Appendix A Tree Survey Schedule

(Management recommendations are made in the context of the site's current use)

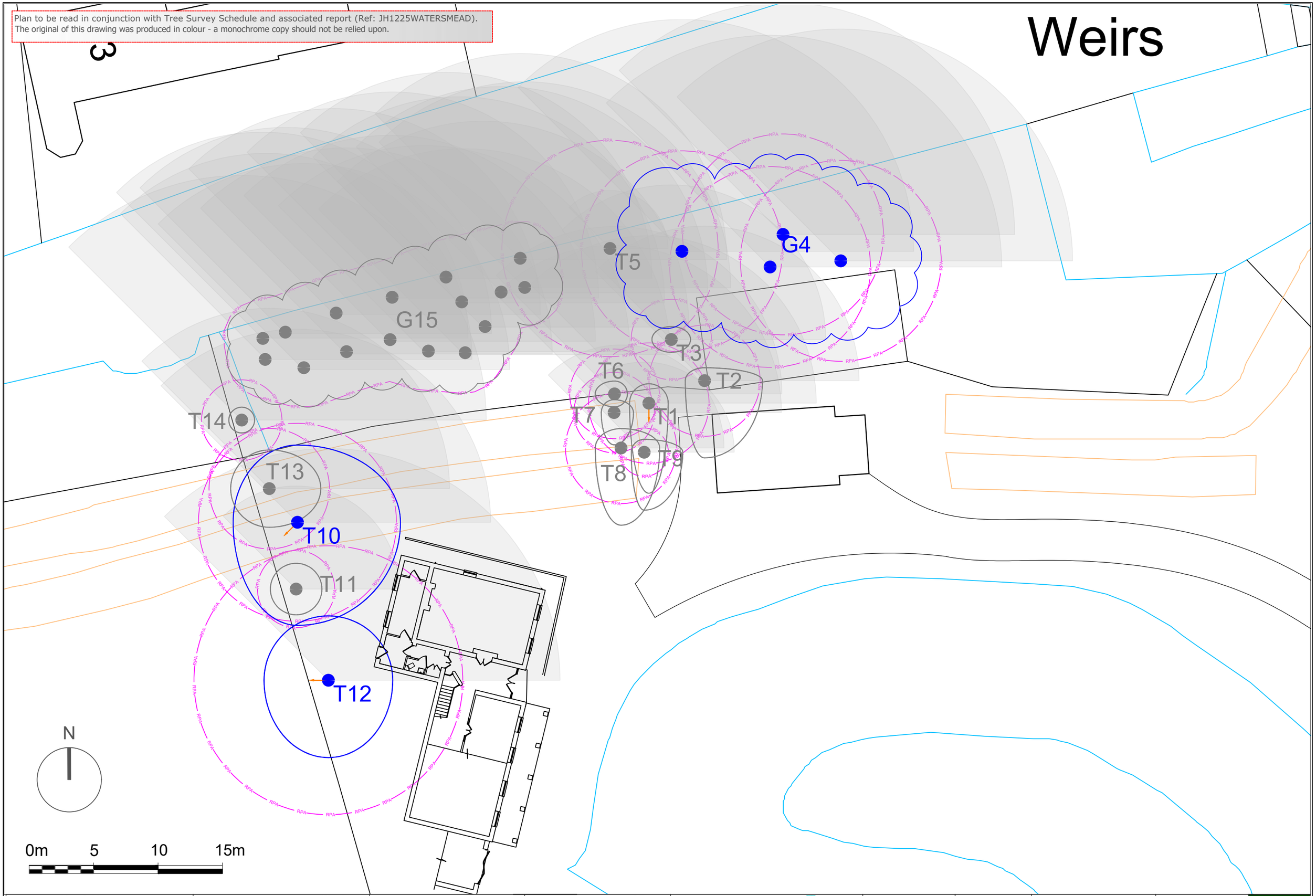
Tree Ref. No.	Species	Tree Height (m)	Stem Ø (mm)	Protective Linear Radius (m)	RPA m^2	Branch Spread (m)				FSB & Crown Height (m)		Life Stage	Condition, General Observations and Preliminary Management Recommendations (In bold).	Estimated Remaining Contribution	Category
						N	E	S	W	Significant Branch	Canopy				
T1	*Prunus avium* (Wild Cherry)	13	390	4.7	69	1.5	1.5	7	1.5	2.5S	1	M	Fair condition. Poor shape & form. Stem divides above 1.5m. Included bark present in fork. Unbalanced crown shape and form. Suppressed crown development. Pruning of lower branches evident. **No works necessary.**	10+	C3
T2	Betula pendula (Silver Birch)	12	360	4.3	59	1	4.5	6	1.5	-	4.5	M	Fair condition. Unbalanced crown shape and form. Suppressed crown development. Branches encroaching upon building. **Prune branch tips clear of building.**	10+	C3
T3	Silver Birch	12	260	3.1	31	1	1.5	1	1.5	-	4	M	Fair condition. Poor shape & form. Narrow, etiolated shape and form. Pruning of lower branches evident. **No works necessary.**	10+	C3
G4	*Tilia spp.* (Lime)	18	650	7.8	191	6	6	6	6	-	5	M	Fair condition. Pruning of lower branches evident. Average stem diameter applied. **No works necessary.**	20+	B2
T5	Lime	4.5	700	8.4	222	0.3	0.3	0.3	0.3	-	0	M	Poor condition. Access limited; diameter estimated. Epicormics on stem. High stump with no crown structure. **No works necessary.**	10+	C3
T6	Silver Birch	13	290	3.5	38	1	1	1	1.5	-	9	M	Fair condition. Poor shape & form. Narrow, etiolated shape and form. Suppressed crown development. **No works necessary.**	10+	C2
T7	Silver Birch	13	260	3.1	31	1	1.5	2.5	1	-	9	M	Fair condition. Poor shape & form. Narrow, etiolated shape and form. Suppressed crown development. **No works necessary.**	10+	C2
T8	*Taxus baccata* (Yew)	8	360	4.3	59	1.5	3	6	2	-	2.5	M	Fair condition. Poor shape & form. Limited rooting environment. Excavation evident within projected RPA. Unbalanced crown shape and form. Pruning of lower branches evident. **No works necessary.**	20+	C3

