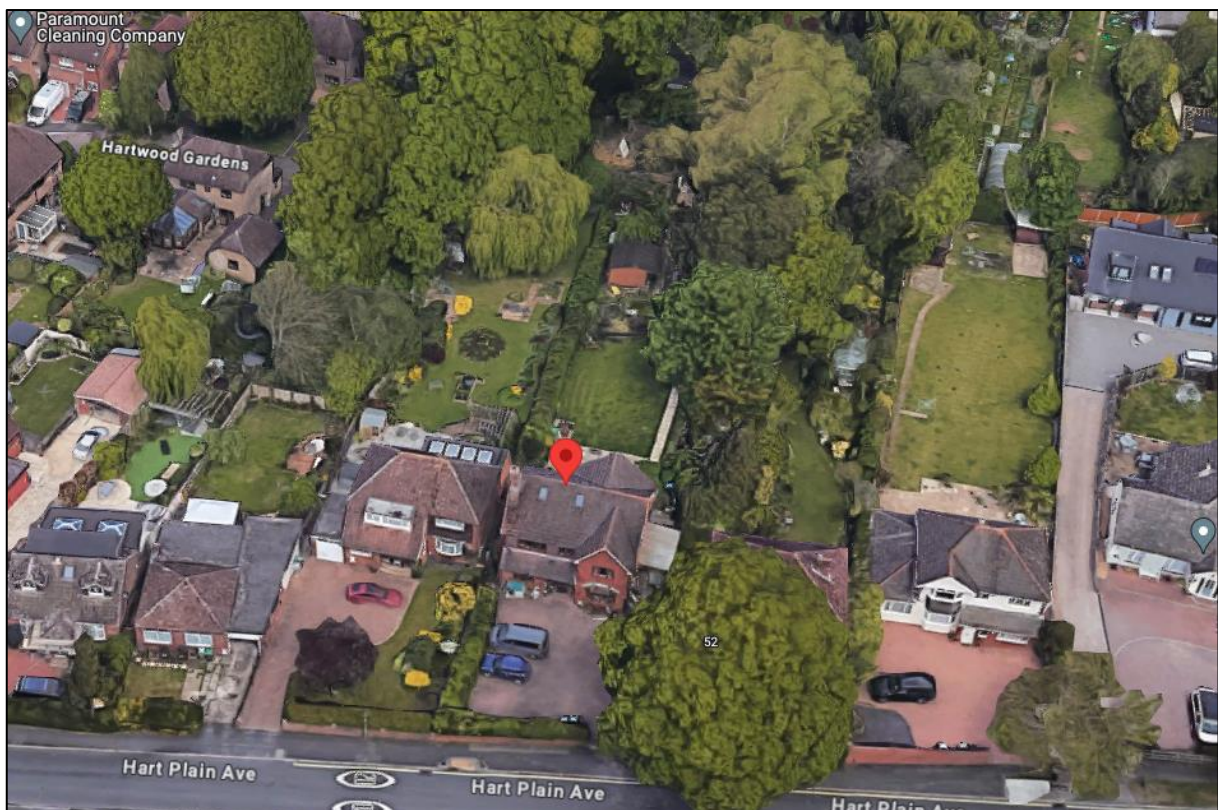




Holt Arboriculture

TREE CONSULTANCY

TREE SURVEY, ARBORICULTURAL IMPACT ASSESSMENT AND ARBORICULTURAL METHOD STATEMENT



A report to accompany a planning application for erection of a new dwelling at land to the rear of 54 Hart Plain Avenue, Waterloo, Hampshire, PO8 8RX

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On behalf of:

Louise Duff

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	Name	Position	Date
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1 Introduction

1.1 Brief and Context

- 1.1.1 Alex Needs (the author) is a Chartered Arboriculturist (www.icf.org.uk) and Registered Consultant with the Arboricultural Association (www.trees.org.uk). He holds the Cardiff University Bond Solon Civil and Criminal Expert Witness Certificates and is an Accredited Mediator. He has a degree in Linguistics and holds both the Technician's Certificate in Arboriculture and the Royal Forestry Society Certificate in Arboriculture. He is trained to the LANTRA Professional Tree Inspection standard. He has worked in arboriculture for over 20 years and since 2007 has held principal arboricultural roles in both public and private sectors.
- 1.1.2 Holt Arboriculture was instructed by Louise Duff to provide an Arboricultural Impact Assessment and Arboricultural Method Statement, in accordance with British Standard BS5837: 2012 *Trees in Relation to Design, Demolition and Construction – Recommendations* (BS5837), of the effect of development proposals on trees on land to the rear 54 Hart Plain Avenue, Waterlooville, Hampshire, PO8 8RX.

1.2 Report Purpose

- 1.2.1 This arboricultural assessment report provides sufficient information for the Local Planning Authority (LPA) to consider the effect of the proposed development on local character from a tree perspective. It is fully compliant with the BS5837 advice relating to the planning application stage of the process and it meets national standard planning application validation requirements. This Arboricultural Impact Assessment (AIA) reports on the direct and indirect impacts of the proposed development on trees in terms of both the buildability of the proposals and the long-term impact of the finished scheme, and where necessary presents mitigation for these impacts. The Arboricultural Method Statement (AMS) details outline methodologies to demonstrate that, in principle, retained trees can be incorporated into the new landscape.
- 1.2.2 BS 5837:2012 recommends classifying trees into four quality and value categories to determine their relative retentive worth. A summary of the relative retentive worth of the trees on site as recorded during the tree survey and expressed by their categories is given in Table 1. Appendix A explains the BS5837 tree categorisation process.

1.3 Executive Summary

- 1.3.1 Table 1 shows data for the number of trees surveyed, their classification (Tree, Group, Woodland, etc.), and there BS5837 categorisation. Full data for each is presented within the Tree Schedule at Appendix A.

Category	Trees	Groups/Hedges	Total
A	0	0	0
B	8	0	8
C	10	2	12
U	5	1	6
Total	23	3	26

Table 1: Numbers of Trees/Groups in each Retention Category

- 1.3.2 Table 2 shows trees requiring removal to facilitate the scheme. Trees have been identified for removal where they come into direct conflict with structures, where construction cannot be achieved without their removal, or where their future relationship is considered unsustainable, having regard to their eventual potential size. Where high-quality trees have been found to be in conflict with the proposed design, the decision to remove such trees has been informed by an iterative process, following a review of alternative options.

Category A	Category B	Category C	Category U
None	None	T016, H025 (part), H026 (part)	None

Table 2: Trees and groups for removal by BS Category

- 1.3.3 Table 3 shows trees that will be subject to construction within their root protection areas. Special measures are recommended to ensure that these trees are not damaged. These measures are detailed in AMS section of this report and are illustrated on the Tree Protection Plan at Appendix B.

Category A	Category B	Category C	Category U
None	T001, T006, T008, T010, T020,	T002, T003, T004, T007, T009, H025, H026	None

Table 3: Trees and groups for requiring special measures by BS Category

- 1.3.4 Table 4 shows retained trees that will require remedial tree work to facilitate the development and to reduce the likelihood of their being subject to excessive pressure after the completion of the development. These works are detailed in the Tree Schedule at Appendix A.

