

## Defective tree list and management recommendations



**Site Address:**

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Re survey date: 2029

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## **Document summary**

The document you are reading is to be used by landowners or site managers to help inform themselves and also specialist contractors as to what outline management work is to be carried out following a general walkover tree survey of a given site/stand of trees. The aim of this survey is to identify trees or tree features which pose a threat or significant nuisance at the time of the on-site survey.

This document is part of an ongoing inspection regime (as a guide three yearly) and not a one-off all-encompassing assessment. Subsequent survey visits at predetermined intervals are required to fully manage a tree stock. Each visit will address the next level of concern, subsequent documents created by Treecare Consulting will follow and bring survey consistency in order to ensure appropriate management occurs, all following one standard methodology. Further detailed inspection reports may be required where specific defects or situations are present. Recommendations will be made for resolving defects within the tree work schedules in the findings section.

It is a legal duty of care for a landowner to have trees inspected for safety at a reasonable frequency. The Occupiers Liability Act 1957 and 1984 ask that any foreseeable harm originating from a foreseeable hazard or risk from trees is to be minimised. This applies to invited guests and uninvited guests to your land and also neighbouring land. It is also advisable to carry out periodic inspections to ensure that pathways, lighting poles, services and doorways and so forth are not obstructed by nuisance vegetation. HSAW 1974 applies to commercial sites or sites where safe work places are required both for employees and employers.

This document has been created following an on-site pedestrian inspection by a suitably trained, experienced and qualified arboricultural professional. The document should be made accessible in the site or landowners office and be kept as a record of the last inspection date and the findings of that inspection in order to comply with current legislation. Once superseded by a newer document the older document should be kept for a period of up to seven years as proof of historical assessment.

The nominated manager/owner should implement the use of competent arborists and ground staff that have appropriate training, qualifications and experience for the tasks they are undertaking. It will be the contractor's responsibility to check for tree preservation orders, conservation areas and any wildlife concerns which may affect how the required tree work takes place. In certain circumstances discussion with a neighbouring land owner may be required to carry out effective risk management of the hazard. The nominated contractor should be able to offer this discussion process but should this not be possible please contact Treecare Consulting if you have any questions or concerns including mediation.

All tree work recommended by Treecare Consulting should be carried out by professional tree contractors and they should follow the recommendations of BS 3998 2010 and industry good practice for green infra-structure.

Where information contained within this document is not clear or understood contact with Treecare Consulting must take place to resolve any confusion.

## **Report Limitations**

- Visual inspections (VTA) from ground level only using resonance mallet and stiff steel wire probe unless otherwise indicated around a three-year interval.
- No invasive inspection techniques used unless indicated. No underground excavations will have been performed unless otherwise indicated.
- No climbing or inspection at height will have been involved unless indicated.
- Report information expires after twelve calendar months from report issue date unless part of an active/progressive survey/work period. All comments relating to tree management are for wind speeds less than 40mph. Should winds in excess of 40mph be applied it is likely tree component parts may fail purely down to wind forces. Usually from fairly common and minor defects such as non-tensile forks/decayed branches that would not normally fail in lesser wind speeds.
- Reports and information relating to them are the property of Treecare Consulting until paid for in full. Information within reports is retained at Treecare's discretion until paid for in full. Treecare will retract reports and comments from any due process if not paid for in full.
- Treecare Consulting will not create access through dense vegetation to trees but will undertake the accessing work if contracted to do so.
- Where access to a tree is not possible, best judgement will be used. Accurate information will therefore be minimal and a re-survey may be required at the earliest opportunity if estimations on defective trees are concerned.
- Treecare only use suitably trained and knowledgeable persons for inspections holding the relevant qualifications for their purpose.
- Treecare has the right to remove employees from danger on site as they see fit.
- Verbal comments on buildings structural integrity are an opinion not fact (a structural engineer will be required for a detailed analysis).
- The diagrams and drawings provided by Treecare are not exact and should not be used for design purposes unless directed otherwise. They are however correct as a representation of site features and tree locations.
- Treecare will try their very best for the client. However, conflict of interest or professional judgement and character clashes must be accepted and resolved.
- Treecare's information and advice will only last as long as current legislation and current knowledge is up to date. Should new developments supersede previous comments then a new report must be issued.
- This is a preliminary report and further more detailed aspects may be required by the LPA or client at a later stage to define exact processes.

## **Schedule explanations & descriptions**

Within the following survey schedule various information, has been provided to help inform the site manager of the defect or a concern. These headings have been explained in brief below. Should any heading or content not be understood please contact Treecare Consulting.

