.0		Mature	Structural condition Fair. Physiological condition Fair. Base / stems obscured - Vegetation. Competition - Adjacent trees. Ivy or climbing plant. Leaning trunk - Minor.	29/10/2020	28.3	3.0	10-20	C1
Tree T19	1	Ilex aquifolium (Holly)	8.0	13	1		4.0		2.0		1.0		1.5	1.0		Early Mature	Structural condition Fair. Physiological condition Fair. Competition - Adjacent trees. Leaning trunk - Major.	29/10/2020	7.6	1.6	10-20	C1
Tree T20	1	Ilex aquifolium (Holly)	6.0	35 COM	2		1.0		3.0		3.0		2.0	4.0		Mature	Structural condition Poor. Physiological condition Poor. Access to inspect base - Not possible. Off-site.	18/06/2019	56.5	4.2	10-20	C1
Shrub S21	1	Laurocerasus officinalis (Cherry Laurel)	7.0	42	1		5.0		3.0		5.5		4.0	2.5	2 NE	Mature	Structural condition Fair. Physiological condition Poor. Crown reduction - Recent. Die-back - Upper crown. Decline - Suspected. Decay / structural defect in crown limb / limbs - Localised. Deadwood - Minor. Rubbing limbs.	29/10/2020	79.8	5.0	10-20	C1
Tree T22	1	Laurus nobilis (Bay/Bay Laurel/Poets Laurel)	9.5	30 COM	2		4.0		3.5		2.0		2.0	2.0		Mature	Structural condition Fair. Physiological condition Fair. Access to inspect base - Not possible. Off-site.	18/06/2019	43.2	3.7	10-20	C1
Tree T23	1	Laurus nobilis (Bay/Bay Laurel/Poets Laurel)	10.0	36 COM	4		4.5		2.5		3.0		4.0	2.0		Mature	Structural condition Fair. Physiological condition Fair. Access to inspect base - Not possible. Off-site.	18/06/2019	59.7	4.4	10-20	C1
Tree T24	1	Fraxinus excelsior (Ash)	14.0	30	1		4.0		2.5		2.0		4.5	5.0		Mature	Structural condition Fair. Physiological condition Good. Access to inspect base - Not possible. Off-site.	18/06/2019	40.7	3.6	10-20	C1
Tree T27	1	Taxus baccata (Yew)	5.5	30 COM	4	3.0		3.0		3.0		3.0		1.0		Early Mature	Structural condition Fair. Physiological condition Fair. Access to inspect base - Restricted / obscured. Base / stems obscured - Vegetation.	29/10/2020	40.7	3.6	10-20	C1

Stem **green** Estimated value
Stem **AVE** Average stem diameter for tree groups
Stem **COM** Combined stem diameter in accordance with BS5837
L.B. Height of lowest branch attachment (m) - where relevant

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190603 - 72 Harefield Road

Tree ID	No.	Species	Height (m)	Stem diameter (cm)	No. of Stems	CROWN SPREAD (m) N	NE	E	SE	S	SW	W	NW	Crown clearance (m)	L.B. (m)	Life stage	Condition Notes	Survey date	RPA (m^2)	RPR (m)	Life expectancy (yrs)	BS Category
Tree T28		Tilia sp. (Lime sp.)	19.0	90	1	8.0		8.0		8.0		8.0		7.0		Mature	Structural condition Fair. Physiological condition Fair. Access to inspect base - Not possible. Base / stems obscured - Vegetation. Deadwood - Minor. Epicormic growth - Base. Physiological stress. Off-site.	18/06/2019	366.4	10.8	20-40	**B1**

Stem **green** Estimated value
Stem **AVE** Average stem diameter for tree groups
Stem **COM** Combined stem diameter in accordance with BS5837
L.B. Height of lowest branch attachment (m) - where relevant

The survey information in this schedule has been gathered following a BS5837 survey for planning purposes. Where hazardous trees have been noted recommendations for works may have been made but this survey cannot be relied upon as a full health and safety assessment of the trees.

