

Appendix 1 Tree survey and explanatory notes

Tree Survey Schedule

Site: 3 Loom Place
 Date of Survey: 22/06/2023
 Arboricultural Consultant/Surveyor: J Choat
 Weather: Dry, light wind.

Tree ref	Species Common and Scientific	Height in m	Stem diameter in mm	Radial distance required for RPA	Branch spread				Height of crown clearance in m	Age class	Ground condition	Water demand	Observations	Preliminary management recommendations	Works urgency	Estimated remaining contribution in years	Category grading
					N	E	S	W									
T1	Cherry Plum Prunus cerasifera	5	350	4.2	3	3	3	1	2	M	Shingle	Moderate	Stem forks at 1m, compression fork formed at 1m. Slight suppressed crown.	None	0	10	C1
T2	Scots Pine Pinus sylvestris	17	460	5.52	4	4	4	4	5	M	Shingle	Moderate	Good condition.	None	0	30	A1
T3	Cherry Plum Prunus cerasifera	7	290	3.48	3	3	3	1	2	M	Shingle	Moderate	Stem forks at 2m, compression fork at 2m with included union. Slight suppressed crown.	None	0	10	C1
T4	Cherry Sp Prunus Sp	12	390	4.68	5	5	5	5	2	M	Shingle	Moderate	Stem forks at 2m to form tensile fork, small inclusion on driveway side. Slightly sparse crown. Buttress causing damage to driveway join. Large surface root running length of driveway and along side alley to rear garden.	None	0	15	C1
T5	Lawson's Cypress Chamaecyparis lawsoniana	8	490	5.88	1	1	1	1	2	M	Bare soil	High	Compression fork at 1m, basal sweep. Topped at 8m	None	0	10	C1
T6	Lawson's Cypress Chamaecyparis lawsoniana	8	490	5.88	1	1	1	1	2	M	Bare soil	High	Topped at 8m	None	0	10	C1
T7	Lawson's Cypress Chamaecyparis lawsoniana	8	600	7.2	2	2	2	2	2	M	Bare soil	High	Leaning stem. Topped at 8m	None	0	10	C1
T8	Holly Ilex aquifolium	6	180	2.16	1	1	1	1	0	EM	Bare soil	Low	Clad in bramble.	Clean bramble from stem.	2	20	C1
T9	Apple Sp Malus Sp	12	424	5.088	4	4	4	4	4	EM	Bare soil	Moderate	3rd party unable to assess. Twin stem, DBH 300 300. Ivy clad.	None	0	20	C1
T10	Fir Sp. Abies Sp.	19	350	4.2	2	2	2	2	3	M	Bare soil	Moderate	3rd party unable to assess.	None	0	20	B1
G1	Lawson's Cypress Chamaecyparis lawsoniana	17	300	3.6	1	1	1	1	2	M	Bare soil	High	3rd party unable to assess. Sparse crown.	None	0	20	C1