Category A	Category B	Category C	Category U
None	T006, T019	T004, T007, H025, H026	None

Table 4: Trees and groups for pruning by BS Category

1.4 The Proposal

1.4.1 The proposed scheme is for the erection of a new dwelling in land to the rear of 54 Hart Plain Avenue.

1.4.2 The following documents have been reviewed by Holt Arboriculture.

Document Title	Document/Drawing number	Originator
Topographical Survey	2024-1710-001-Survey Plan	The Survey House
Proposed Layout	Alex Needs08082024	DM Designs

2 Existing Tree Population and Constraints

- 2.1.1 A survey covering trees on site and trees on adjacent land close enough to be affected by the development was undertaken on 08 July 2024 by Alex Needs. The weather at the time of the survey was clear, still, drizzling, with average visibility. Trees were measured using a diameter tape and laser clinometer. Where poor access prevented accurate measure, an estimate was made. The full survey results are presented in the Tree Schedule at Appendix A and the above- and below-ground constraints are illustrated on the Tree Protection Plan at Appendix B. The survey method and limitations are set out in Appendix E.
- 2.1.2 The proposed development site currently houses an extended residential garden containing mature and maturing deciduous and evergreen trees. The most notable tree is the large poplar (**T010**) located on the eastern boundary. Partially managed hedges border the east and west boundaries.

2.2 Statutory tree protection

- 2.2.1 A Tree Preservation Orders covers several trees on the site, however the plans available from the Council were not definitive. The trees most likely to correspond are identified in the Tree Schedule at Appendix A. No Conservation Area is present on the site. There are no ancient woodland designations, and no ancient or veteran trees listed on, or directly adjacent to the site shown on DEFRA's MAGIC map or the Ancient Tree Inventory.
- 2.2.2 TPOs cannot always be reliably interpreted from the documentation to identify which trees are protected, especially as time passes and site conditions change from when they were originally made. It is common for TPO plans to be inaccurate and schedules often become out of date as trees die or are removed. Frequently, trees deteriorate and, although they may be technically protected by the TPO, are in such poor condition or causing such unreasonable inconvenience that their suitability for retention becomes questionable. In a planning context, if poor trees are assessed as unsuitable for retention, then it would be inappropriate to show them as a material constraint in development planning. For these reasons, although TPOs do need to be considered, they do not form the primary basis for tree categorisation. Poor quality trees assessed as not worthy of retention will be shown as such, irrespective of whether they are protected or not. Similarly, good quality trees that are not protected will still be shown as material constraints. The same rationale will be applied to Conservation Areas.

2.3 Canopy coverage

- 2.3.1 The Tree Equity canopy coverage calculation for the site is 18% against an England average of 15.8% (Forestry research, 2016) and the Tree Equity Score is 88. Tree Equity Score is a nationwide, neighbourhood-level score ranging from 0 to 100 that highlights inequitable access to trees. The score is calculated based on tree canopy cover, climate, health and socioeconomic data. The lower the score, the greater priority for tree planting.

2.4 Soil assessment

- 2.4.1 BS5837: 2012 advises that soil properties should be considered as part of a tree survey report. This is necessary because trees can cause damage to structures founded on soils that shrink and swell with changes in moisture content (principally clays). Such movement is exacerbated by the influence of trees and therefore if a shrinkable soil is suspected foundations should be designed to extend below the likely zone of seasonal moisture change.
- 2.4.2 The British Geological Survey 1: 50,000 scale map indicates that the underlying geology of the site is London Clay Formation - Clay, silt and sand. Sedimentary bedrock formed between 56 and 47.8 million years ago during the Palaeogene period. If site specific investigations confirm shrinkable clay then foundations should be designed with reference to the National House Building Council's Standards Chapter 4.2 Building near trees or similar guidance.

3 Arboricultural Impact of the Proposals

3.1 Tree removal and retention

- 3.1.1 Every effort has been made to retain trees wherever possible. Where high-quality trees have been found to be in conflict with the proposed design, the decision to remove such trees has been informed by an iterative process, following a review of alternative options.
- 3.1.2 The trees and groups proposed for removal to facilitate the proposed development are summarised in Table 2. Trees have been identified for removal where they come into direct conflict with structures, where construction cannot be achieved without their removal, or where their future relationship with the development is considered unsustainable, having regard to their eventual potential size. Category U trees should be considered on their ecological and environmental benefits prior to removal. If they can be retained safely it is best to do so despite their poor condition. Where higher value trees may be in minor conflict with the proposals, pruning or special construction and protection measures have been specified, as explained in the AMS.
- 3.1.3 The scheme requires the removal and part removal of three low-quality C category trees (**T016**, **H025** (part), **H026** (part)). I do not consider the removal of these tree have any impact on the landscape or the visual amenity offered to the public. None of the larger and/or protected trees require removal.

3.2 Facilitative tree works

- 3.2.1 Minor works to crown raise or prune back trees to allow construction access are required. These works are minimal and, in my opinion, will have no impact on tree health or the visual amenity offered to the public. The specifications for facilitative tree works are given in the Tree Schedule at Appendix A.

3.3 Works within RPAs

- 3.3.1 Demolition of several outbuildings will be required within RPAs. Due to the protected nature of the adjacent trees this will be undertaken with utmost care. Prior to installation of the protection measures. The removal of any floor slabs is detailed below in the Arboricultural Method Statement.
- 3.3.2 New hard surfacing will be installed within the RPAs of several trees. I have considered the impact on the trees and consider that, providing a correct methodology is followed, the trees can be retained. Measures to protect the trees and to minimise disturbance are detailed below in the Arboricultural Method Statement.

3.4 Other minor incursions into RPAs

- 3.4.1 Within the RPAs of **T010** and **T020** there will be minor encroachment into the outer edge of their notional radial RPAs by the building footprint. I have considered the likely impact in these areas on the trees and have concluded that it is minimal. All the trees are showing good vitality and have contiguous rooting space available. The British Standard 5837:2012 – Trees in relating to design, demolition and construction allows incursions into RPAs providing that the area lost to encroachment can be compensated for elsewhere. In this instance there is adequate, undisturbed soft landscape adjacent to the tree than can be considered suitable.

3.5 Tree juxtaposition and sustainable relationships

- 3.5.1 With the project arboriculturist, the design team has considered the location of trees in relation to the property and gardens and has considered sunlight/daylight issues, leaf/litter drop, and potential occupier apprehension. As such the scheme has been carefully considered with fenestration, room layout, and light availability in mind.

3.6 Utilities and services

- 3.6.1 Information on the location of utility and service runs for the proposed development was not available at time of writing, however it is anticipated they will utilise existing infrastructure at the front of the property. In principle, traditional trench-installed utilities should be routed outside of the RPAs of retained trees to avoid root damage. Where routing utility runs within RPAs is unavoidable, all work should comply with The National Joint Utilities Volume 4 and advice should be sought from a professional Arboricultural Consultant.

