Tree Check
Arboriculture Ltd.

Combined Arboricultural Impact Assessment/ Method Statement
Brynawel
Resolven
SA11 4DT

Conducted by: Josh Clark

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30/03/26

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Introduction

This assessment was overseen by Ben Clark, Arboricultural Consultant, and Director at Tree Check Arboriculture Ltd. with over 11 years' experience in the arboriculture industry and holding the following qualifications:
• Level 4 Diploma in Arboriculture
• BSc. Geology (University of Southampton)
• LANTRA Professional Tree Inspection Certificate (PTI)
• Various NPTC qualifications in tree surgery.
Ben is a technician member of the Arboricultural Association and attends regular training and seminars to remain up to date with current arboricultural practices.

This assessment was conducted by Josh Clark, Arboricultural Consultant, and Director at Tree Check Arboriculture Ltd. with over 10 years' experience in the arboriculture industry and holding the following qualifications:
• LANTRA Professional Tree Inspection Certificate (PTI)
• Various NPTC qualifications in tree surgery.

The methodology of this report is based on the recommendations provided by the British Standards Institute document BS5837: Trees in Relation to Design, Demolition and Construction – Recommendations, as well as other recommendations provided by institutions such as the Arborical Association.

Brief

Tree Check has been instructed by Jason Evans of Evans Banks Planning to carry out an Arboricultural Impact Assessment and Method Statement at Brynawel, Resolven. The purpose of this report is as follows:

- To quantify any tree losses required to make way for the proposed development.
- To quantify and prescribe any pruning works required to make way for the proposed development.
- To assess the impact that the proposed development may have on retained trees on site and to provide control measures to prevent or minimize damage to retained trees.
- To consider whether design changes could prevent or reduce tree losses on site, and whether such changes are reasonable and proportional to the retention value of affected trees.
- To provide recommendations for mitigating tree losses where appropriate.

Baseline

This report was based on the findings outlined in our baseline report: BS5837 Tree Survey and Categorisation Report at Brynawel, Tree Check 2026.

The following information was available:

- Topographical Survey- Davies Land Surveyors.
- Layout Drawing-Access Road Alterations, A E Architectural Designs, 01/12/2025

It should be noted that this assessment is based on tree locations as recorded in the base line survey relative to the proposed design layout. These tree locations were plotted using tree locations on the topo if available, and GPS, satellite and known features on site. In any case there exists potential for inaccuracies in the locations of trees relative to the development.

The site was visited on the 03-Mar-2026 during overcast but dry weather conditions considered favourable for this type of survey.

Interpretation

See appendix v for a glossary of the terms commonly used in tree reports.

BS Categories

Trees have been assigned retention categories in accordance with BS5837. These are as follows:

Category A- Trees with a high retention value which are either arboriculturally important, important within the landscape, or culturally/ecologically important.

Category B- Trees with a moderate retention value i.e. they are good examples of their species, provide some notable amenity value to the area, or provide significant ecological or cultural value.

Category C- Trees with a low retention value. Including trees with defects which reduce their amenity value or expected lifespan but not to the extent that they cannot be realistically retained within the development.

Category U- Trees of which retention is considered unrealistic within the context of the development due to poor condition and low life expectancy.

See Table 1 in the appendices of this report for more information on the allocation of categories and subcategories.

Tree Age Ratings

Y- Young trees in their early stage of growth, have undergone minimal secondary thickening and are still primarily composed of active tissue.

EM- Early mature trees that have started to show characteristics of maturity such more developed crowns and increased stem thickness.

M- Mature fully developed trees.

OM- Over mature trees that are starting to show signs of decline.

A- Ancient trees that have reached a notably old age for their species and are therefore considered to be important.

V- Veteran trees with notable features such as wounds, cavities, cracks, etc. that provide significant habitat value. These are usually older trees.

Root Protection Areas (RPA's)

Root Protection areas have been calculated according to BS5837 and represent the estimated minimum rooting area required by the tree to carry out its functions.

Root protections areas are shown as orange circles or polygons for all trees except those with a retention category of U in the Tree Constraints Plan. In the Tree Loss/Retention and Protection Plan, RPA's are not shown for trees proposed for removal to make way for development.

Tree and Group Prefixes

Trees and groups are numbered with the following prefixes:

- **T-** individual trees.
- **G-** groups of trees with similar characteristics and rooting areas.
- **H-** Hedgerows.
- **W-** woodland groups, designated as such due to the presence of woodland features such as natural regeneration,

Arboricultural Impact Assessment/Method Statement

1. Tree Preservation Orders and Conservation Areas

Direct enquiries with Neath Port Talbot County Borough Council have confirms that the site is **not within a Conservation Area** and d**oes not contain trees subject to Tree Preservation Orde**rs (TPOs)

2. Areas of Caution

A number of areas on site have been highlighted as areas of caution, these are areas where there is a heightened risk of damage to the above ground structure or root system of retained trees through the proposed works. Certain methodologies in this document will state that they must be followed within areas of caution. The location of all areas of caution can be found on the Tree Protection Plan within the appendix section of this report.

3. Site Monitoring and Auditing

A Project Arboriculturalist (PA) is to be appointed by the client to monitor the development. The below monitoring table outlines at which stages of the project PA input is required, what action is to be taken, whether works are to be held until the condition is satisfied and what documentation must be provided at each step.