T11	Silver Birch <i>Betula pendula</i>	18	660	7.92	3	5	5	3	4	M	Grass	Low	Slightly asymmetric crown. Aged tree for species.	None	0	15	B1
T12	Silver Birch <i>Betula pendula</i>	17	350	4.2	2	2	2	2	10	EM	Grass	Low	Dying, poor condition,	Fell	3	5	C1
T13	Silver Birch <i>Betula pendula</i>	17	400	4.8	2	2	2	2	10	EM	Grass	Low	Dying, poor condition, Black lesions on stem, indicative of honey fungus.	Fell	3	5	C1
T14	Silver Birch <i>Betula pendula</i>	17	450	5.4	2	2	2	2	10	EM	Grass	Low	Dying, poor condition, Black lesions on stem, indicative of honey fungus. Only 1 live lateral.	Fell	3	5	C1
T15	Silver Birch <i>Betula pendula</i>	18	440	5.28	4	2	4	4	4	M	Grass	Low	Slightly asymmetric crown.	None	0	15	B1
T16	Yew <i>Taxus baccata</i>	5	180	2.16	2	2	2	2	0	Y	Grass	Moderate	Good condition.	None	0	20	C1
T17	Norway Spruce <i>Picea abies</i>	6	100	1.2	2	2	2	2	0	Y	Grass	Moderate	Good condition.	None	0	20	C1
G2	Leyland cypress <i>Cupressus x leylandii</i>	15	300	3.6	2	2	2	2	0	EM	Bare soil	High	Close planting centres. Group sharing crown space.	None	0	15	C1
T18	Beech <i>Fagus sylvatica</i>	10	330	3.96	4	4	4	2	1	Y	Bare soil	Moderate	Slightly asymmetric crown.	None	0	20	B1
T19	Holly <i>Ilex aquifolium</i>	6	180	2.16	1	1	1	1	0	EM	Bare soil	Low	Abnormal taper.	None	0	20	C1
G3	Beech <i>Fagus sylvatica</i>	8	150	1.8	2	2	2	2	1	Y	Bare soil	Moderate	Planted at 0.5m centres. Distorted stems and crown due to planting proximity.	None	0	15	C1
T20	Monterey Cypress <i>Cupressus macrocarpa</i>	18	680	8.16	5	5	5	5	1	M	Bare soil	Moderate	Slightly open crown habit. Occasional small torn laterals. Could be removed in favour of T21 which is a more desirable species for the rear garden location.	None	0	20	B1
T21	Pear <i>Pyrus communis</i>	8	440	5.28	2	2	2	2	2	M	Bare soil	Moderate	Compression fork at 2m. some crown decline west side likely due to shading.	None	0	20	B1
G4	Leyland cypress <i>Cupressus x leylandii</i>	7	100	1.2	1	1	1	1	0	EM	Bare soil	High	Close planting centres. Group sharing crown space.	None	0	10	C1

H1	Beech <i>Fagus sylvatica</i>	3	100	1.2	1	1	1	1	0	Y	Bare soil	Moderate	Maintained at current height and spread.	None	0	15	C1
H2	Beech <i>Fagus sylvatica</i>	3	100	1.2	1	1	1	1	0	Y	Bare soil	Moderate	Maintained at current height and spread.	None	0	15	C1

Explanatory Notes

Referencing

Each tree is given a unique reference number and plotted on the attached plans for clear identity. Individual trees are referenced as T1, T2 etc., Groups G1, G2 etc. Hedgerows H1, H2 etc. and Woodlands W1, W2 etc.

Species

All species are recorded using common names. Identification is made using experience and knowledge.

Tree dimensions

Tree height is measured and recorded in meters and taken from the base of the stem to the tip of the crown. Height is estimated using experience and knowledge.

Diameter at Breast Height (DBH) is measured at approximately 1.5m from the ground up the stem and is measured and recorded in millimeters. DBH is measured accurately using a diameter tape.

Crown spread is measured in meters from the stem to the extent of the crown spread to each compass point (NESW). Crown spread is estimated using experience and knowledge.

Crown clearance is the height from ground level to the lowest branch and is measured in meters. Crown clearance is estimated using experience and knowledge.

Age class

Age class falls in to 4 categories:

Y	Young
EM	Early Mature
M	Mature
OM	Over Mature

Observations

The biological condition of the tree is assessed and noted. Notable defects are recorded; fruiting bodies, cankers, die back, exudates, etc. are recorded.

The mechanics of the tree are assessed and noted. Notable defects are recorded; buckling, rib formation, stresses, bulges, soil cracks, large cavities or wounds, tight branch junctions, etc. are recorded.

Preliminary management recommendations

Tree management is recommended following the assessment of physiological and structural condition. Recommended works may include, no work required, crown reduction, crown lift, fell, crown thin, monitor etc.