4 Arboricultural Method Statement

- 4.1.1 The level of detail within this report is dependent on the information available at the time of writing. At the planning application design stage this may be minimal, in which case this document will set out a series of parameters for construction activity and outline methodologies to demonstrate that, in principal, trees can be retained within the landscape. However, at the pre-construction, technical or specialist design stage this document will include input from other professions (eg. structural engineers, architects, landscape architects, transport planning consultants) and offer a greater degree of specific detail. BS5837 suggests planning applications may be accompanied by a 'heads of terms' AMS, as additional information. A detailed AMS being suggested as appropriate only for reserved matters applications or planning conditions discharge.

4.2 Tree Protection

4.2.1 *Root Protection Areas and Construction Exclusion Zones*

- 4.2.2 Retained trees will be protected during development by establishing a Construction Exclusion Zone (CEZ) around their Root Protection Areas (RPAs). RPAs are a layout design tool, indicating the minimum area around a tree deemed to contain sufficient roots and soil to maintain the tree's viability. RPAs should be treated as a precautionary area within which activities such as ground compaction, excavation, the storing of materials, ground level changes and other construction activity are likely to cause damage to trees and should therefore be excluded. This CEZ can be achieved by the erection of barriers at the locations shown on the Tree Protection Plan at Appendix B. Tree protection barriers must be installed before any demolition or construction works start, and should remain in place until all construction activity has been completed.
- 4.2.3 The type of barriers should match the level of activity around the retained trees. Where a high level of construction activity is expected, fencing must be braced to be robust to vehicular impact and to prevent it from being easily repositioned; a specification similar to drawing 3 in BS 5837:2012 will be suitable (reproduced at Appendix D). In areas away from the main construction activity and vehicle movement, it may be appropriate to install a lower specification fencing, such as chestnut pale or plastic netlon supported by road pins. Unless stated within this report and indicated on the Tree Protection Plan, braced heras fencing is to be used throughout this site.
- 4.2.4 All protection fencing should carry identifying signs that state its purpose and proscribe its removal until all demolition and construction work is complete. An example sign is given at Appendix D.
- 4.2.5 The contractor's site huts may, where appropriate, be incorporated into the protective fencing line. If this is to be the case, then their locations must be agreed in advance with the project arboriculturist and a details agreed as to how the huts are to be placed and supported without compacting the soil within the RPA of any retained tree.

4.2.6 **Ground protection**

4.2.7 Where it is necessary to temporarily breach the CEZ to facilitate the development within RPAs of **T010, T018, T019, T020, and T024** the roots and soil structure within the RPAs of these trees will be protected by installing ground protection. For pedestrian access ground protection shall comprise of single thickness scaffold boards or a marine grade ply, laid on a compressible layer such as woodchip, laid on a geotextile membrane. The boards should be fixed together to avoid movement. For vehicular access ground protection shall comprise of a steel road plates, steel trackway, pre-cast reinforced concrete slabs, or a temporary access road constructed with a 3D cellular confinement system above the existing ground level, with a no fines angular aggregate infill. The locations of the ground protection are shown hatched light blue on the Tree Protection Plan.

4.3 **Special Technical Measures and Outline Methodologies**

4.3.1 Conflicts between retained trees and aspects of the proposed development that cannot be dealt with by exclusion zones, tree protection or tree work can be mitigated by the use of special technical measures. General recommendations for these measures are presented in the sections that follow based on the information about the proposed development that is currently available. The specific details must be carefully planned once detailed construction information is available to avoid tree damage. A full detailed and site-specific Arboricultural Method Statement should be produced before construction starts to guide sensitive works around trees, with provisions for supervision by a qualified arboriculturist where necessary

4.3.2 **Construction within the RPA – Trench Foundations**

4.3.3 The footprint of the structure encroaches on the RPAs of **T010 and T020**. Given the location at the outer extent of the notional radial RPAs I do not consider it likely any significant roots will be encountered. However, excavation of trenches within the RPA will conform to the following criteria:

- All operations by hand/using hand operated tools only unless soil conditions prevent this, in which case a small excavator will be used with a non-toothed bucket. The machine will be operated by a under the control of an experienced driver and under close arboricultural supervision.
- Where roots are exposed, they will either be pruned to a clean face using disinfected sharp secateurs or pruning saw, or, if they are to be pushed aside and re-covered, kept damp and out of direct sunlight whilst exposed, as directed by the Arboricultural Consultant.
- All operations will be supervised and signed off by the Arboricultural Consultant, who will provide the client with a monitoring record on completion.

4.3.4 Removal of hard surfacing and floor slabs within the RPAs

4.3.5 The removal of existing hard surfacing including floor slabs within RPAs should be carried out sensitively under arboricultural supervision. Wherever possible surfacing and slabs should be broken up using a hand operated pneumatic hammer, and materials and sub-base pulled back away from trees using hand tools only. Where the area is to be replaced with hard surfacing the original sub-base will be retained wherever possible. Where the area is to be returned to soft landscape excavation will cease when the soil is exposed. Exposed soil will then be protected with suitable temporary ground protection as described above, until final finishes or landscaping are installed in accordance with below.

4.3.6 Installation of new hard surfacing within RPAs

4.3.7 New hard surfacing in the form of access roads and footpaths will be constructed within the RPAs of some retained trees as indicated on the Tree Protection Plan. New surfaces installed on soft ground will comprise of a 3D cellular confinement system, built up from the natural ground level, filled with irregularly sized clean granular fill, over a permeable geo-textile and with a suitable edge retention system. The cellular system must be suitable for the application which will be identified by the supplier. This is likely to be at least 150mm where traffic is to pass over or 100mm for pedestrian use. Systems such as Greenfix Geoweb, Geosynthetics Cellweb, and Wrekin Protectaweb are suitable. The surface to be installed over the filled 3D cellular system is to be porous, to allow air and water to penetrate into the soil around the root system. New surfaces installed on existing compacted sub-base do not require a 3D cellular confinement system but should be designed to be porous. Where minor excavation is unavoidable to match levels, excavation will be undertaken following guidance, and where necessary, under supervision of the Arboricultural Consultant, who will provide the client with a monitoring record on completion.

4.4 Additional Precautions**4.4.1 Arboricultural supervision and monitoring**

4.4.2 Where operations require construction within RPAs arboricultural supervision will be employed to minimize any damage to retained trees. A photographic record will be taken, and a supervision/monitoring report completed and passed to the client. Further regular arboricultural monitoring will be scheduled throughout the demolition and construction phases to document tree protection measures and tree health.

4.4.3 Soft Landscaping

4.4.4 The Arboricultural Consultant should review any landscape operations that involve any work within the RPAs of retained trees and input additional site-specific methodology where necessary.

5 Conclusions

- 5.1.1 A BS5837:2012 survey of 26 trees and groups of trees has been carried out on land at 54 Hart Plain Avenue. This report demonstrates that the proposal has been fully considered in accordance with Arboricultural and Planning best practice.
- 5.1.2 The proposed development requires the removal of one low-quality tree and the part removal of two low-quality hedges.
- 5.1.3 The proposed development requires the minor pruning of several trees.
- 5.1.4 The proposed development requires construction within the RPAs of several trees. This report considers the impacts of this and proposes outline methodologies to mitigate any significant damage.
- 5.1.5 It is considered that the proposed development will pose no threat to trees to be retained and will have no significant impact on the public visual amenity offered by the trees to the local or wider area.