Tree Ref. No.	Species	Tree Height (m)	Stem Ø (mm)	Protective Linear Radius (m)	RPA m^2	Branch Spread (m)				FSB & Crown Height (m)		Life Stage	Condition, General Observations and Preliminary Management Recommendations (In bold).	Estimated Remaining Contribution	Category
						N	E	S	W	Significant Branch	Canopy				
T9	*Acer campestre* (Field Maple)	7	70	1.9	11	1	3	4.5	1	-	2	M	Poor condition. Multiple stems at ground level. Suppressed crown development. Past crown reduction/pruning evident. Pruning of lower branches evident. **No works necessary.**	10+	C3
T10	Yew	15	370	7.7	186	6	8	8	5	3SW	0.5	M	Fair condition. Multiple stems below 1.5m. Suppressed crown development. Pruning of lower branches evident. **No works necessary.**	20+	B3
T11	*Chamaecyparis lawsoniana* (Lawson Cypress)	8	250	3.0	28	2	2	2	2	-	2	M	Fair condition. Suppressed crown development. Notable swelling at root collar. **No works necessary.**	10+	C3
T12	*Metasequoia glyptostroboides* (Dawn Redwood)	18	870	10.4	342	5	5	6	5	3W	2	M	Fair condition. Tree located within hard surface area. Limited rooting environment; adjacent to hard surfacing. **No works necessary.**	20+	B2
T13	*Pinus nigra* (Austrian Pine)	14	390	4.7	69	3	4	3	3	-	9	M	Fair condition. Soil levels raised within projected RPA. Suppressed crown development. **No works necessary.**	10+	C2
T14	*Populus nigra 'Italica'* (Lombardy Poplar)	19	260	3.1	31	1	1	1	1	-	0	EM	Fair condition. Narrow, etiolated shape and form. Unable to inspect stem due to Ivy. **Removal would benefit development of adjacent trees.**	10+	C2
G15	Silver Birch, *Ilex aquifolium* (Holly), Yew, Lime & *Alnus glutinosa* (Common Alder)	16	250	3.0	28	2.5	2.5	2.5	2.5	-	0	EM	Fair condition. Narrow, etiolated shape and form. **Would benefit from thinning to promote development of understorey and/or individual trees.**	10+	C2

Appendix B Current Layout & Tree Survey Plan

Plan to be read in conjunction with Tree Survey Schedule and associated report (Ref: JH1225WATERSMEAD).
The original of this drawing was produced in colour - a monochrome copy should not be relied upon.