	Stage / Trigger	PA Requirement	Action	Hold Point	Responsible Party	Outcome/ Documentation (Provided to Client & LPA)
Stage	Pre Commencement	PA to attend site or consult with site manager via phone/teams.	Confirm TPF layout, access routes, CEZs, sequencing	No works commence until completed	Principal Contractor	Pre-Commencement Site Note.
	Correct Installation of Tree Protective Fencing	PA to sign off.	Confirm correct installation based on a site visit or photos provided by the site manager.	Construction not to proceed until sign off has been completed	Principal Contractor	TPF Sign Off Note.
	Installation of load bearing surfacing within the RPA of W1.	PA to attend	Oversee installation of no-dig surfacing.	PA to be in attendance before these works can commence.	Principal Contractor.	Work Specific Site Note provided to LPA.
Trigger	Any design change affecting RPAs, TPP, CEZs, or planting areas	PA to be notified and provided with relevant drawings/ dimensions.	PA to assess for increased tree impact.	Relevant works to be held pending PA guidance and agreement from LPA if required.	Principle contractor.	Technical note or updated AIA/Method Statement with potential need for further supervision.
	Unexpected encroachment or need for access within an RPA.	PA to be notified and provided with relevant drawings/dimension	PA to assess for increased tree impact.	work halted until PA authorises continuation.	Principle contractor.	Technical note or updated AIA/Method Statement with potential need for further supervision.
	Encountering roots >50 mm diameter anywhere on site	PA to be provided photos and measurements of encountered roots as well as details of location. Site attendance may be required.	PA to determine source and significance of roots.	Work halted until PA authorises continuation.	Contractor	Site Supervision Note.

	Stage / Trigger	PA Requirement	Action	Hold Point	Responsible Party	Outcome/ Documentation (Provided to Client & LPA)
Trigger	Damage to fencing, CEZ breach, or unauthorised ground disturbance.	PA to be notified.	Fence to be reinstated, ground remediation to be instructed by the PA if required.	Work halted until PA sign off.	Contractor.	Site Supervision Note.

4. Proposed Tree Surgery Works

The below schedule includes trees on site that require works throughout the course of the proposed development. For a full schedule of all trees on site, please refer to BS5837 Tree Survey and Categorisation Report at Brynawel, Tree Check 2026.

The location of trees proposed for removal, and the extent of proposed pruning is illustrated on the attached Tree Retention/Removal and Protection Plan.

	Ref	Tag	Species	Comments	Life Stage	Retention Category	RPA Radius (m)	Photo
Removals	**NO TREE LOSSES ARE PROPOSED**							/
Pruning	**NO PRUNING IS PROPOSED**							/

5. Construction Exclusion Zones

The following trees and groups can be segregated from the proposed works within construction exclusion zones for the entirety of the development, with no requirement for access into their root protection or crown areas, and no conflict between the proposed layout of site and their above or below ground structures:

- G1
- W2
- T1
- T2
- T3
- T4
- T5
- T6

All trees, including those for which full segregation throughout development is not possible, will be segregated, as far as is possible from the development area by natural or pre-existing features on site, or by the installation of physical barriers as outlined below:

5.1. Method for Establishing Construction Exclusion Zones

- By maintaining a construction exclusion zone, with tree protective barrier fencing segregating retained trees from the rest of site, physical damage, both mechanical and related to soil compaction can be avoided.
- Tree protective barrier fencing must be installed in the configuration outlined in the Tree Protection Plan.
- The crowns and root protection areas (having been measured and marked out on site) of all trees must be enclosed within the tree protective fencing. If more space is needed than the current crown extents allow, the project arboriculturalist must be consulted in order to arrange appropriate pruning measures.

- The alternative, lightweight level of tree protective fencing is recommended for this project as prescribed in BS5837 and shown in Appendix iv due to the lower volumes of expected site traffic, tight nature of the site and the small scale of the proposed works.
- Machine operators are to be briefed on positioning their equipment to avoid contact with branches from retained trees and the root protection zones.
- Where access is required beneath the crown or canopy area of retained trees, all pruning work to facilitate access must be caried out prior to the development stage, height restriction barriers are to be installed at the edge of areas of caution where entry beneath barriers occurs, and banksmen are to be assigned to make sure no contact with branches is made during the movement or use of plant.
- No materials are to be stored within the RPA's of trees for any period of time, including in areas of caution.
- All RPA's are to be checked on site and marked out, measured based on the RPA radius shown in the tree schedule.

6. Tree Locations

Consideration of the potential impact of development on proposed trees is based on the location of trees (as plotted in the baseline survey) relative to the proposed layout provided by the clients. Due to the potential for inaccuracies and discrepancies between drawings and realities on site, the site manager or project arboriculturalist must mark out root protection areas and the extents of proposed structures on site to verify the following:

- Unless otherwise accounted for in this report, there is sufficient space on site for the crowns and RPA's of all trees on site (based on their RPA radius shown in the tree schedule) to be fenced off for the duration of works.
- Where this report specifies that RPAs or tree crowns will be encroached upon, the actual on-site distances between trees and the conflicting features must be measured and verified to ensure they match the figures stated in this report.

If discrepancies exist, the project arboriculturalist is to be informed, so that updated assessments can be made.

7. Schedule of RPA and Crown Incursions

The schedule below outlines trees that cannot be fully segregated from the development area and describes the type and significance of the incursions that occur.

Reference	Tag	Life Stage	Retention Category	RPA Radius (m)	RPA Area (M2)*	Type of Incursion	Incursion Area (M2)	Proportion of RPA Affected	Impact or Risk	Methodology Applied	Photo
T7	158	M	B2	7.2	162.9	RPA access required	10.2	6.3	Risk of Soil compaction caused by movement of site traffic or placement of material in RPA's impeding the transfer of water and gases to the root system.	8.1. Method for Continued access into RPA's	/
						Permanent carriageway to be installed within the RPA	10.2	6.3	Risk of road surfacing over root protection areas impeding the transfer of water and gases to the root system, though the percentage of RPA coverage allows for retention if a tree friendly design is used.	8.2. Method for the Installation of Permanent Carriageways Within RPA's	
T8	160	M	B2	7.2	162.9	RPA access required	31.7	19.4	Risk of Soil compaction caused by movement of site traffic or placement of material in RPA's impeding the transfer of water and gases to the root system.	8.1. Method for Continued access into RPA's	/
						Permanent carriageway to be installed within the RPA	31.7	19.4	Risk of road surfacing over root protection areas impeding the transfer of water and gases to the root system, though the percentage of RPA coverage allows for retention if a tree friendly design is used.	8.2. Method for the Installation of Permanent Carriageways Within RPA's	

RPA's for groups represent the area per individual tree of the group, not the group as a whole.