Appendix A

Tree Schedule

Ref.	Species	Measurements	RPA	Condition	General Observations	Work Recs.	Retention Category
T001	Pedunculate oak (<i>Quercus robur</i>)	Height (m): 19 Stem Diam(mm): 1000 Spread (m): 8.5N, 8.5E, 8.5S, 8.5W Crown Clearance (m): 3 Life Stage: Mature Rem. Contrib.: 40+ Years	Radius: 12.0m. Area: 452 sq m.	Physiological Condition: Good Structural Condition: Good	Off-site street tree.		B
T002	Silver birch (<i>Betula pendula</i>)	Height (m): 6 Stem Diam(mm): 100 Spread (m): 2N, 2E, 2S, 2W Crown Clearance (m): 2 Life Stage: Semi Mature Rem. Contrib.: 40+ Years	Radius: 1.2m. Area: 5 sq m.	Physiological Condition: Good Structural Condition: Good	Off-site tree. Tree not on topographical survey, position approximate. Unable to access land, dimensions approximate.		C
T003	Silver birch (<i>Betula pendula</i>)	Height (m): 6 Stem Diam(mm): 100 Spread (m): 2N, 2E, 2S, 2W Crown Clearance (m): 2 Life Stage: Semi Mature Rem. Contrib.: 40+ Years	Radius: 1.2m. Area: 5 sq m.	Physiological Condition: Good Structural Condition: Good	Off-site tree. Tree not on topographical survey, position approximate. Unable to access land, dimensions approximate.		C
T004	Lawson cypress (<i>Chamaecyparis lawsoniana</i>)	Height (m): 6 Stem Diam(mm): 200 Spread (m): 1N, 1E, 1S, 1W Crown Clearance (m): 2 Life Stage: Early Mature Rem. Contrib.: <10 years	Radius: 2.4m. Area: 18 sq m.	Physiological Condition: Poor Structural Condition: Fair	Ivy dense within crown. Off-site tree. Tree not on topographical survey, position approximate. Unable to access land, dimensions approximate.	Raise crown over access to achieve 3.5 clearance where necessary.	C
T005	Bay tree (<i>Laurus nobilis</i>)	Height (m): 3.5 Stem Diam(mm): 200 Spread (m): 1.5N, 1.5E, 1.5S, 1.5W Crown Clearance (m): 1.5 Life Stage: Mature Rem. Contrib.: 10+ Years	Radius: 2.4m. Area: 18 sq m.	Physiological Condition: Good Structural Condition: Good			C
T006	Horse chestnut (<i>Aesculus hippocastanum</i>)	Height (m): 16 Stem Diam(mm): 550 Spread (m): 5.5N, 3E, 2.5S, 6.5W Crown Clearance (m): 2 Life Stage: Mature Rem. Contrib.: 40+ Years	Radius: 6.6m. Area: 137 sq m.	Physiological Condition: Good Structural Condition: Fair	Unable to measure trunk due to vegetation. Probable TPO.	Raise crown over access to achieve 3.5 clearance where necessary.	B

Ref.	Species	Measurements	RPA	Condition	General Observations	Work Recs.	Retention Category
T007	Scots pine (<i>Pinus sylvestris</i>)	Height (m): 8 Stem Diam(mm): 400 Spread (m): 2N, 3E, 6S, 4W Crown Clearance (m): 2 Life Stage: Mature Rem. Contrib.: 20+ Years	Radius: 4.8m. Area: 72 sq m.	Physiological Condition: Fair Structural Condition: Fair	Asymmetrical crown shape. Unable to measure trunk due to vegetation. Evidence of limb loss. Probable TPO.	Raise crown over access to achieve 3.5 clearance where necessary.	C
T008	Scots pine (<i>Pinus sylvestris</i>)	Height (m): 11 Stem Diam(mm): 500 Spread (m): 3N, 3E, 5S, 6W Crown Clearance (m): 6 Life Stage: Mature Rem. Contrib.: 20+ Years	Radius: 6.0m. Area: 113 sq m.	Physiological Condition: Fair Structural Condition: Fair	Deadwood in crown. Unable to measure trunk due to vegetation. Probable TPO.		B
T009	Scots pine (<i>Pinus sylvestris</i>)	Height (m): 11 Stem Diam(mm): 580 Spread (m): 3N, 2E, 3S, 6W Crown Clearance (m): 6 Life Stage: Mature Rem. Contrib.: 20+ Years	Radius: 7.0m. Area: 154 sq m.	Physiological Condition: Fair Structural Condition: Fair	Deadwood in crown. Probable TPO.		C
T010	Poplar (<i>Populus sp.</i>)	Height (m): 20 Stem Diam(mm): 1100 Spread (m): 9.5N, 9.5E, 9.5S, 9.5W Crown Clearance (m): 6 Life Stage: Mature Rem. Contrib.: 20+ Years	Radius: 13.2m. Area: 547 sq m.	Physiological Condition: Fair Structural Condition: Fair	Deadwood in crown. Dieback in crown. Slightly sparse crown. Unable to measure trunk due to vegetation. Probable TPO.		B
T011	Common ash (<i>Fraxinus excelsior</i>)	Height (m): 0.5 Stem Diam(mm): 450 Spread (m): 0N, 0E, 0S, 0W Crown Clearance (m): 0 Life Stage: Dead	No RPA due to Retention Category of U.	Physiological Condition: Dead Structural Condition: Stump	Stump, recently felled.		U
T012	Pear (<i>Pyrus sp.</i>)	Height (m): 7 Stem Diam(mm): 400 Spread (m): 3.5N, 3.5E, 3.5S, 3.5W Crown Clearance (m): 2 Life Stage: Mature Rem. Contrib.: 20+ Years	Radius: 4.8m. Area: 72 sq m.	Physiological Condition: Fair Structural Condition: Fair	Historically reduced to 3m. Off-site tree. Tree not on topographical survey, position approximate.		C