Weirs



Key & Notes	Cat C Trees & Groups	W1,W2,W3 etc... Woodland Tag	Shade Segment	Ground Protection Areas	FSB Direction	Date: December 2025	Plan to be read with associated report.
Cat A Trees & Groups	Cat U Trees & Groups	B1, B2, B3, B4 etc... Shrub Tag	H1, H2, H3 etc... Hedgerow Tag	Specialized Foundations	Title: Existing Tree Survey Plan		DWG:JH- TSP - 1 of 1
Cat B Trees & Groups	Trees/Groups for removal	Hedgerows	No-dig Surfacing Areas	Fencing Location / RPA Extent	Site: Watersmead, The Park, Tamworth Street, Duffield Derbyshire DE56 4ER		1:250 @A3

Outline Trees
Arboricultural Consultancy
4 Kings Drive
Littleover
Derby

Appendix C Proposed Layout & Tree Protection Plan

Plan to be read in conjunction with Tree Survey Schedule and associated report (Ref: JH1225WATERSMEAD).
The original of this drawing was produced in colour - a monochrome copy should not be relied upon.

Poplar tree T14 is recommended for removal. Tree is not protected by the TPO but afforded protection by Conservation Area.

Protective fencing erected and retained throughout duration of project.

No changes to soil levels within fenced off areas.

No impact on nearby trees; existing perimeter path and patio area retained without any changes.

Removal of trees T8 & T9 has been recommended to facilitate the project and provide a desirable layout juxtaposition. T9 is not protected by the TPO.

T5 G4 G15 T3 T6 T2 T14 T7 T1 T9 T8 T13 T10 T11 T12

N

0m 5 10 15m

Suggestions, recommendations and general guidance on new tree/shrub species (TBC) and planting methodology, are provided in Section DS10.

Table 1, BS 8545:2014 Trees: From Nursery to Independence in the Landscape – Recommendations

Table 1 Check list for trees prior to acceptance of delivery to site and planting

The tree	Points to check
Above ground	Check that the tree is true to type as specified. Check that there is a clearly defined straight leader. (This does not apply to multi-stem and weeping trees.) Check that there is a balanced branching framework typical of the species. Check that all lateral branches are subordinate to the central leader and evenly spaced along the central stem. Ensure that lateral branch diameter does not exceed 50% of stem diameter at the point of branch attachment. Check that there is a clearly defined stem taper Check that the ratio of height to stem diameter is balanced. Inspect for signs of incompatibility at graft and budding unions. Check that there are no crossing, co-dominant or included branches. Any minor damage incurred during transport should be rectified by pruning.
Below ground Bare root	Check that there is an evenly spaced lateral root system with a minimum of four major lateral roots. Check that there are evenly distributed fibrous roots at a density commensurate with the species being planted. Check that roots have been fully protected during transport and storage and do not show any signs of desiccation. Any minor damage incurred during transport should be rectified by pruning. Make sure the root system is fully protected until the tree is actually planted.
Rootball	Check that the rootball is intact (made-up rootballs with trees that have not been transplanted during the production process should have been rejected on delivery from the nursery). Check that the root flare is clearly visible at the top of the actual rootball. Any mounding of soil (which might or might not contain fine root) above the root flare should be removed. (The visibility of the root flare can be impeded by the hessian, wire or ropes used to wrap the rootball.) Check that the rootball has not dried out during transport and storage and take remedial action if necessary prior to planting. If there is wire or rope circling the main stem to secure the rootball cage, ensure that it is removed prior to planting. Remove the wire cage where practicable. If this cannot be done, peel back the wire cage and hessian once the tree is in the planting pit.
Containerized	Remove the container prior to planting. Fibrous roots in containers should hold the compost ball together once the container is removed. If the compost ball falls apart the tree should be rejected as there has been inadequate root development. Ensure that any fibrous root growth or excess compost above the root flare is removed and that the root flare is clearly visible prior to planting. Shave off any minor roots that are showing evidence of circling. (Trees with major circling roots should have been rejected on delivery.) Ensure that the container compost is moist at planting.
Trees with major damage, whether above or below ground, should be rejected.	

Key & Notes	Cat C Trees & Groups	W1,W2,W3 etc... Woodland Tag	Shade Segment	Ground Protection Areas	FSB Direction	Date: December 2025	Plan to be read with associated report.	Outline Trees Arboricultural Consultancy 4 Kings Drive Littleover Derby
Cat A Trees & Groups	Cat U Trees & Groups	B1, B2, B3, B4 etc... Shrub Tag	H1, H2, H3 etc... Hedgerow Tag	Specialized Foundations	Title: Existing Tree Survey Plan		DWG:JH- TSP - 1 of 1	
Cat B Trees & Groups	Trees/Groups for removal	Hedgerows	No-dig Surfacing Areas	Fencing Location RPA Extent	Site: Watersmead, The Park, Tamworth Street, Duffield Derbyshire DE56 4ER		1:250 @A3	

Appendix D Protective Fencing Signage


PROTECTIVE FENCING. THIS FENCING MUST BE MAINTAINED IN ACCORDANCE WITH THE APPROVED PLANS AND DRAWINGS FOR THIS DEVELOPMENT.