**Incursion area represents an approximation of the maximum area per effected tree within the group based on the formula provided in appendix vi.

Reference	Tag	Life Stage	Retention Category	RPA Radius (m)	RPA Area (M2)*	Type of Incursion	Incursion Area (M2)	Proportion of RPA Affected	Impact or Risk	Methodology Applied	Photo
W1	N/A	M	B2	7.2	162.9	RPA access required	33.1 **	20.3	Risk of Soil compaction caused by movement of site traffic or placement of material in RPA's impeding the transfer of water and gases to the root system.	8.1. Method for Continued access into RPA's	1
						Permanent carriageway to be installed within the RPA	33.1 **	20.3%	Risk of road surfacing over root protection areas impeding the transfer of water and gases to the root system, though the percentage of RPA coverage allows for retention if a tree friendly design is used.	8.2. Method for the Installation of Permanent Carriageways Within RPA's	
						RPA access required	36.9 **	22.7	Risk of Soil compaction caused by movement of site traffic or placement of material in RPA's impeding the transfer of water and gases to the root system.	8.1. Method for Continued access into RPA's	
						Permanent carriageway to be installed within the RPA	36.9 **	22.7	Risk of road surfacing over root protection areas impeding the transfer of water and gases to the root system, though the percentage of RPA coverage allows for retention if a tree friendly design is used.	8.2. Method for the Installation of Permanent Carriageways Within RPA's	

RPA's for groups represent the area per individual tree of the group, not the group as a whole.

**Incursion area represents an approximation of the maximum area per effected tree within the group based on the formula provided in appendix vi.

8. Protection Measures for RPA and Crown Incursions

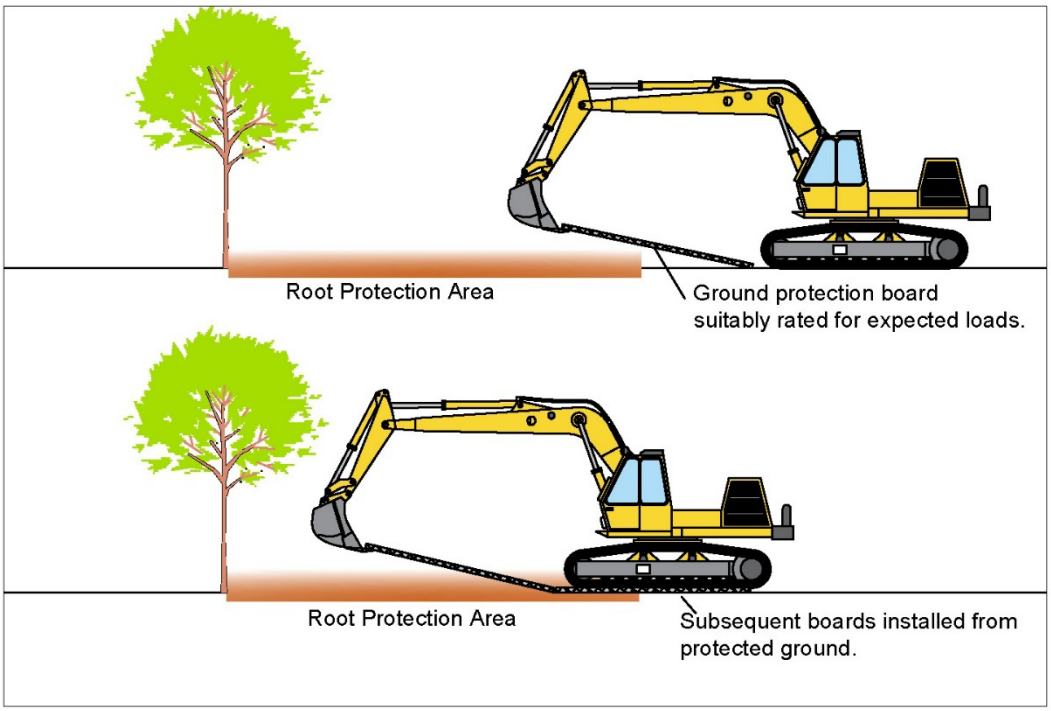
The following methodologies have been applied against trees in the Schedule of RPA and Crown Incursions and must be followed in the areas indicated on the Tree Protection Plan.

8.1. Method for Continued access into RPA's

- Where access is required within the RPA's of trees throughout the development tree protective fencing will be installed partially within their RPA's following the installation of ground protection.
- Ground protection will be installed on the site side of the tree protective fencing.
  - Where ground protection is to be provided by a permanent, tree friendly surfacing feature, the methodology outlined in 8.2 Method for the Installation of Permanent Carriageways Within RPA's
  - Ground protection must be installed under the supervision of a qualified arboriculturalist following their approval of the proposed configuration.
  - Ground protection is to be rolled out from the edge of the RPA into the area of caution in a way that ensures workers and machinery are always able to work from protected ground during installation (see Diagram a).
  - Only when all works are completed on site and all plant and personnel have vacated is ground protection to be removed, this must be rolled back towards the edge of the RPA;s of retained trees, so that removal can take place from protected ground, or from the outside of the RPA

8.1.1. Diagram a- Rolling Out Ground Protection

The diagram below (Tree Check 2025) shows the process of rolling out ground protection so that works on unprotected ground within the RPA do not occur. The process of installing ground protection by hand remains the same and ground protection must always be installed by hand beneath tree canopies. Rolling background protection follows the same process in reverse.