Estimated remaining contribution in years

An estimate of remaining life expectancy recorded in years. Estimated remaining contribution is made using experience considering the structural and physiological condition of the tree, nuisance, previous management, etc.

Category grading and colour coding on plan

A (Green square) high quality and value

B (Blue square) moderate quality and value

C (Grey square) low quality and value

U (Red Square) those that cannot be retained as living trees

Sub categories

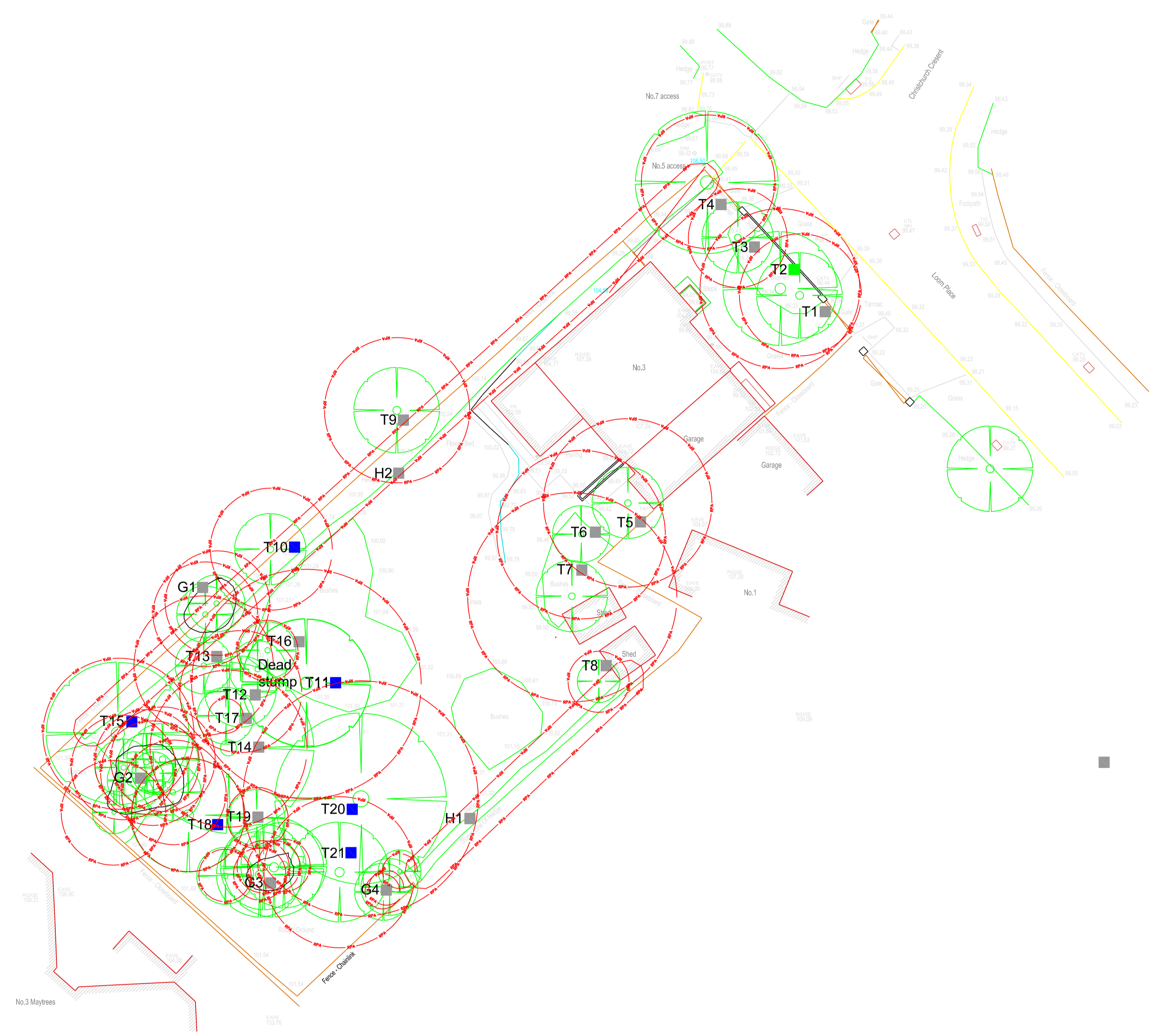
- 1 arboricultural values
- 2 landscape values
- 3 cultural values, including conservation