Ref.	Species	Measurements	RPA	Condition	General Observations	Work Recs.	Retention Category
T013	Common ash (<i>Fraxinus excelsior</i>)	Height (m): 0.5 Stem Diam(mm): 300 Spread (m): 0N, 0E, 0S, 0W Crown Clearance (m): 0 Life Stage: Dead	No RPA due to Retention Category of U.	Physiological Condition: Dead Structural Condition: Stump	Stump, recently felled.		U
T014	Common ash (<i>Fraxinus excelsior</i>)	Height (m): 0.5 Stem Diam(mm): 300 Spread (m): 0N, 0E, 0S, 0W Crown Clearance (m): 0 Life Stage: Dead	No RPA due to Retention Category of U.	Physiological Condition: Dead Structural Condition: Stump	Stump, recently felled.		U
T015	Pedunculate oak (<i>Quercus robur</i>)	Height (m): 0.5 Stem Diam(mm): 550 Spread (m): 0N, 0E, 0S, 0W Crown Clearance (m): 0 Life Stage: Dead	No RPA due to Retention Category of U.	Physiological Condition: Dead Structural Condition: Stump	Stump, recently felled.		U
T016	Common hawthorn (<i>Crataegus monogyna</i>)	Height (m): 5 Stem Diam(mm): 150 Spread (m): 1.5N, 1.5E, 1.5S, 1.5W Crown Clearance (m): 2 Life Stage: Mature Rem. Contrib.: 20+ Years	Radius: 1.8m. Area: 10 sq m.	Physiological Condition: Fair Structural Condition: Fair	Tree not on topographical survey, position approximate.	Fell to allow development.	C
G017	Common ash x10 (<i>Fraxinus excelsior</i>)	Height (m): 18 10 stems, avg.(mm): 250 Spread (m): 3N, 3E, 3S, 3W Crown Clearance (m): 6 Life Stage: Mature Rem. Contrib.: <10 years	No RPA due to Retention Category of U.	Physiological Condition: Diseased Structural Condition: Collapsing	Group of dead and dying ash.		U
T018	Pedunculate oak (<i>Quercus robur</i>)	Height (m): 20 Stem Diam(mm): 600 Spread (m): 4N, 4E, 4S, 4W Crown Clearance (m): 1.5 Life Stage: Mature Rem. Contrib.: 20+ Years	Radius: 7.2m. Area: 163 sq m.	Physiological Condition: Fair Structural Condition: Fair	Basal damage. Narrow crown with epicormic growth on branches. Probable TPO.		B
T019	Pedunculate oak (<i>Quercus robur</i>)	Height (m): 20 Stem Diam(mm): 610 Spread (m): 3.5N, 8E, 5S, 3.5W Crown Clearance (m): 5	Radius: 7.3m. Area: 167 sq m.	Physiological Condition: Fair Structural Condition: Fair	Asymmetrical crown shape. Deadwood in crown. Probable TPO.	Prune back crown edge to achieve 2.5m clearance from building line.	B

Ref.	Species	Measurements	RPA	Condition	General Observations	Work Recs.	Retention Category
		Life Stage: Mature Rem. Contrib.: 40+ Years					
T020	Pedunculate oak (<i>Quercus robur</i>)	Height (m): 20 Stem Diam(mm): 780 Spread (m): 2.5N, 8E, 8S, 6W Crown Clearance (m): 3 Life Stage: Mature Rem. Contrib.: 40+ Years	Radius: 9.4m. Area: 278 sq m.	Physiological Condition: Fair Structural Condition: Fair	Asymmetrical crown shape. Deadwood in crown. Ivy clad trunk. Probable TPO.		B
T021	Pedunculate oak (<i>Quercus robur</i>)	Height (m): 18 Stem Diam(mm): 680 Spread (m): 4N, 2E, 3S, 7W Crown Clearance (m): 2 Life Stage: Mature Rem. Contrib.: 40+ Years	Radius: 8.2m. Area: 211 sq m.	Physiological Condition: Good Structural Condition: Fair	Deadwood in crown. Probable TPO.		B
T022	Common ash (<i>Fraxinus excelsior</i>)	Height (m): 16 Stem Diam(mm): 440 Spread (m): 3N, 3E, 3S, 3W Crown Clearance (m): 7 Life Stage: Mature Rem. Contrib.: <10 years	No RPA due to Retention Category of U.	Physiological Condition: Diseased Structural Condition: Collapsing	Nearly dead. Probable TPO.		U
T023	Goat willow (<i>Salix caprea</i>)	Height (m): 6 Stem Diam(mm): 300 Spread (m): 1.5N, 4E, 4S, 4W Crown Clearance (m): 2 Life Stage: Early Mature Rem. Contrib.: 20+ Years	Radius: 3.6m. Area: 41 sq m.	Physiological Condition: Good Structural Condition: Fair	Off-site tree.		C
T024	Goat willow (<i>Salix caprea</i>)	Height (m): 6 Stem Diam(mm): 200 Spread (m): 4N, 3E, 3S, 2W Crown Clearance (m): 2 Life Stage: Early Mature Rem. Contrib.: 20+ Years	Radius: 2.4m. Area: 18 sq m.	Physiological Condition: Good Structural Condition: Fair	Tree not on topographical survey, position approximate.		C
H025	Mixed species (<i>Mixed species</i>)	Height (m): 2 Stem Diam(mm): 100 Spread (m): 1N, 1E, 1S, 1W Crown Clearance (m): 0	Radius: 1.2m. Area: 93 sq m.	Physiological Condition: Fair Structural Condition: Fair	Hedge (managed).	Fell in part to allow development.	C

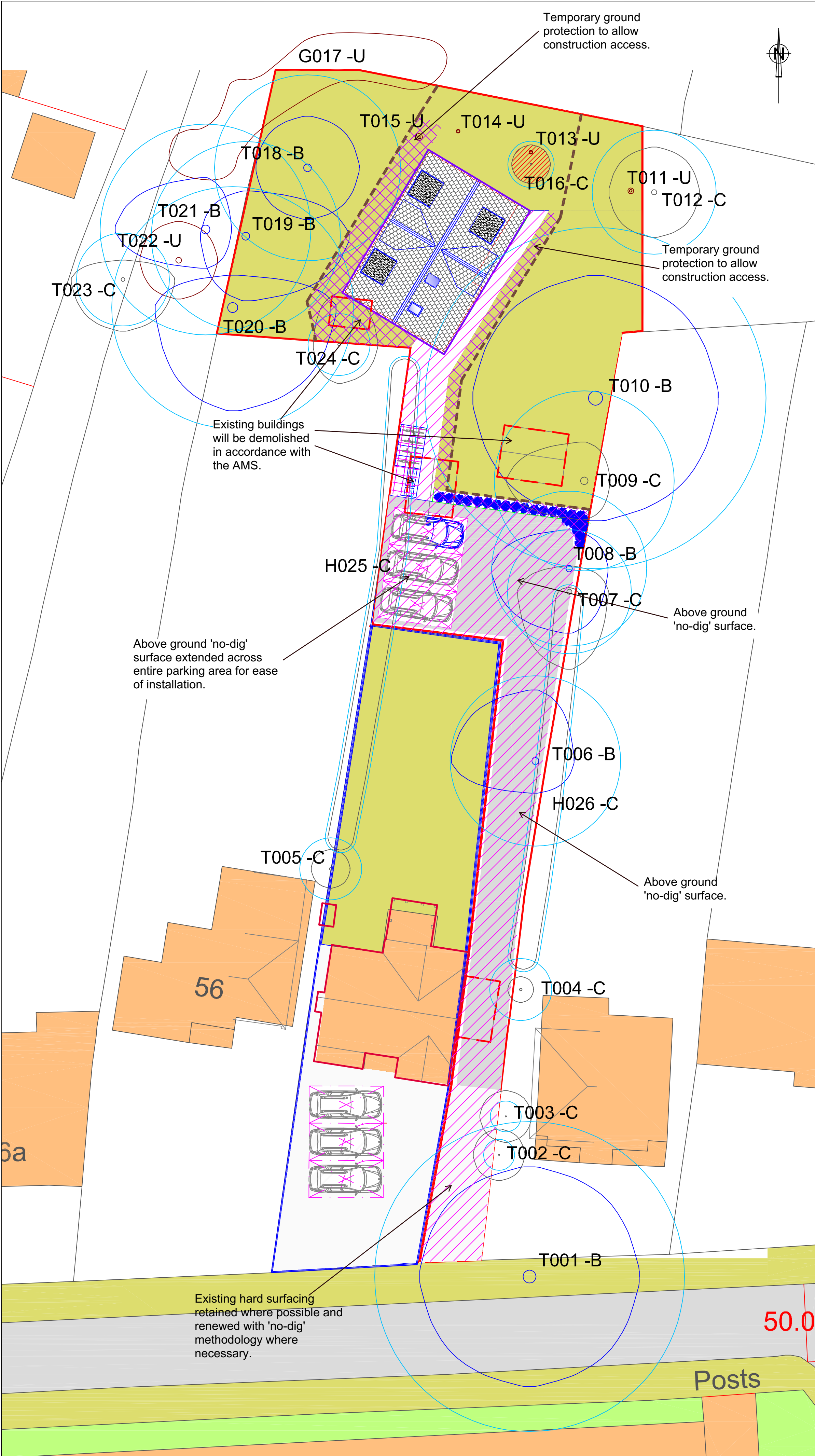
Ref.	Species	Measurements	RPA	Condition	General Observations	Work Recs.	Retention Category
		Life Stage: Mature Rem. Contrib.: 10+ Years					
H026	Mixed species (Mixed species)	Height (m): 2 Stem Diam(mm): 100 Spread (m): 1N, 1E, 1S, 1W Crown Clearance (m): 0 Life Stage: Mature Rem. Contrib.: 20+ Years	Radius: 1.2m. Area: 73 sq m.	Physiological Condition: Fair Structural Condition: Fair	Hedge (unmanaged).	Fell in part to allow development.	C