TREE PROTECTION AREA
KEEP OUT !
(TOWN & COUNTRY PLANNING ACT 1990)
TREES ENCLOSED BY THIS FENCE ARE PROTECTED BY PLANNING CONDITIONS AND/OR ARE THE SUBJECTS OF A TREE PRESERVATION ORDER.
CONTRAVENTION OF A TREE PRESERVATION ORDER MAY LEAD TO CRIMINAL PROSECUTION
ANY INCURSION INTO THE PROTECTED AREA MUST BE WITH THE WRITTEN PERMISSION OF THE LOCAL PLANNING AUTHORITY

Appendix E References

British Standards Institute (BSi) BS 5837:2012, Trees in relation to design, demolition and construction – Recommendations.

(BSi) BS 3998:2010, Tree Work - Recommendations.

Department for Communities and Local Government (2014) Tree Preservation Orders and Trees in Conservation Areas.

Arboricultural Practice Note Number 12 (2007) Through the Trees to Development. Arboricultural Advisory and Information Service

Arboricultural Guidance note 12 (2020) The Use of Cellular Confinement Systems Near Trees: A Guide to Good Practice

Forestry Commission (2007) Tree Felling – Getting Permission.

National House Building Corporation (NHBC) 2003. Standards, Chapter 4.2. Building near trees.

Claus Mattheck (2007) Updated field guide for Visual Tree Assessment.

Davis, C., Fay, N & Mynors, C. (2000). Veteran Trees: a guide to risk and responsibility.

Helliwell, D.R. (1967). The Amenity Value of Trees and Woodlands. Journal of Arboricultural Association 1, 128–131.

Watson G. & Green T. (2011) Fungi on Trees; An Arborist's Field Guide. Arboricultural Association

Dobson M. (1995) Arboricultural Research & Information Note 130/95/ARB – Tree Root Systems

Appendix F Life Stage & Condition Key

Condition
Good
Those trees that appear to be relatively free from physiological symptoms and any visible signs of structural defects, which also exhibit normal signs of vitality and vigour when compared with trees of a similar species in a similar environment.
Fair
Those trees that exhibit some minor/manageable physiological, or structural defects or display evidence of minor remedial pruning, which also exhibit normal signs of vitality and vigour when compared with trees of a similar species, in a similar environment.
Poor
Those trees that exhibit a higher level of defects and/or significant past pruning works, which might also exhibit comparatively lower signs of vitality and/or vigour when compared with trees of a similar species, in a similar environment.
In Decline
Those trees that are close to the end of their activated useful life expectancy and displaying associated symptoms of branch/crown die back and/or low vigour.

Life Stage *
Newly Planted
Those trees that have been planted in the past 5 years.
Young
Those trees that are considered to be in the first third of their life expectancy.
Semi to Early Mature
Those trees that have not yet reached maturity and can be considered to be in the second third of their life expectancy.
Mature
Those trees that can be described as being in the final third of their life expectancy.
Over Mature
Those trees that can be described as having exceeded their life expectancy that have yet to replicate those features typical of Veteran trees.
Veteran
A tree that exhibits typical signs and characteristics of such that is described in the introduction of Veteran Trees: A guide to risk and responsibility (Davis, Fay & Mynors 2000)