**Item number** – this is shown as T or G depending on if it is a singular tree or a group.

**Tag No-** this represents the small colored plastic tag which has been fitted to trees if required. The tag is unique to the tree and corresponds with the schedule and the site plan for identification purposes.

**Species-** unless otherwise indicated the species will be recorded as the most common uniformly understood name.

**Age/class-** helps in the identification process as descriptive information.

**Use zone-** how frequently the area is used or occupied by pedestrians, traffic or structures. We colour code this red, orange and green, red being high use.

**Spread M-** this measurement is the average radius of the trees crown in meters. For irregular crowns this measurement is still used to indicate the tree on a site plan.

**Physiological condition-** this is a record of how the tree is performing as a plant. Leaf size, colour, density, buds and shape all help to indicate physiological health.

**Structural condition-** the trees structure is looked at to see if it has been significantly affected by obvious decay, splits, structural weakness and damage.

**Consideration-** a consideration can be what the surveyor sees as a potential concern. This can be people, services or users of a road or path.

**Defects-** obvious defects are recorded here such as dead wood, broken limbs, weak forks and basal decay.

**Specific recommendation-** this is to highlight what work is required to reduce the hazard where possible. This may include tree felling. Felled trees should be replaced if space allows as this is good practice but more suitable species should be used.

**Further Inspection** – This is used to assess internal decay or underlying defects to give accurate advice where required and assess defect a best possible where required.

**Note: JPTC perform all advanced testing in house. Please ask for prices for Picus and PD500 tests.**

**Priority-** Should trees require urgent work, the site manager will be notified during the survey or soon after for immediate action.

**Urgent** – as soon as possible.

**High** – Within 6 months but as soon as possible in high usage areas.

**Low** – 12 months but factor in sooner if in a high use area. Ideally all low priorities completed prior to next survey.

**Good Practice** – Prior to the next survey being carried out. Often this is three yearly unless otherwise noted. This work is to reduce the likelihood of a greater concern developing.

**Notes-** should the surveyor have additional comments regarding the tree you will find them here.

## **Glossary**

### **Words and phrases used in tree surveys by JPTC.**

#### ***At suitable lateral branches (ASLB)***

A pruning point near a node that has suitable reducing branch diameter at which to make a pruning cut, may also be seen as “strong lateral growth points”.

#### ***Basal***

Soil to stem flare height approximately.

#### ***Branch***

A main limb of the tree.

#### ***Branches***

A group of limbs, often described as low crown skirt or particular area of tree.

#### ***Branching***

General group, side/area of branches on the tree crown.

#### ***BS 5837 2012***

Recommendations for demolition and construction near trees.

#### ***BS 3998 2010***

British Standard for tree work.

#### ***NJUG Vol 10***

Simple advice for working near trees with trenching or utility operations.

#### ***Buttress***

The root collar ridges flaring at the bottom of the trees stem.

#### ***Cavity***

A hole/hollowing in the trees stem, scaffold limbs or basal region.

#### ***Chlorotic***

Pale foliage from nitrogen deficiency, physiological decline. Lack of chlorophyll in leaves.

#### ***Cladoptosis***

Natural loss of redundant twigs, leaves and branch wood.

#### ***Crack***

Longitudinal or transverse in the stem or scaffold limbs. An open or closed split in wood tissues.

#### ***Crown***

The outer foliage region of the tree.

#### ***Crown lift***

Raising of branches at the main stem to a nominated height.

### ***Coppice***

To remove all stems (of suitable species) down to where the basal flare starts. New shoots will develop post felling leading to an ongoing tree

### ***Decay***

Usually associated with fungal presence or historical wound/damage. Can be internal wood, external sap wood or both. If tree stability is concerned further detailed analysis is wise.

### ***Dead wood***

Major in excess of 50mm, minor less than 50mm diameter. Stable and unstable dead woods.

### ***Die-back***

Foliage crown tip die back, often from physiological decline.

### ***Drop crotch pruning***

Particular pruning selection and removal of vertical stem leading tips – helps reduce mass not but foliage/photosynthetic area.

### ***Epicormic shoot***

A shoot formed by adventitious buds in under tree bark. Often found near a previous wound or stress region.

### ***Foliage tip***

Growing tip of a branch/leader. Contain DNA information for the tree on growth regulation and control.

### ***Foliage tip lift***

Pruning of outer foliage tips only, usually to raise above or back from an object without the need for limb removal.