Works priority

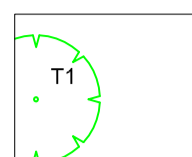
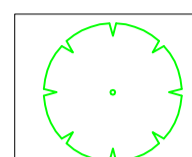
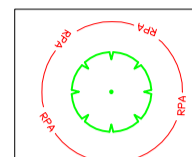
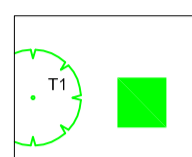
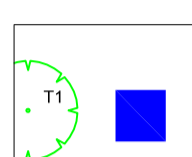
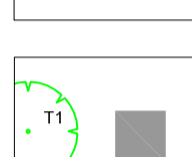
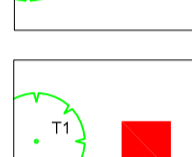

- 1 Works required immediately to make the tree safe
- 2 Works required within 60 days
- 3 Works required as part of routine operations
- 0 no works required

TPS

Appendix 2 Tree survey and constraints plan



Legend:

- Tree reference 
 - Tree and crown spread 
 - Root protection area 
 - BS 5837 Retention Category A 
 - BS 5837 Retention Category B 
 - BS 5837 Retention Category C 
 - BS 5837 Retention Category U 
- 

Notes:

This drawing was produced in colour; a monochrome copy should not be relied upon.

Project: 3 Loom Place, Radlett

Drawing Title: Tree Survey and Constraints Plan

TPS
Arboricultural Consultancy

25 Frietuna Road
Frinton On Sea
Essex
CO130QP
T +44 (0)7813204621
E info@treeplanningsolutions.co.uk
W www.treeplanningsolutions.co.uk

Date: 23rd June 2023

Scale: 1:200 @ A1

Drawing Number: TPSQU0079 TSCP

Appendix 3 Barrier construction profile

Permission to reproduce extracts from BS 5837:2012 is granted by the British Standards Institution (BSI). No other use of this material is permitted. The complete British Standard can be purchased from the BSI online shop: <http://shop.bsigroup.com/en/ProductDetail/?pid=00000000030213642>

Diagram 1 Weldmesh panels with block supports pegged to brace light impact

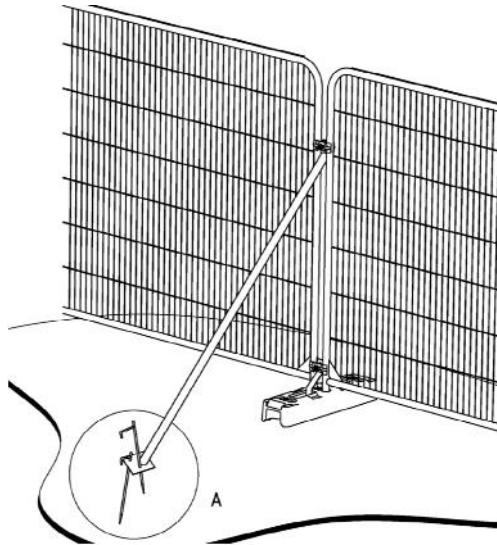


Diagram 2 Weldmesh panels with block supports and further block supports to brace intermediate impacts