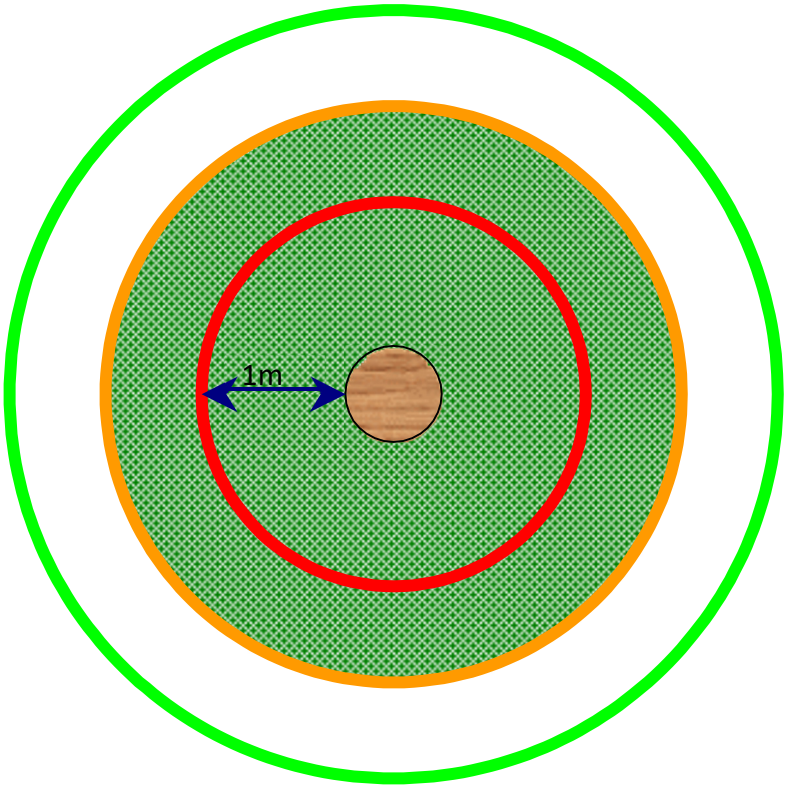
* Typical useful life expectancy of common trees. (Taken from Helliwell's Amenity Tree Valuation notes)

300+	- Yew
200-300	- Oak, Sweet Chestnut, Plane, Sycamore, Lime
150-200	- Scots Pine, Hornbeam, Beech, Tulip tree, N Maple, Lebanon Cedar
100-150	- Ash, Spruce, Walnut, Red Oak, Horse Chestnut, Field Maple, Monkey Puzzle, Mulberry, Pear
70-100	- Rowan, Whitebeam, Apple, Wild Cherry, Catalpa, Robinia, Ailanthus
50-70	- Poplars, Willows, Cherries, Alders, Birches

Appendix G NJUG Operatives Hand Out

The National Joint Utilities Group

NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees – Issue 2



TREE PROTECTION ZONE

Key to Diagram

Trunk of Tree

Spread of canopy or branches

PROHIBITED ZONE – 1m from trunk. Excavations of any kind must not be undertaken within this zone unless full consultation with Local Authority Tree Officer is undertaken. Materials, plant and spoil must not be stored within this zone.

PRECAUTIONARY ZONE – 4 x tree circumference. Where excavations must be undertaken within this zone the use of mechanical excavation plant should be prohibited. Precautions should be undertaken to protect any exposed roots. Materials, plant and spoil should not be stored within this zone. Consult with Local Authority Tree Officer if in any doubt.

PERMITTED ZONE – outside of precautionary zone. Excavation works may be undertaken within this zone however caution must be applied and the use of mechanical plant limited. Any exposed roots should be protected.

DAMAGE TO TREES

Tree roots keep a tree healthy and upright. Most roots are found in the top 600mm of soil and often grow out further than the tree's height. The majority of these roots are very fine; even close to a tree few will be thicker than a pencil. Most street tree roots grow under the footway but may also extend under the carriageway. If roots are damaged the tree may suffer irreversible harm and eventually die.

PROTECTING ROOTS - DO'S and DON'TS

There are three designated zones around a tree each of which has its own criteria for working practices.

THE PROHIBITED ZONE

Don't excavate within this zone.

Don't use any form of mechanical plant within this zone.

Don't store materials, plant or equipment within this zone.

Don't move plant or vehicles within this zone.

Don't lean materials against, or chain plant to, the trunk.

Do contact the local authority tree officer or owner of the tree if excavation within this zone is unavoidable.

Do protect any exposed roots uncovered within this zone with dry sacking.

Do backfill with a suitable inert granular and top soil material mix as soon as possible on completion of works.

Do notify the local authority tree officer or the tree's owner of any damage.

THE PRECAUTIONARY ZONE

Don't excavate with machinery. Where excavation is unavoidable within this zone excavate only by hand or use trenchless techniques.

Don't cut roots over 25mm in diameter, unless advice has been sought from the local authority tree officer.

Don't repeatedly move / use heavy mechanical plant except on hard standing.

Don't store spoil or building material, including chemicals and fuels, within this zone.

Do prune roots which have to be removed using a sharp tool (*e.g. secateurs or handsaw*). Make a clean cut and leave as small a wound as possible.