8.2. Method for the Installation of Permanent Carriageways Within RPA's

- The new road surfacing must be of a tree friendly construction where it crosses RPA;s incorporating a cellular design to ensure that loads are distributed to prevent soil compaction within the RPA of retained trees.
- This method statement is based on Arboricultural Association Guidance Note 12- Cellular Confinement Systems: a Guide to Good Practice and is to be used as an example of the basic desirable approach, but in order to guarantee that the surface will be suitably durable the final specification should be produced or approved by a suitably qualified and experienced person. This may be the project engineer or an engineer from cellular confinement system provider (such advice is a standard service provided by most UK suppliers and adds little or nothing to the cost of the installation).
- Numerous proprietary cellular confinement systems are available of various designs and thicknesses. The product used on site will be determined by the expected loads, site conditions and consultation with manufacturers.
- See Figure 1 for a conceptual diagram outlining the design principle.

Ground Preparation:

- Turf layer up to 50mm thick to be removed with a grading bucket over the area of installation. Machine excavation is appropriate as most tracked machines disperse their weight sufficiently to prevent detrimental soil compaction[7], however, arboricultural supervision is necessary for this to ensuree damage of roots over 25mm or root clusters is avoided. This work must be carried out in dry conditions as wet soil is more easilly compacted.
- Ramps made of sharp sand should be used to cover up any exposed roots and make the ground level, the depth of sand should be kept to a minimum to reduce the risk of sand layer erosion leading to surface failure.
- Protruding rocks to be removed from the area and backfilled with excavated soil or sharp sand.

Geotextile Membrane

- A geotextile membrane layer is to be rolled out over the installation areas. This base layer of geotextile should be made of polypropylene or polyester (min. 300g/m^2) with a CBR puncture resistance of 4000N to prevent puncture from the angular aggregate to be laid above.
- Sheets of geotextile membrane must overlap by at least 300mm.
- An upper 100-300g/m^2 geotectile membrane with a 4000N CBR puncture resistance is to be laid on top of the filled cellular matts to prevent fine particles clogging the stone infill and reducing permiability.

Cellular Confinement System

- Cellular confinement matting is to be laid out above the geotextile membranes. Depending on site conditions, sections can either be butted up together, or stapled together at each cell.
- Cells need to be fully extended in order for the ground protection to be effective.
- Sections can be secured in place with the use of J-hooks (steel reinforcing bars bent into a 'candy cane' shape)

Infill

- The cells are then to be filled to 25mm over their limit with 20/40 aggregate (or 4/20 if this is not available.
- M.O.T type 1 or crushed stone with fines are **not** suitable materials for this design.
- Machines used to carry out this operation are to be placed outside of the RPA.
- This material is **not** to be compacted down.

Edging

- Edging is usually not necessary to support the cellular confinement system, which forms its own rigid structure. However, edging mapy be required to contain the gravel layer and provide a desirable finish.

- The outer edge of the cellular system can be infilled with concrete to create a base on which standard kerb stones will be laid.
- The measures outlined under subheading 2: Substances Hazardous to Tree Health must be followed during this stage.

Surface Layer

- A Layer of loose gravel can be used for the surface finish, with a stabilising grid to prevent migration of material.

Site Traffic

- The installation of this surfacing should be carried out before any other works and no site traffic heavier than the load for which the new surface is rated should be allowed to pass within this area of site.
- If site traffic is expected to be heavier than the load limit of the selected cellular system, this area of site is to be fenced

Figure 1. a conceptual diagram outlining the design principle.

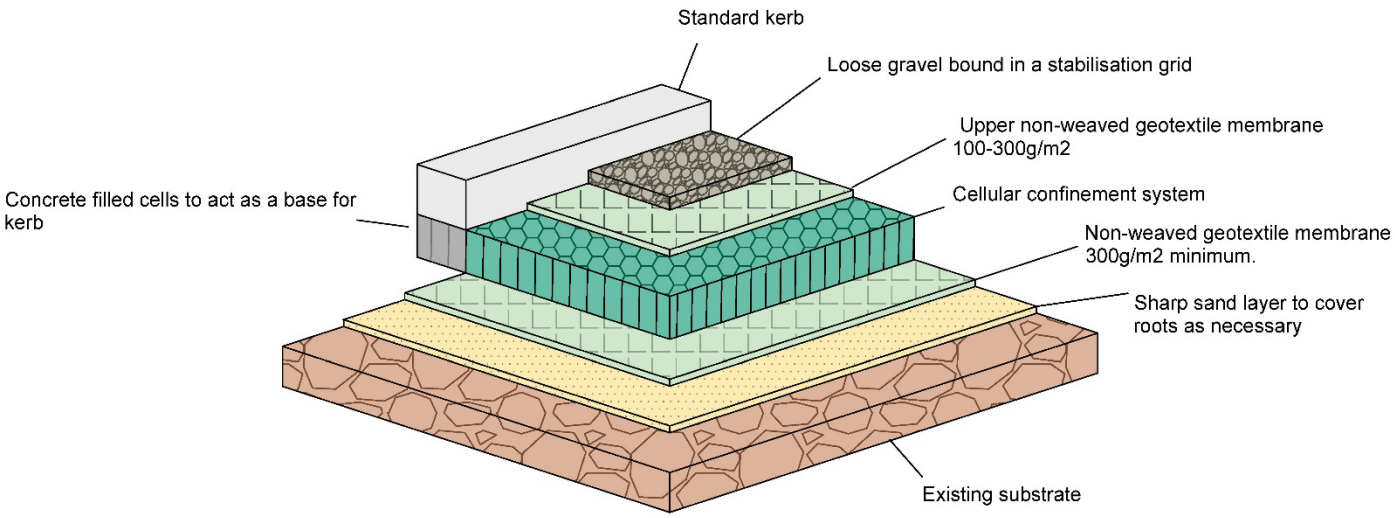


Figure 1. This drawing, produced by Tree Check Arboriculture Ltd. is not to scale and is intended as an indicative tool for the use in planning application only. It is not to be taken as a finalised design to be used on site. Numerous proprietary cellular containment systems are available and the manufacturers advice, site specific conditions, and the advice of engineering specialists should be taken into consideration when designing hard surfacing.