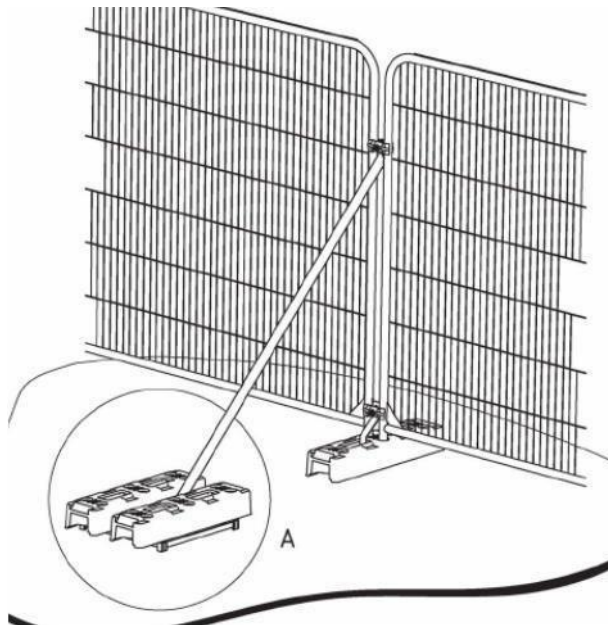
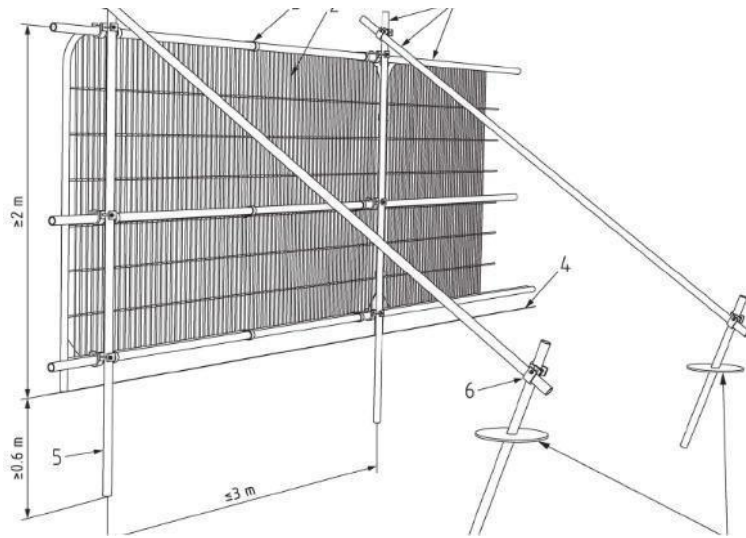


Diagram 3 Weldmesh panels with scaffold frame posts driven into the ground to brace heavy impacts



Construction Exclusion Zone

These trees have been retained and protected as part of the planning permission for this site.

Any breach of the protection will result in enforcement action from the Local Authority.



Appendix 5 Tree protection plan



Key Arboricultural Work Phasing

All methods, statements below and annotations to the plan are to be read in conjunction with the arboricultural impact assessment (TPSQU079)

The installation and removal of the tree protection is to be supervised by the project arboriculturalist and confirmed as correct as per the monitoring specification section 10.8.3 - 10.8.4 within the accompanying impact assessment (TPSQU079). Further monitoring assessments during the construction phase are recommended within the monitoring specification, the condition of the tree protection will be assessed during each visit.

Phase 1 - Tree works - See section 7 of accompanying impact assessment, no vehicle movements within the RPA.