Do backfill the trench with an inert granular material and top soil mix. Compact the backfill with care around the retained roots. On non-highway sites backfill only with excavated soil.

Do protect any exposed roots with dry sacking ensuring this is removed before backfilling.

Do notify the local authority tree officer or the tree's owner of any damage.

THE PERMITTED ZONE

Don't cut roots over 25mm in diameter, unless advice has been sought from the local authority tree officer.

Do use caution if it is absolutely necessary to operate mechanical plant within this zone.

Do prune roots which have to be removed using a sharp tool (*e.g. secateurs or handsaw*). Make a clean cut and leave as small a wound as possible.

Do protect any exposed roots with dry sacking ensuring this is removed before backfilling.

Do notify the local authority tree officer or the tree's owner of any damage.

Appendix H BS5837:2012 Cascade Chart for Tree Quality Assessment

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. *NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see **BS5837 Sect. 4.5.7**.*			Colour; Red
	1 Mainly arboricultural qualities	**2 Mainly landscape qualities**	**3 Mainly cultural values, including conservation**	
Trees to be considered for retention				
Category A **Trees of high quality** with an estimated remaining life expectancy of at least 40 years.	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).*	Colour; Mid Green
Category B **Trees of moderate quality** with an estimated remaining life expectancy of at least 20 years.	Trees that might be included in category A, but are downgraded because of impaired condition *(e.g., presence of significant though remediable defects, including unsympathetic past management and storm damage)*, such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation.	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality.	Trees with material conservation or other cultural value.	Colour; Mid Blue
Category C **Trees of low quality** with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm.	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories.	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits.	Trees with no material conservation or other cultural value.	Colour; Grey

Appendix I Glossary of Terms & Definitions

Arboriculturist - person who, through relevant education, training and experience, has gained recognized expertise in the care of trees.

Branch/Crown Reduction - operation that results in an overall reduction in the height and/or spread of the crown of a tree by means of a general shortening of twigs and/or branches, whilst retaining the main framework of the crown.

Canopy/Crown - that part of a tree which is composed of the branches and foliage.

Cavity - hole in a tree resulting from decay or damage.

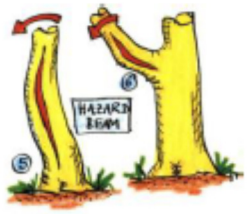
Crotch/Fork - forked region formed by the junction of a branch and the stem, or by two branches.

Crown Lifting - removal of lower branches to achieve a stated vertical clearance above ground level or other surface.

Epicormic Shoot - growth from dormant or adventitious buds on the stem or main branches.

Facilitation Pruning - tree pruning works, the nature and effects of which are without significant adverse impact on tree physiology or amenity value, which is anticipated as being necessary to provide access for construction associated activities on site.

Hazard Beam – a type of structural defect present on a branch, which has internal, longitudinal cracks present (see image below).



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Heartwood - central core of mature and hardened timber.

Included Bark - bark tissue lodged in the union between a branch and the parent stem, in the crotch of two branches, or between the bases of co-dominant stems, indicating potential weak attachment.

Minor Deadwood - deadwood which appears to have a stem diameter <30mm.

Root Protection Area (RPA) - layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority.

Stem - principal above-ground structural component of a tree that supports the branches;

- 'Stem' is synonymous with 'trunk' for single-stemmed trees, particularly those of a large diameter.
- This either extends throughout most of the height of the tree (primary stem), or is one of a number of such components (secondary stems) which divide from each other either near the ground or at a higher level.
- Trees comprising two or more stems arising from, or immediately above, ground level are commonly referred to as 'twin-stemmed' or 'multi-stemmed'.

Stub - broken or severed short remaining section of a branch extending beyond a crotch.

Wound - injury to a tree caused in a biotic or abiotic manner.

Appendix J Arboricultural Supervision Record Template

Development Stage (DS) Audit Record

Record to be maintained throughout duration of project by Site Arboriculturalist (SA), Site Manager (SM) or other appointed persons; examples provided.

Development Stage *DS1, DS2 etc…*	**Nature of record** *e.g. site meeting, delivery, new contractor on site, incident etc…*	**Date of Record**	**Comments, Observations, Actions taken etc…**	**Recorded by:**
DS2	*Site Meeting; Site Manager & Site Arboriculturalist*	*06/05/25*	*Checks to protective fencing distances made; adjustments recommended.*	*SA*
DS3	*Appropriate tree works recommended by SA*	*06/05/25*	*Pruning works made in order to implement proposals and negate pruning pressures.*	*SA*

Watersmead, Duffield