9. Impact Through Chemical Damage

There is a risk of chemical damage to trees from the mixing and storage of cement and other damaging chemicals.

All trees on site are at significant risk of chemical damage during development works and the methodology outlined below must be followed in order to prevent such incidents from occurring:

9.1. Method for the Control of Chemicals Potentially Harmful to Trees

- Materials that may have an adverse effect on the health of trees will not be stored or transported within the RPA. E.g., oil, bitumen, cement, and concrete.
- Concrete and cement will not be mixed within 10m of the base of trees.
- Cement and concrete will be mixed downhill from the base of trees or watercourses to avoid the risk of contamination to runoff.
- Where it is not possible to mix and store concrete downhill from trees and watercourses, sediment barriers will be used to prevent runoff from storage and mixing areas.

9.2. Perceived Threat of Damage to Property Through Tree Failure

The threat of tree failure causing injury or damage to property can cause anxiety for site users and increase pressure for removal of trees in close proximity to living spaces or other high use area, however, the additional passing places do not represent a significant change in the use of the site so the pressure of removal through perceived threat is not likely to be meaningfully increased.

- Detailed tree inspections to be carried out on all trees within striking distance of living areas to be carried out every 18-24 months.
- Findings and recommendations of all tree inspections to be communicated clearly to residents and site users.
- All recommendations provided in tree safety inspections are to be carried out, with an emphasis on proactive tree management.

9.3. Displacement of Lightweight Structures through Secondary Root Thickening

The proposed passing places will be constructed using a no-dig cellular confinement system which distributes imposed loads across a wide surface area rather than transferring them directly to the underlying soil. This load-spreading characteristic reduces the potential for localised displacement associated with root growth. In addition, the system's flexible, unbound construction can accommodate minor ground movement without resulting in significant surface deformation. On this basis, the risk of deformation of the finished surface arising from tree root activity is considered to be low.

10. Drainage and SUDS

No drainage plans have been provided but the topography of the site and positioning of trees does not suggest any likely conflicts between drainage arrangements and trees, if any drainage features are proposed within the RPA radius of any retained trees, or are likely to divert ground water towards or away from RPAs, the project arboriculturalist must be consulted, including situations where water may be diverted towards or away from trees.

11. Scope for Preventing Tree Losses through Design Change

Not applicable as **no tree losses are proposed**.

Appendix

-Appendix i: Photographs taken on site.

-Appendix ii: Tree protection/loss/retention plan showing the location of trees, their root protection areas and their retention category in relation to the proposed development.

-Appendix iii: A cascade chart from BS5837: 2012- Trees in relation to design, demolition, and construction– Recommendations explaining the categorisation of trees.

-Appendix iv: A diagram showing the recommended configuration for tree protective fencing, from BS5837: 2012- Trees in relation to design, demolition, and construction– Recommendations.

-Appendix v: A Glossary of terms and phrases commonly used in tree reports.

-Appendix vi: Formulas and Calculations.

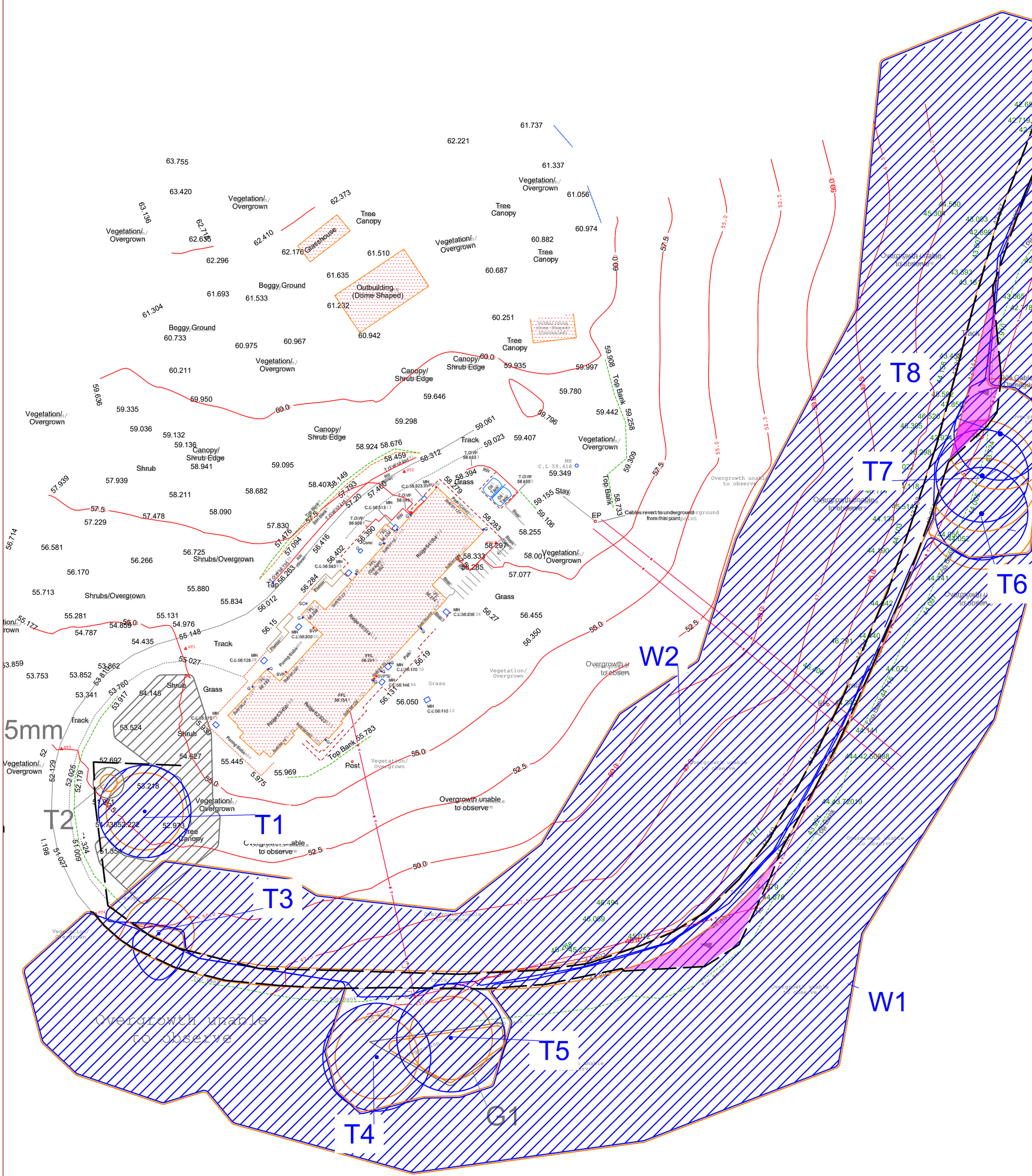
-Appendix vii: Information to Inform Selection of Trenchless Solutions for the Installation of Services

