

GROUNDS MAINTENANCE

GUIDANCE NOTE ON TREE SAFETY

1. SCOPE

The Guidance Note sets out the principles used to survey trees, assess risks, plan remedial action and record the information.

The Guidance Note refers to areas managed by the Estates Grounds Maintenance team only and discharges the obligations of the Health and Safety at Work Act 1974, Occupiers liability Acts 1957 and 1984, HSE Sim 01/2007/05 Management of the risk from falling trees and branches and section 152 of the Highways Act (1980) with regards to tree management.

2. TREE MANAGEMENT PRINCIPLES

Mature and veteran trees are uniquely valuable to wildlife and their retention is highly desirable however public safety and the cost of on-going management will be the overriding management considerations.

Crown reduction and other pruning techniques may be used to reduce the risk of tree failure but remedial tree works are only necessary when there is clearly a significant risk to life, property or the loss of the tree. Risks may be managed using other options rather than remedial action on trees.

All trees come with hazard.

3. LEGAL OBLIGATIONS

A number of legal responsibilities arise as a result of the University's tree stock, including:

- avoidance of harm to people or their property;
- regulation of tree felling;
- protection of wildlife species and their habitats.

4. DUTY OF CARE

The University has a statutory duty of care to identify possible sources of foreseeable danger from its tree stock and to remove them as far as is reasonably practicable. An ongoing programme of tree hazard assessment is being carried out in the maintenance areas that takes into account the two separate factors of hazard and risk

5. HAZARD AND RISK

Hazard is the potential to cause harm.

Trees can be damaged physically, develop structural weakness or be invaded by pathogenic organisms. If trees deteriorate, so they are increasingly likely to fail especially in severe weather and their hazard potential increases.

Risk is the level of likelihood that a hazardous tree will cause damage or injury.

Risk is primarily related to the location of the tree and reflects the intensity of use of the trees immediate surroundings.

6. TREE SURVEYS

Grounds Maintenance has a rolling tree survey programme. The programme has three aims

- **Identification of hazards**
- **Assessment of risk**
- **Recommendation of remedial action, where necessary**

Grounds Maintenance uses the Arbortrack tree management system to record the position, condition, and requirements for remedial work of its tree stock.

In areas of copse or woodland it is unpractical and unnecessary to record all trees accurately on to Arbortrack. Within woodland areas the aim is to record trees >600mm diameter at 1.5m. Trees >350mm diameter at 1.5m will be recorded as individuals or groups where they border a medium high or high occupancy area. Other trees will be represented on the survey as a hatched area. These areas will have periodic scoping surveys only.

7. IDENTIFICATION OF HAZARDS

Tree surveys, hazard assessments and recommendations for remedial work are generally carried out by the Head of Grounds Maintenance or other nominated person (see section 12).

All survey work is carried out from ground level, using the principals of visual tree assessment. No routine internal investigations or climbing inspections are undertaken.

The surveyor looks for physical or physiological conditions that might lead to a partial or total failure of the tree and where identified they are briefly recorded.

In practice only visible defects that can be seen from ground level in good lighting are likely to be identified. Routine removal of basal growth, Ivy or scrub clearance will not be undertaken unless risk assessment deems necessary. Techniques to assess the structural integrity of trees will not be used as a matter of course but will be considered where appropriate and if budgets allow.

8. ASSESSMENT OF RISK

The surveyor assesses the tree risk using a simple scoring system within the Arbortrack system based on the identified tree hazards and the likelihood of failure and the typical intensity or use or occupancy of a site that a falling tree or limb could reach.

The tree hazard scoring is described thus:

Tree Hazard	Description	Example of Defects	Score
Low	No visible defects	Tree with no significant defects and good vitality	1
Low Medium	Minor defects	25-75mm diameter dead wood, loss of vitality but no obvious symptoms, included unions, small cavities	2
Medium	Intermediate defects: Failure possible in extreme weather	Included unions with adaptive growth, 75mm+ diameter dead wood, crown die back/low vitality due to pathogens, basal decay or root damage, presence of cavities or cracks within trees structure	3
Medium high	Major defects: Failure likely in extreme weather	Failing forks, large hanging branches, partial windblown trees, basal decay, large cavities or cracks within trees structure, dead trees	4
High	Major defects - Failure inevitable	Wind blown trees, major structural damage to roots or crown, extensive decay, dead trees	5

The intensity of use on University campuses is not evenly distributed and vary across the sites. Remedial or survey works to trees which could put people or property at risk are prioritised this will be achieved by considering the University campus and associated areas as zones of occupancy. These zones reflect typical observed usage and will be kept under review.