Phase 2 - Build / demolition phase barrier protection

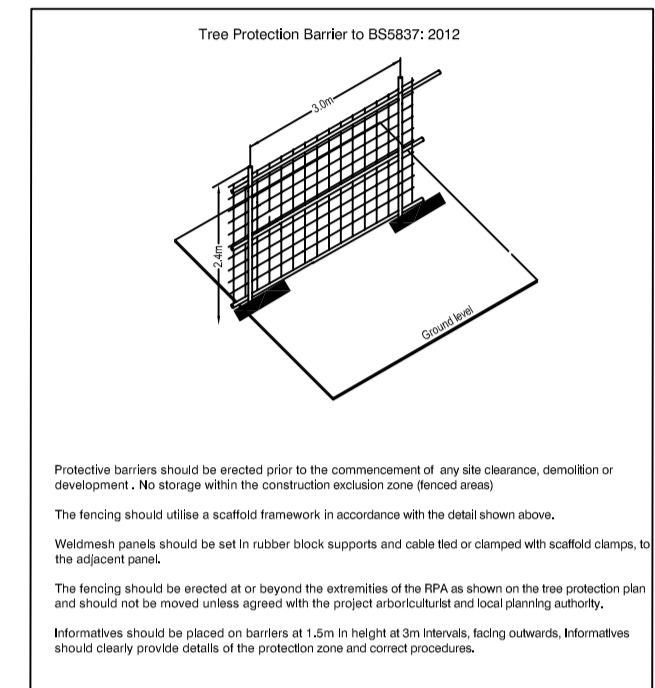
- Erect scaffold frame as per drawing provided below and location shown to left
- Install mesh panels, 100 mm rubber block supports and cable ties to scaffold frame and to each additional panel ensuring continuous barrier. A gap for garden maintenance may be created but no wider than 500mm.
- Cable tie weatherproof infill to barrier

Phase 3 - Intensive build phase. Supervised mechanical excavation within the RPA of T9. End phase of work removal of the existing driveway to original construction depth and installation of new surface.

Phase 4 - Soft and hard landscaping phase barrier protection

- Move barriers to ensure protection of the stem and as much of the crown as possible while allowing access to compact the prepared soft and hard landscaping. See method statement below and accompanying impact assessment.

Phase 5 - Removal of ground and barrier protection. Temporary barrier is to be removed first then any ground protection on the end phase of development once the masonry build and landscape work is complete.



Construction Exclusion Zone

No access is permitted

The trees beyond this protected zone are subject to planning conditions and statutory protection.

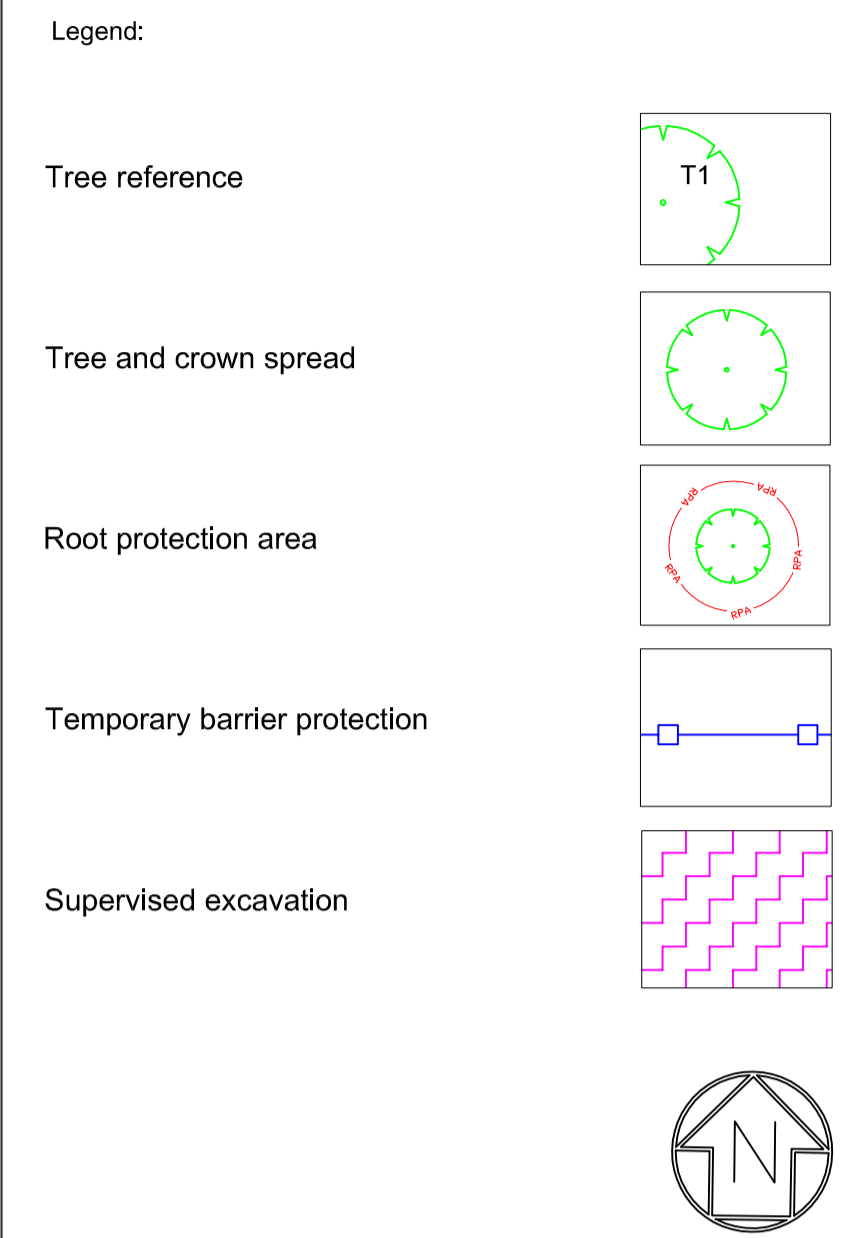
Any breach of this zone will result in enforcement action by the Local Authority