Generated By MyTREES tree management software

Summary table with retention category

	Shrub	Tree	Total
B1	0	2	2
C1	3	19	22
Total	3	21	24

Summary table with life stage

	Shrub	Tree	Total
Early Mature	1	2	3
Mature	1	17	18
Semi Mature	1	2	3
Total	3	21	24

Table 1 of BS5837 (2012) **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 health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7			**RED**
	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	Tree 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 arboricutural and/or landscape features.	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture).	**GREEN**
Category B **Trees of moderate quality** with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation.	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality.	Trees with material conservation or other cultural value.	**BLUE**
Category C **Trees of low quality** with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 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.	**GREY**

190603-PD-12 - Planning Tree Works Schedule

72 Harefield Road, Uxbridge, UB8 1PL

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ID	No. / Species	BS5837 Category	Purpose of works Recommended works	Status
T1	1 *Fraxinus excelsior* Ash	C1	null Lift low canopy - Highways clearance. Crown lift to a minimum of 3m by removing lower branches to facilitate vehicle access.	Proposed
S4	1 *Corylus avellana* Common Hazel	C1	To facilitate development Fell - Ground level.	Proposed
T5	1 *Ilex aquifolium* Holly	C1	To facilitate development Fell - Ground level.	Proposed
S6	1 *Ficus carica* Common Fig	C1	null Lift low canopy - Specified extent. Crown lift over site by removing overhanging branches.	Proposed
T7	1 *Fraxinus excelsior* Ash	C1	To facilitate development Fell - Ground level.	Proposed
T8	1 *Pyrus sp.* Pear sp.	C1	To facilitate development Fell - Ground level.	Proposed
T9	1 *Cerasus serrulata* Japanese Cherry	C1	null Lift low canopy - Highways clearance. Crown lift to a minimum of 3m by removing lower branches to facilitate vehicle access.	Proposed
T10	1 *Thuja sp.* Thuja sp.	C1	null Lift low canopy - Highways clearance. Crown lift to a minimum of 3m by removing lower branches to facilitate vehicle access.	Proposed
T11	1 *Fraxinus excelsior* Ash	C1	null Lift low canopy - Highways clearance. Crown lift to a minimum of 3m by removing lower branches to facilitate vehicle access.	Proposed
T13	1 *Laburnum anagyroides* Common Laburnum (Golden Chain)	C1	To facilitate development Fell - Ground level.	Proposed
T18	1 *Sambucus nigra* Elder	C1	To facilitate development Fell - Ground level.	Proposed
T19	1 *Ilex aquifolium* Holly	C1	To facilitate development Fell - Ground level.	Proposed
S21	1 *Laurocerasus officinalis* Cherry Laurel	C1	To facilitate development Fell - Ground level.	Proposed
T22	1 *Laurus nobilis* Bay/Bay Laurel/Poets Laurel	C1	null Lift low canopy - Specified extent. Crown lift over site by removing overhanging branches.	Proposed
T23	1 *Laurus nobilis* Bay/Bay Laurel/Poets Laurel	C1	null Lift low canopy - Specified extent. Crown lift over site by removing overhanging branches.	Proposed

ID	No. / Species	BS5837 Category	Purpose of works Recommended works	Status
T24	1 *Fraxinus excelsior* Ash	C1	null Lift low canopy - Highways clearance. Crown lift to a minimum of 3m by removing lower branches to facilitate vehicle access.	Proposed
T27	1 *Taxus baccata* Yew	C1	To facilitate development Fell - Ground level.	Proposed
T28	1 *Tilia sp.* Lime sp.	B1	To manage nuisance Reduce crown by - Specified extent. Reduced overhanging crown by 2m to manage juxtaposition between tree and proposed building.	Proposed

Tree work analysis (trees and trees in groups)

	To facilitate development	To manage nuisance	null	Total
Fell - Ground level	9	0	0	9
Lift low canopy - Highways clearance	0	0	5	5
Lift low canopy - Specified extent	0	0	3	3
Reduce crown by - Specified extent	0	1	0	1
Total	9	1	8	18

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