Table 1 Cascade chart for tree quality assessment

Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention (see Note)				
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	- Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) - Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline - Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality <i>NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7.</i>			See Table 2
	1 Mainly arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values, including conservation	
Trees to be considered for retention				
Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	See Table 2
Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value	See Table 2
Category C Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	See Table 2

Appendix B

Tree Protection Plan



REV	DATE	DESCRIPTION

LEGEND

- Category U
- Category A
Trees of high quality
- Category B
Trees of moderate quality
- Category C
Trees of low quality
- RPA using formula in accordance with BS5837:2012
- Existing building
- Existing building to be demolished
- Proposed building / extension
- Trees to be removed
- Location of Protective Fencing
- Temporary ground protection
- Above-ground 'No-Dig' Surface installation
- Specialist Foundation installation

Trees categorised in accordance with BS5837:2012 "Trees in relation to design, demolition and construction – Recommendations"

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

LOCATIONS ARE APPROXIMATE.

PROJECT

54 Hart Plain Avenue,
Waterlooville, PO8 8RX

TITLE

TPP01 revA - Tree Protection

CLIENT

-

DATE

05/08/24

SCALE

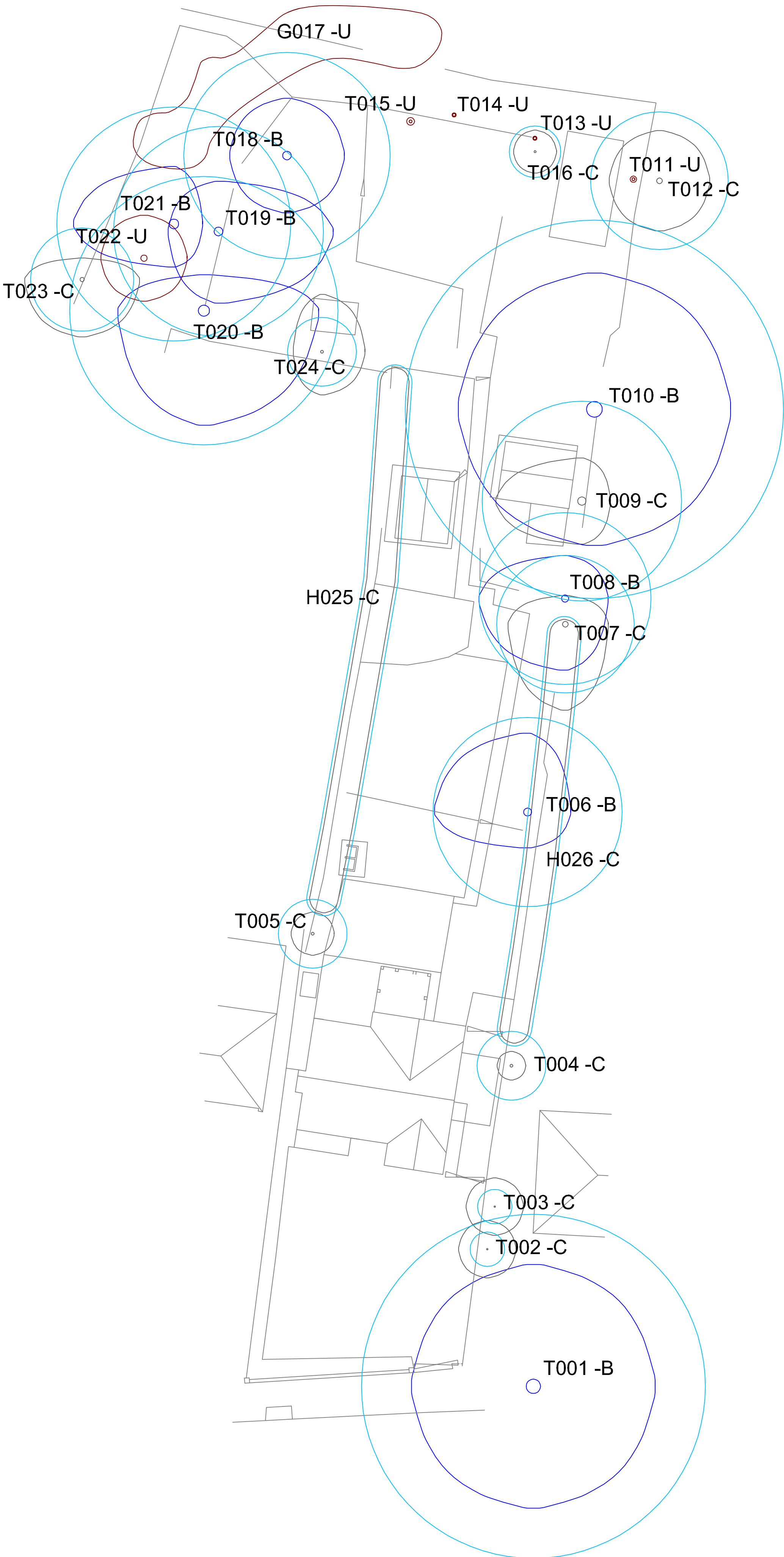
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 **Holt**
Arboriculture
TREE CONSULTANCY

info@holtarb.co.uk
07886 653388
www.holtarb.co.uk

Appendix C

Tree Constraints Plan



REV	DATE	DESCRIPTION

LEGEND

LOCATIONS ARE APPROXIMATE.