Appendix i: Photos

Photo 1: W1 – Passing places are proposed within the RPA, affecting up to 22% of RPA area per individual affected tree.

Bryn-awel

Ref	Tag	Species	Height	Stem Diam (mm)	Life Stage	Life Expectancy	Retention Category	RPA Area (m^2)	RPA Radius (m)
G1	N/A	Rhododendron *(Rhododendron ponticum)*, Sycamore *(Acer pseudoplatanus)*, Goat willow *(Salix caprea)*, Hazel *(Corylus avellana)*	8	140	Y	10-20	C2	8.9	1.7
W1	N/A	Hazel *(Corylus avellana)*, Silver birch *(Betula pendula)*, Norway spruce *(Picea abies)*, Pedunculate oak *(Quercus robur)*, Goat willow *(Salix caprea)*, Laurel *(Laurus sp.)*, Rhododendron *(Rhododendron ponticum)*, Sycamore *(Acer pseudoplatanus)*	15	600	M	20-40	B2	163	7.2
W2	N/A	Pedunculate oak *(Quercus robur)*, Sycamore *(Acer pseudoplatanus)*, Laurel *(Laurus sp.)*, Rhododendron *(Rhododendron ponticum)*, Japanese cedar *(Cryptomeria japonica)*, Silver birch *(Betula pendula)*	15	600	M	20-40	B2	163	7.2
T1	153	Magnolia *(Magnolia sp.)*	7	420	M	10-20	B2	80	5
T2	154	Rhododendron *(Rhododendron ponticum)*	3	90	EM	10-20	C2	3.7	1.1
T3	155	Pedunculate oak *(Quercus robur)*	14	380	M	20-40	B2	65	4.6
T4	156	Pedunculate oak *(Quercus robur)*	12	450	M	20-40	B2	92	5.4
T5	156	Goat willow *(Salix caprea)*	12	450	M	20-40	B2	92	5.4
T6	158	Sycamore *(Acer pseudoplatanus)*	15	600	M	20-40	B2	163	7.2
T7	158	Sycamore *(Acer pseudoplatanus)*	15	600	M	20-40	B2	163	7.2
T8	160	Sycamore *(Acer pseudoplatanus)*	15	600	M	20-40	B2	163	7.2



Drawing designed to be viewed in colour.
Indicative only, check all RPA's on site in accordance with table.

Key

- Category A. Trees with high retention value.
- Category B. Trees with moderate retention value.
- Category C. Trees with low retention value.
- Category U. Trees unsuitable for retention due to condition
- Root Protection Area (RPA)

Tree Key

Canopy extents, hatched area represents area within the canopy.

Location of tree base, taken from position on TOPO or GPS

Reference number (T for trees, G for groups, W for woodlands, H for hedges).

RPA- an indication of the estimated minumum rooting area required by the tree. Calculated in accordance with BS5837.

Tree Protective Fence

Areas of Caution where measures outlined in the Brynawel Resolven Combined AIA and Method Statement must be observed.

Tree Protection Plan
Brynawel, Rhesolven

1:300 at A1

Client	Evans Banks
Survey Code	25178
Drawn by	JC
Surveyed by	JC
Date	03/03/2026

Tree Check Arboriculture Ltd.

Ben Clark
TechArborA, Dip Arb L4 (ABC)