### ***Fungal fruit body (FFB)***

The flower of a fungus. Often the fungus species is given where ID is possible.

### ***Hazard beam***

Separation failure of tension and compression wood, usually in a weak limb.

### ***In-Leaf***

Tree seen in leaf, good for physiological health assessments but some upper crown scaffold defects can be obscured.

### ***Leader***

Upper stem vertical section – not a side limb/branch.

### ***Natural Target Pruning (NTP)***

Pruning as defined by Dr Alex Shigo – minimal cut diameter made at the branch collar.

### ***Non-tensile fork***

A fork with an angle tighter than 25 degrees. Often a weak point in the structure and prone to decay.

### ***Nuisance***

In the legal sense – foliage touching an object/limb contact with structures.

### ***Out-of-Leaf***

Tree seen out of leaf, good for structural assessment and quite often fungal presence. Physiological health harder to determine out of leaf.

### ***Pollard***

The removal of all main limbs (on suitable species) at suitable new or previous pruning points. This is at a nominated height or specific tree feature such as the main fork or secondary fork height. Epicormic shoots will develop in this area leading to a new smaller, denser crown forming. Note – pollarding must be repeated on a 5-7 year cycle.

### ***Rooting area (RPA)***

12 x stem diameter measured at 1.5m above soil height provides rooting area radius as per BS5837 2012.

### ***Scaffold limb***

Main structural branch that supports the lateral foliage bearing branches.

### ***Self-set***

A tree/sapling, often grown from wind/animal dispersed seed.

### ***Stem***

Main limb free section of the tree/trunk. Can be twin and multiple stemmed also.

### ***T/R Ratio***

The ratio of stem diameter to the remaining stem wall thickness. Roughly up to 1/3<sup>rd</sup> of overall diameter is acceptable as stem wall thickness as long as no opening is present greater than 120 degrees.

To simplify records made during the defect tree survey, the survey records “actionable” defects. These are defects that require a specific work prescription or test process and within a certain time period. The surveyor will also be making visual notes of tree “features”. A tree feature is something that is not ideal but also not something that requires an immediate action to resolve it within current budget or work period, separate advice formed from a list of features may however be given to help educate and inform managers and operatives working on trees to reduce on going own goals in tree damage/decline.

Tree features would be:

- Very minor die-back in small areas of crown, possibly insect activity and non-persistent.
- Recent poor pruning practice that doesn't render the tree dangerous. We expect all work to comply with BS3998 2010 – rips, tears and stubs should not happen and flush cutting is to be avoided.
- Observations that do not have a bearing on the trees safety factor between expected three yearly periods.
- Foliage on phone lines – BT have their own process for this issue as it is a dynamic not static issue. Only if we are briefed on an exact need to record this will we record it.
- Signs and fences nailed to trees unless it is causing a direct hazard.
- Ecological features that have no bearing on tree safety levels.

## **Ash Die Back – Hymenoscyphus fraxineus information**

Hymenoscyphus fraxineus may be noted in this survey. It is intentional that not all infected single trees or groups of infected trees are recorded or marked within the survey or around the land ownership. Only trees in the higher category HF3 & HF4 are likely to be recorded.

The intention is to highlight the fraxinus species trees which have been infected with Hymenoscyphus fraxineus (Ash Die back) and pose the greatest threat to users of the location at this time only, and not all infected trees on the land ownership. New unaffected species introduction may also have been recommended. Tree surveys are an ongoing task recommended at 3 yearly intervals unless otherwise directed. It is the client responsibility to ensure three yearly visits occur.

Infected trees in high use public areas, above roads/houses and paths should be made safe before they reach 50-75% foliage loss. Stage 3-4 (75% to 100% foliage loss trees may be highly susceptible to larger limb sections tearing out the crown whilst being worked upon. Secondary infection of armillaria species is also a concern for trees stressed by infection. Whilst contractors have the final say on what is safe or not safe to work on, the client/land owner does have a duty of care to these contractors and early intervention when trees are safe to work on is always advised. Trees can be graded into the following categories:

- Ash Health Class 1 – canopy with a 25% loss of foliage. Low – Good practice 3.
- Ash Health Class 2 – canopy with a 25-50% loss of foliage. Low – Good practice 3.
- Ash Health Class 3 – canopy with a 50-75% loss of foliage. Medium – Medium 2.
- Ash Health Class 4 – canopy with a 75-100% loss of foliage. High – High 1.

Trees falling into class three are a significant concern (medium risk) if they can affect members of the public or structures in the event of failure. Trees in class four (high risk) should be removed unless safe retention is possible due to being a remote location or complete lack of access.