PROJECT

54 Hart Plain Avenue,
Waterlooville, PO8 8RX

TITLE

TCP01 - Tree Constraints

CLIENT

-

DATE

08/07/24

SCALE

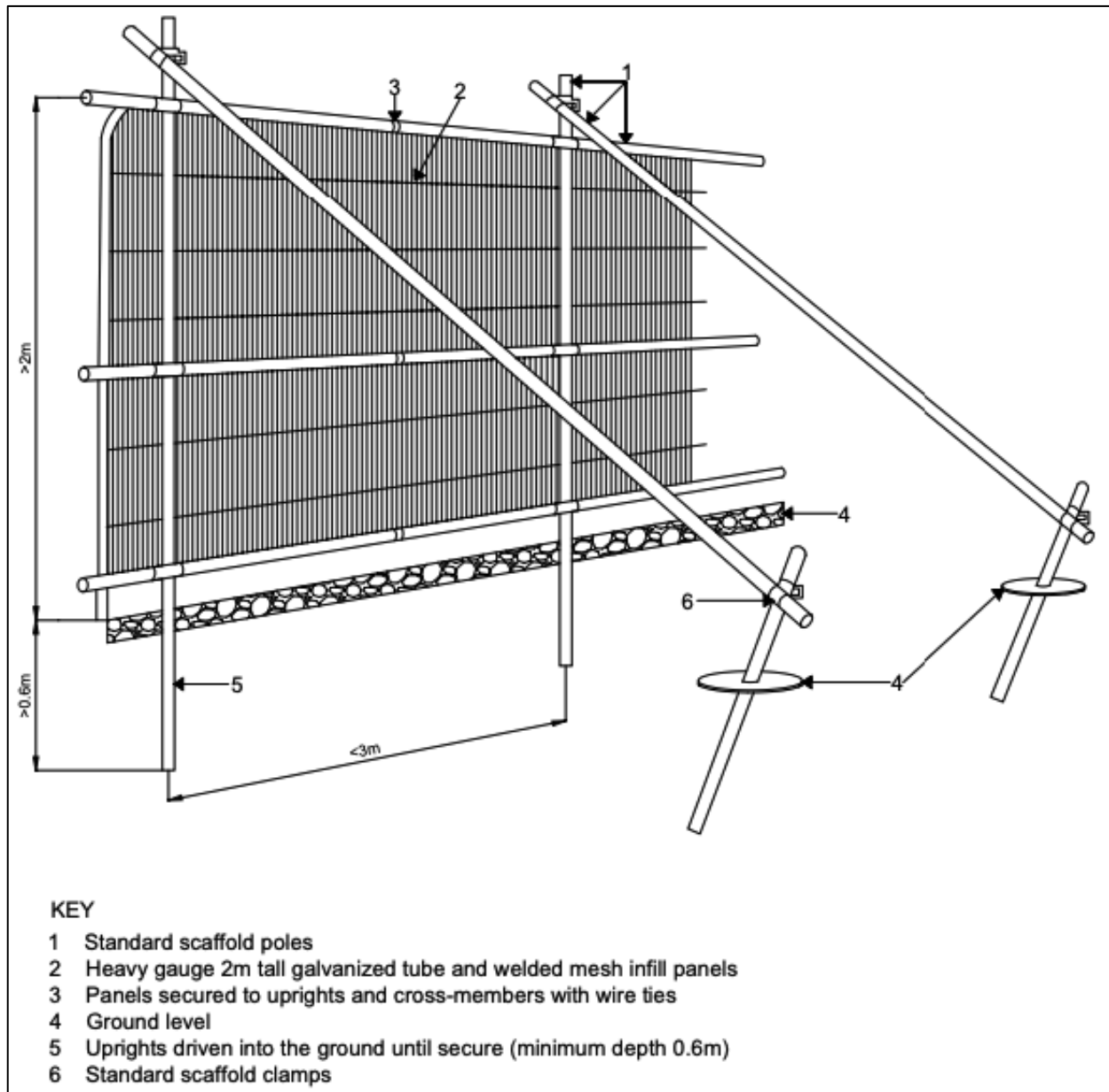
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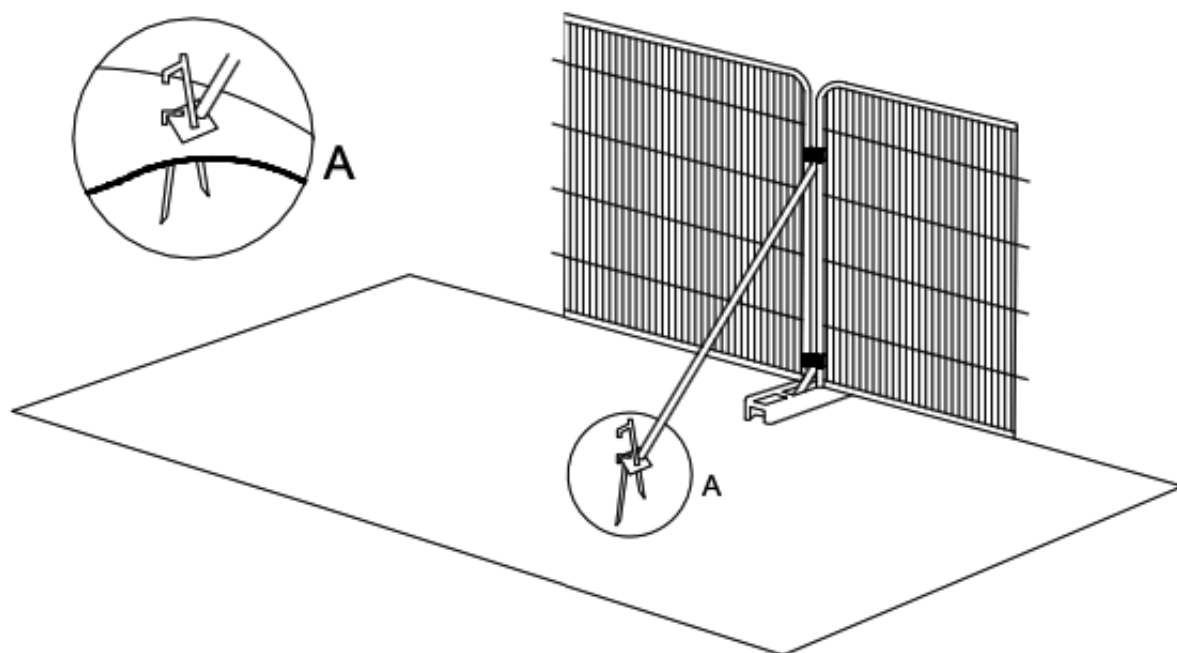