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www.Treecheck.co.uk

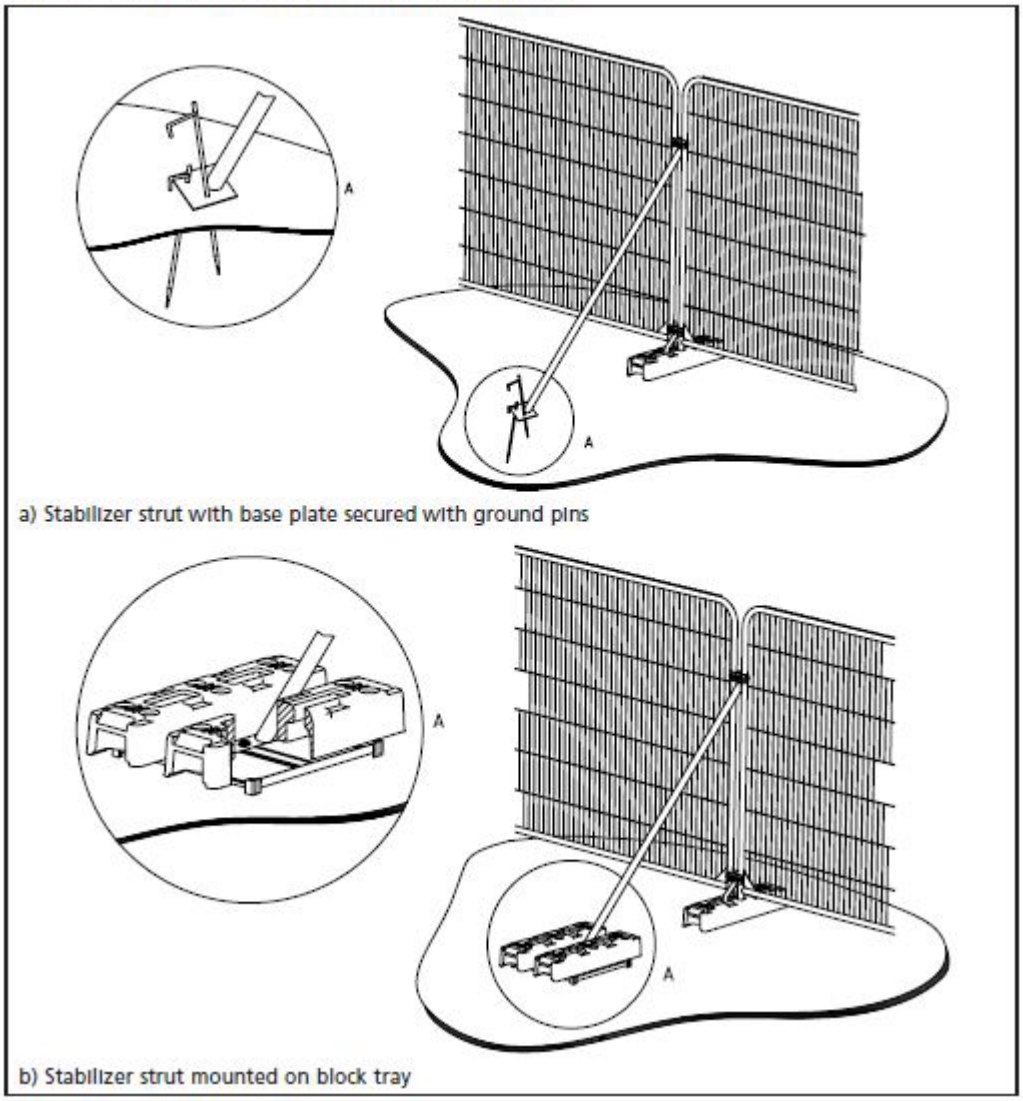
Appendix iii: Cascade Table for the Categorisation of Trees (BS5837)

Table 1 – Cascade chart for tree quality assessment

Category and definition	Criteria (including subcategories where appropriate)			
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 U category trees (i.e. 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 NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7			BRITISH STANDARD BS 5837:2012
	1 Mainly Arboricultural values	2 Mainly landscape values	3 Mainly cultural values, including conservation	
Category A Those 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 essential components of groups, or of 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)	
Category B Those 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 benefits	
Category C Those of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without 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	

Appendix iv: Recommended Configuration for Tree Protective Fencing (BS5837)

Figure 3 **Examples of above-ground stabilizing systems**



Appendix v: Glossary

Aerial Inspection: **A close inspection of the aerial part of a tree, either by mobile elevated work platform (MEWP) or by a tree surgeon (climbing inspection).Adaptive Growth;** The growth of new wood in response to a stress concentration in the structure of a tree

Adventitious; A shoot which arises from tissue other than a growing shoot apex or bud, for instance in callus associated with a wound.

Anchorage; The holding of the structural root system of a tree with in the soil,.

Architecture; the formation and distribution of a trees branch system.

Arboricultural Impact Assessment: That part of the BS 5837 (2012) procedure that evaluates the tree-related constraints to a development (loss of trees, encroachment into root protection areas etc.).

Arboricultural Method Statement: That part of the BS 5837 (2012) procedure that sets out how site works should be carried out near trees to avoid accidental damage.

Arboriculturalist: A person skilled or knowledgeable in the field of arboriculture. The alternative term 'arboriculturalist' is sometimes used. A Person trained and experienced in the management of trees, and trees in relation to construction.,

Assessment; The process of examining the variables involving a trees condition and location in order to assess the risk posed by an individual tree.

Bole (trunk): The main , vertical stem or trunk of a tree.

Branch: a limb extending from the main stem or parent branch of a tree

Canopy: the combined foliage of a group of trees or a woodland, i.e. the combined area of numerous crowns.

Construction Exclusion Zone; The part of a development site from which all pedestrian and vehicular movements are excluded by protective fencing, typically to ensure the wellbeing of trees, during site works. Usually determined by the RPA of a tree.

Crown: in arboriculture the main foliage-bearing portion of a tree containing the leaves and branches

Defect: Any feature of a tree that is likely to make it less safe (in the case of a structural defect) or otherwise to reduce its health, longevity, landscape prominence or conservation value for any other reason.

Dysfunction: The cessation of physiological function in woody material, especially vascular functions such as water and sap transportation.

Failure: Fracture or deformation in any load bearing part of the tree, compromising stability or causing loss of support for part of, or all of the tree structure,

Group: More than one tree in close proximity that possess sufficient similarity or cohesiveness that they can be treated as a single entity for the purpose of this report.

Heave: deformation of shrinkable clay soil related to the expansion caused by rehydration.

Leader: the dominant, vertical shoot or stem of a tree.

Pruning: The cutting off or cutting back of tree branches or foliage to direct growth, remove an obstructing part, mitigate a nuisance, make safe, remove a diseased part, increase longevity, simulate natural damage, enhance habitat for wildlife etc.

Retained Tree: a tree that has been considered suitable for retention and therefore selected to remain as part of the final site layout.

Risk: the likelihood of a hazard to cause actual harm to people or property,

Root Protection Area (RPA); The area around the base of a tree that contains sufficient root volume to ensure the future well-being of the tree in the event of nearby soil disturbance (as on a development site). It is calculated according to guidelines in BS 5837 (2012).

Subsidence (branch): Branches, especially if spreading, tend gradually to subside under their own weight, and may eventually reach ground level in large open-grown trees. Rapid subsidence may result in crown separation or congested bark and can lead to branch failure where there is no support within the elastic limit of a given branch.

Subsidence (soil): Broadly, the downward movement of ground and an affected foundation influenced by soil properties, weather, foundation depth and nearby vegetation.