The survey also records trees on adjacent land also if deemed to be a significant threat. This is to ensure the client is aware of potential hazards that are nearby and require action to make safe. Large scale panic felling of infected ash trees is not advised and should be avoided. A systematic approach should be used and only when intervention is required, trees should be made safe if required. Trees in woodlands, dense shelter belts and are not in 1.5 tree lengths of targets should be left as long as it is safe and practical to do so before management. A tree does not need felling if die back is only confined to foliage tips/class 1. It is important to try and retain trees in class 2-3 (only where safe to do so) to see what or if any trees show a resistance to the disease.

In my own assessment of declining trees, I have noticed that coppice stools or 5-7 year's old pollard trees seem to show significant signs of longevity against infection. Some re growth shoots die off but adjacent and newly forming regrowth seems to develop well again before infection. This process can persist for some time where an unpruned tree with full crown becomes infected and simply declines in a shorter space of time.

Winter assessment of foliage decline is difficult for obvious reasons, I therefore advise in leaf/summer on-going and spot/tree marking for ash die back decline each year in July/August. Early-stage trees are likely to be missed in winter surveys. It is also possible that infected mature trees can also be missed if weather is wet and overcast during visual assessment as certain HF identification features are not visible.

## Tree Safe Assessment

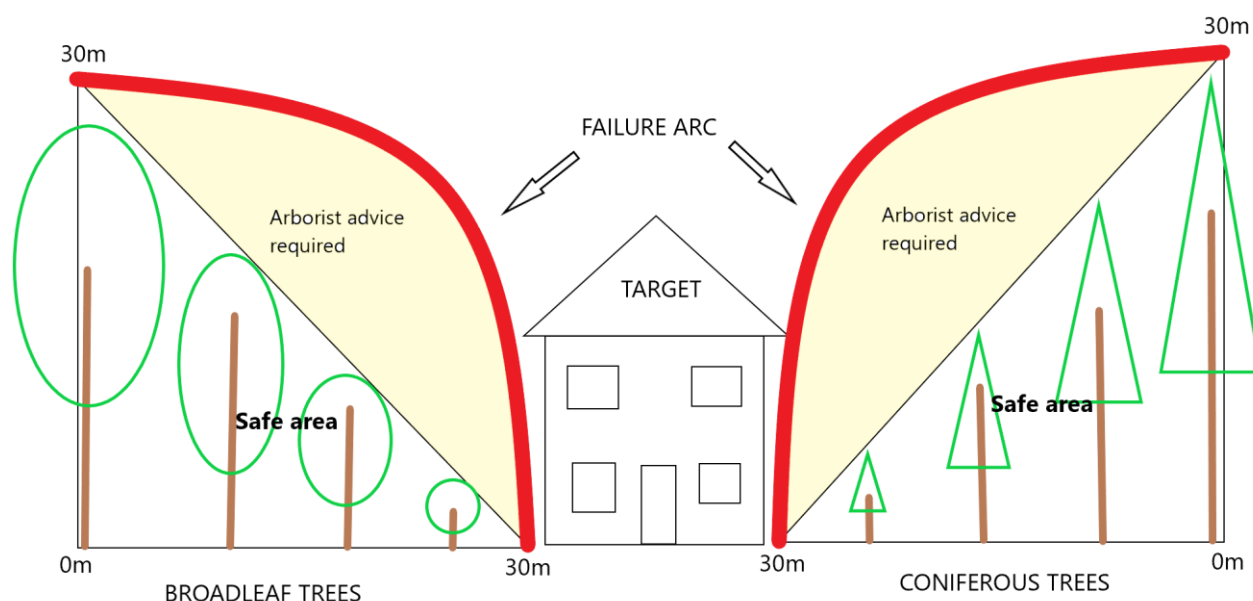
As a rule, trees are very safe living structures to have around us within the landscape. In terms of risk posed by trees, it is generally accepted that there is more chance you will be struck by lightning or will win the lottery than you will be harmed by a tree. Trees have evolved to cope with our weather and are constantly adapting to changes that take place each year. Given the right time period and resources, some species can live for hundreds of years, some even thousands.

It is natural to feel threatened by something larger than ourselves such as a tree. This is especially so when the object can affect high value (buildings & cars) or incredibly important to us (our family, guests, friends and other property).

A tree's biggest threat however is a human being. We like to make changes around trees that trees do not need. Trees that we may have liked before are suddenly in the firing line for removal due to our own self-created problem that have been caused by our own needs overlooking a tree's needs.