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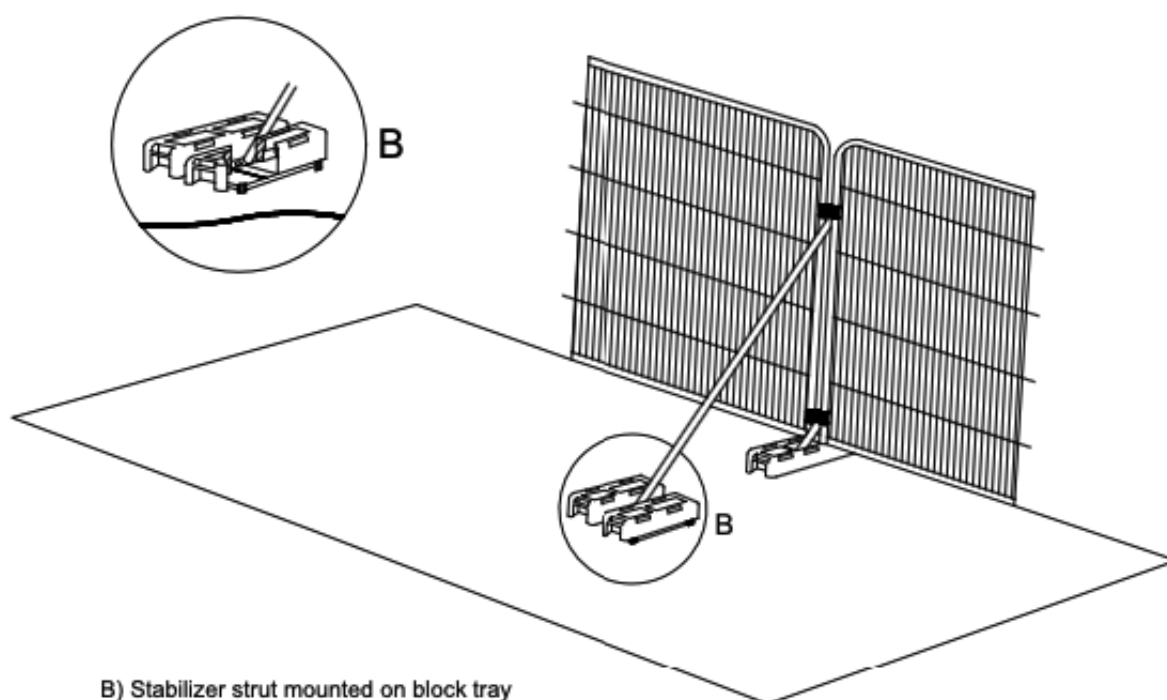
Appendix D

Examples of Tree Protection

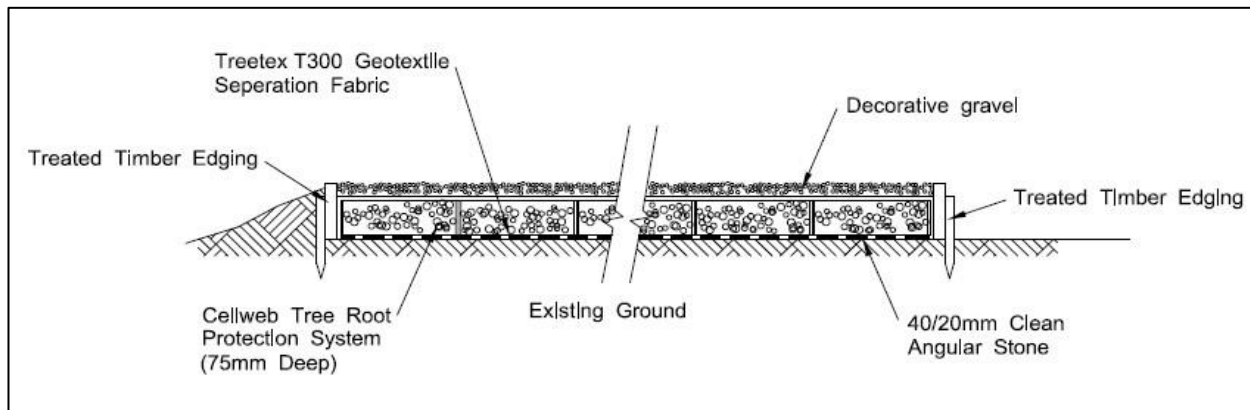
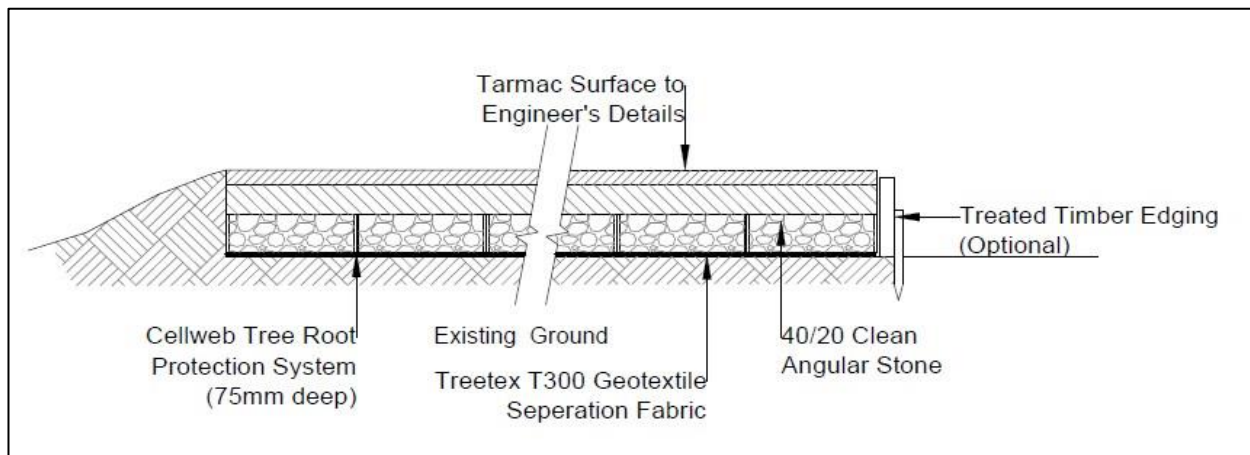




A) Stabilizer strut with base plate secured with ground pins



B) Stabilizer strut mounted on block tray



Examples of Cellular Confinement System Details (Cellweb)

Appendix E

Tree Survey Limitations

- The assessment of the trees was for the purposes relevant to planning and development and was made on the basis that they will be biennially inspected in the future to identify any changes in size and condition and review the original constraints and categorisations. For these reasons, the tree assessment advice only remains valid for two years from the date that the trees were last inspected.
- This survey is not a tree safety inspection. It is carried out in order to inform the planning process. Where clear and obvious hazards have been observed, these have been addressed in the recommendations (see Appendix A - Tree Schedule). A full assessment of the levels of risk posed by trees would need to consider site use together with tree hazards.
- All observations were of a preliminary nature and did not involve any climbing or detailed investigation beyond what was visible from accessible points at ground level. No invasive or other detailed internal decay detection devices were used in assessing trunk condition.
- The conclusions relate to conditions found at the time of survey. Any significant alteration to the site that may affect the trees that are present or have a bearing on the planning implications (including level changes, hydrological changes, extreme climatic events, or other site works) will require a re-assessment of the trees and the site.
- Each tree, hedge, and group was inspected and the numbering scheme is indicated on the plans. Where important trees were found on site that were not included on the provided plan, their approximate positions and canopy extents are indicated on the plan.
- Offsite trees within influencing distance of the site (typically those located within a distance of up to 12 times their stem diameter away from the site) were included in the survey.
- The data collection is fully compliant with the advice in subsection 4.4.2 of BS 5837.