Targets: An element of tree risk: the subject of injury or damage within range of a hazard.

Tree: The definition of 'tree' is a composite of tree species, tree form and tree size. The blue book offers the following: A perennial plant with a self-supporting woody main stem, usually developing woody branches at some distance from the ground and growing to a considerable height and size. This definition has the three main elements in general form. **For the purposes of 5837 surveys, only plants with a stem diameter of 75mm or above are considered trees.**

Tree Constraint Plan (TCP): Site plan showing the tree-related constraints to development as envisaged in BS 5837 (2012). Common constraints are the loss of trees, encroachment into a tree's root protection area.

Tree Condition Inspection/Survey: A procedure to inspect a tree or trees. Variables used to describe a tree include position (if not already plotted on a topographical survey), species identity, maturity, various dimensions (main stem diameter, height, crown radius etc.), aspects of form, vigour, condition, incidence of pests, diseases, damage and defects, evidence of past management etc. Site factors, position in the landscape and site usage may also be relevant. , usually including its position, species identity, dimensions, age class, condition, conservation value etc. as appropriate, and to identify and evaluate defects. It is also common to make management recommendations (see schedule of works). Tree inspection is a fundamental of tree management and advisory practice in arboriculture.

Tree Preservation Order: (UK) an order made by a local authority or other planning authority to protect a tree, group of trees, area of (scattered) trees or woodland under Part VIII of the Town and Country Planning Act 1990. There have been several amendments, the latest being the Town and Country Planning (Tree Preservation) (England) Regulations 2012. An order is generally made on the grounds of amenity and expediency. Anyone proposing works to a TPO tree must seek prior consent from the authority using the form 1APP. With the advent of the 2012 regulations, some of the detail in existing TPOs in England has been revoked.

Tree Protection Plan: scale drawing prepared by an arboriculturalist showing the final layout proposals, tree retention and tree and landscape protection measures detailed within the arboricultural method statement (AMS), which can be shown graphically.

Trunk: see bole.

Vigour: The health and resilience of a tree (from the Latin 'to be strong'), reflected in the capacity of the whole tree to grow (see growth rate). The term is often used as a description of overall condition on a qualitative scale from 'high' to 'low'.

Visual Tree Assessment (VTA): The standard approach to tree risk assessment consisting of the diagnosis of structural defects and the evaluation of their significance from visible signs and the application of biomechanical criteria. Simple equipment such as a sounding mallet, probe and binoculars are commonly used.

Wind exposure: the degree to which a tree or other object is exposed to wind, with regard both to duration and velocity, often taking into account prevailing wind directions.

Windthrow: the blowing over of a tree at its roots.

Appendix vi: Formulas and Calculations

Method used to estimate RPA incursion area (per tree)

We treat the group RPA as a **circle of radius** R (from the average DBH).

Using an AutoCAD overlay of the site plan and our tree data, we **measured**:

- the **average depth** that works extend **beyond the RPA line**, and
- the **average width** W of that incursion strip.

For an "average" tree, we model that strip by two parallel lines cutting the circle.
Let $D = R -$ (average depth) be the distance from the RPA centre to the inner line of the incursion.
The **incursion area per tree** is then the overlap of that strip with the circle:

$$A = [(D+W)\sqrt{R^2-(D+W)^2} - D\sqrt{R^2-D^2}] \; + \; R^2 \left[\arcsin \frac{D+W}{R} - \arcsin \frac{D}{R}\right].$$

(The maximum width W of an incursion is R-D.)

Definitions:
R= RPA radius from average DBH; W= average incursion width;
$D = R -$ average depth= distance from centre to the inner line.
W = The distance between the inner line and the outer edge of the incursion object, or the outer edge of the circle, whichever is closest.

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Terms and conditions

The Client is the party commissioning and funding the survey. The Consultant is any person(s) employed by Tree Check Arboriculture LTD to carry out any related works, as well as Tree Check Arboriculture LTD as an entity.

Limitations

1. This survey reflects the condition of the trees as they were observed on 04/10/2023 The condition of trees can change quickly and if any significant change is observed then a qualified arboriculturist should be consulted regardless of the recommended reinspection period.
2. While every attempt has been made to provide accurate recommendations based on the condition of the observed trees, Tree Check Arboriculture Ltd. can accept no liability for damage, injury, or loss of property caused by faults that were not apparent at the time of inspection. These include but are not limited to faults that may only be visible seasonally such as fungal fruiting bodies, or faults that were obscured or inaccessible to the surveyor such as those high up in the crown or obscured by ivy.
3. During adverse weather conditions such as storms, otherwise healthy trees can fail. Trees should be visually inspected after any high winds.
4. This report cannot predict the reaction of inspected trees to external factors such as extreme climate events, accidents, or vandalism.
5. The author(s) can accept no liability for damages if the recommended works are not carried out as per this report in line with BS:3998.
6. Operational recommendations (e.g.) climb and dismantle, are for loose guidance only. It remains the responsibility of the assigned contractor to decide on the safest work method. Tree Check Arboriculture LTD. accepts no responsibility for damages occurring during the carrying out of recommended works.
7. This report does not cover any underground part of trees, nor does it consider any affect inspected trees may have on shrinkable clay soils since these issues are almost entirely restricted to areas of shrinkable clay soils and soil analysis was not specified in the brief.
8. **Recommendations made in this report do not override any legislation covering the affected trees. Trees in a conservation area, trees subject to preservation orders and groups of trees requiring felling licenses still require relevant permissions before work can be carried out. Unless otherwise agreed the Tree Check Arboriculture LTD will not be checking for the presence of this legislation or be applying for these permissions. The Client must contact the consultant if they are unsure on this matter.**
9. Certain areas of the site were inaccessible in the time scale of this survey due to dense vegetation cover. Areas and trees where this has been an issue are described in certain trees and groups in the survey table.
10. **The findings of this report cannot be relied upon after 12 months from the time of inspection or the recommended reinspection date (if sooner).**

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