In most cases, where there has been an issue with trees, it is normally because there has been some form of target within the failure range of the tree the tree was not able to Fail Safe. An ideal safety factor would be 1.5x a tree's total height/length. This measurement would be used to assess the proximity to structures. Not all people can easily assess or visualise this so it can be simpler (if accepting some additional risk of reducing proximity) to simply apply a 45-degree line from the top of the tree to the target. In many cases, when trees fail, they land the same distance they are tall away from the stump location. More often than not, it is a section of a tree failing or a partial tree failure that is the concern. These do not go far from the tree. By using the 45-degree rule, it is easy to understand if a target is at risk of tree failure or not.

This method can also be applied to tree planting to ensure you are not planting a future calamity. By finding out what the potential height of a tree you would like to plant is, you can then measure that from the target and plant it so the tree can never become a concern for the given target. There really is the right tree for every location. This simple 45-degree rule will reduce tree proximity and failure concerns dramatically. There is no need for strange equations and risk calculations. 45 degrees and common sense is all that is needed. Should there be a situation where the 45-degree Tree Safe Assessment method falls short (the tree is higher than the 45-degree line), this is the time to contact an arborist for advice. Just because the tree's height goes above the 45-degree line, it does not mean it is a hazard tree. It just becomes a tree that will benefit from ongoing checks by an arborist more than trees that do not break the 45-degree line rule.



## Findings & work schedules

**Note:** All pruning work to use natural target pruning at suitable sound living lateral branches – no stubs, tears or poor reducing limb diameters and within species tolerance as per BS3998 2010. All pruning to be minimal to achieve the aim. Foliage lifts of tips to be to 2.5m over paths, 5.5m over roads (to allow for wet leaf droop) – crown lift of limbs should be specified – ask JPTC if unclear. Dead wood removals (unless stated) are down to 15-20mm diameter. De-suckering should be undertaken with neat pruning cuts. Ivy banding/severance should leave a min 30cm gap between cut ivy stems, full removal from tree is preferred – ivy band 360 1m means removal of a 1m band of ivy from around 360 degrees of low stem. *Hymenoscyphus fraxineus* crown condition scores 1-4 (HF1, HF2 etc).

**Quick Reference priorities** – Red (High) use area and red (high) priorities should be completed as soon as practicable. Red priority and orange use areas next. Both use and priorities that are orange after that. Finally green use areas should have green priority work carried out with an aim to have all work completed at the end of a three-year window. At this point re assessment is advised for most sites.

### Individual Trees Schedule:

| Tree No | Date     | Spread M - stem to drip line | Height (M) | Area usage | Tag No | Species       | Age/Class | Physiological condition | Structural condition          | Consideration                                                                           | Defects                                                                                                                                                                                                                                                                                                     | Work recommendation                                                                     | Priority | Further Investigation | Further Investigation type |
|---------|----------|------------------------------|------------|------------|--------|---------------|-----------|-------------------------|-------------------------------|-----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|----------|-----------------------|----------------------------|
| T1      | 20260401 | 1                            | 15         | High use   | 621    | Coast redwood | Mature    | Normal for species      | Normal for species            | Visual assessment impaired                                                              | Ivy obscuring main stem/principal lower branch unions. Historically suppressed tree featuring associated curved lower main stem                                                                                                                                                                             | Ivy band 360 1m                                                                         | 2= Low   | Not required          | None                       |
| T2      | 20260401 | 6                            | 24         | High use   | 624    | Lime          | Mature    | Normal for species      | Hazardous defects present     | Public safety; Road or path threatened by trees; Damage to structures/object from trees | Mature/emergent <i>Kretzschmaria deusta</i> fruiting bodies on SW side at ground level. Associated poor lower main stem resonance. Extended lower lateral weighted over offsite residential rear garden. Deadwood >75mm diameter. Historically reduced to 16m. Currently featuring pollard regrowth to >24m | Fell. Stump grind to 450mm below soil level. Replace with suitable species for location | 1=High   | Not required          | None                       |
| T3      | 20260401 | 4                            | 18         | High use   | None   | Deodar cedar  | Mature    | Normal for species      | Low influence defects present | Public safety; Road or path threatened by trees; Damage to structures/object from trees | Partially failed branch >75mm diameter adjacent to parking area. Deadwood >75mm diameter within lower crown overhanging managed grass area                                                                                                                                                                  | Remove damaged branch/deadwood                                                          | 2= Low   | Not required          | None                       |

## Plan