The zones are described thus:

Occupancy Zone	Description of Zone	Examples of Area	Score
Low (No Use)	Inaccessible areas of campus	Wilderness, copses with thick undergrowth	1
Low Medium (Occasional Use)	Remote areas of campus with no formal footpaths	Wilderness, copses, meadow areas	2
Medium (Intermittent Use)	Open areas, woodland next to foot paths with moderate use, Unlit surfaced foot paths	Meadows, Lake side walk, Wilderness surfaced paths, sports fields, lawns	3
Medium High (Frequent Use)	Well-used public areas and lit foot paths, Public Highway, Internal University roads, car parks,	Central campus,	4
High (Constant Use)	University and private buildings (Fixed targets)	Central campus, Halls of Residence	5

The tree condition and occupancy scores are added to give a risk score. The risk score helps to determine the management strategy for each tree assessed.

The scores are described thus:

Score Total	Examples of Action	Priority for action
2-6	No action required, minor remedial works	Priority 2 or 3
7	More frequent survey, minor remedial works,	Priority 2
8-10	Annual inspection, remedial works, fencing, removal	Priority 1

The priority ratings are described thus:

Priority	Rationale	Works completed within
1	Significant danger of death, serious injury or damage to property A statutory requirement	As determined by surveyour and within 3 months
2	Potential for injury or damage to property To assist in further investigation	12 months
3	Works that are advisory to establish high levels of arboricultural / estate management and are not necessary for safety reasons in the short term. e.g. removal of young trees with structural defect Trees within areas of low occupancy	As budgets allow

9. FREQUENCY AND METHOD OF SURVEY

The surveyor will determine the most appropriate re-survey interval and method of survey based on the risk score of the tree. The resurvey interval will aim to ensure the tree is surveyed during a different season.

Indicative Re-Survey Intervals

Dependent on age, species and position typically:

Score	Frequency
2-6	2-5years
7	1-3.5 Year
8-10	At least every 12 months

Tree Survey Strategy

Occupancy zone/ Risk score	Method of Survey
Low - Low medium	Trees < 600mm diameter at 1.5m. No formal recording within woodland areas but observation and awareness of the general condition of the tree during periodic scoping surveys. (see also section 6) Trees > 600mm diameter at 1.5m. Rapid but careful search for clear defects
Medium	Rapid but careful search for clear defects
Medium High - High	Careful searches for clear defects especially in the crown and around the base of the tree
Trees with Risk score 8-10	Thorough inspection (14 month cycle) of trees showing significant defects, monitoring the rate of decline (8 month cycle)

10. PRESCRIBING REMEDIAL ACTION

The purpose of remedial tree works or actions for tree-related hazards is to remove or mitigate them to an acceptable level of risk.

Appropriate remedial action could include the following:

- Tree surgery
- Moving the target
- Bracing
- Restricting access
- Tree removal

Grounds Maintenance aims to manage the University's trees in a proactive way to make the tree stock more robust.

Proactive management will include the following:

- Correct planting, species selection and positioning of trees
- Formative pruning
- Identification and removal of future hazard trees or disease-susceptible species
- Appropriate selection of trees for retention on development sites

11. KEEPING RECORDS

Brief records of surveys, works required and tree hazard rating will be recorded onto the Arbortrack system for the life of the tree. The records of trees lost (Not through development, as this is recorded elsewhere) will be retained for one year.

12. COMPETENT PERSONS

A competent person is someone who has the technical expertise, training and experience to carry out tree surveys or inspections and prescribe appropriate remedial works.

Operatives undertaking survey, hazard assessment, or recommending remedial work, must have suitable experience within the arboricultural industry as well as appropriate qualifications. The minimum level of professional qualification should be;

- Survey work – Level 4 qualification or good technical experience with Professional Tree Surveyor qualification (Lantra)
- Consultancy work – Level 6 qualification with good technical experience and Professional Tree Surveyor qualification (Lantra)

13. DEAD WOOD AND STUMPS

Dead wood is an important natural resource and will be retained within tree canopies where appropriate. Fallen trees, monoliths, cut wood and old stumps are features that contribute significantly to the dead wood resource and will remain on site whenever this is practical. Standing dead wood will be reduced to a height so it will not be in falling distance of foot paths. Timber will be left too large to move and stacked in low piles preferably in areas difficult to access. Where stumps are retained for their habitat value or re-growth potential then they are cut high, at approximately 1m, to increase their visibility.

14. STORMS AND AFTERMATH SURVEYS

Following adverse weather conditions Grounds Maintenance will carry out informal, unrecorded “walk by” surveys to determine the extent of any damage. These scoping surveys will be prioritised to the high-risk zones. Any third party reports to the Estates Help Desk of trees in a potentially hazardous condition will be investigated as soon as possible.

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