Works to be completed once tree barrier protection is installed - Sequential method statement for supervised mechanical excavation for construction of the foundations within the RPA of T9, removal of the existing driveway (end phase) from within the RPA of T9 and hard landscaping (end phase) within the RPA of T10.

- Foundations - Using a mechanical excavator and antioverhead digging bucket working from outside of the RPA on from outside ground protection as described in section 8 of the plan and away from the tree, scrape 200mm of the existing soft surface / area for construction of the foundations. Following each soil scrape interval, the project arboriculturalist is to check the exposed area for roots. If roots are encountered see point 2 onwards below. Repeat the soil scrape process to the required construction depth - (TBC by project structural engineer), the same method as above can be applied to T10 as an end phase of development. Removal of the existing driveway (end phase) - Break out using hand-cut concrete breakers. Remove by hand and hand hammer all debris and store outside of RPA. Remove sub base to original construction depth, assumed to be 150-200mm, if roots are encountered see point 2 onwards below.
- Where roots are visible and will not damage from movement, path to side of pit or downwards and pin using a hazel rod or soil.
- Any exposed roots should immediately be wrapped or covered in damp hessian to prevent desiccation and to protect them from rapid temperature changes.
- If required, sever any roots with a diameter less than 25mm (use a sharp tool to provide a clean cut across the cross section near to a root junction/growth point).
- Avoid severing roots greater than 25mm or clumps of roots (root mats). If this is necessary, then repair an arboriculturalist to attend the site to assess their impact upon the health and future stability.
- Prior to backfilling any roots should be removed from the protection wrapping and surrounded by sharp sand or other coarse granular fill, before soil or other material is replaced. The scaffold is to be free from any constraints or foreign objects.
- Monitor tree health during next 2 growth seasons. Check leaf colour, size, density and extension growth.

Soft surfaces within RPA

- No tractor mounted or heavy plant (including any trolleys) to be used unless working on surface T6 for purpose to reduce / spread load and prevent soil compaction.
- Cultivation is to be completed using manual hand tools only.
- Existing soil is to be used, where additional soil is required it should be contamination free, well drained and suitable FFI, texture and structure for the site and planting existing trees / shrubs.
- Damage to roots is to be avoided, large structural roots may be seen at or near the surface and where they radiate from the stem of the tree from large buttresses. After around 4m radial distance structural roots tend to taper to around 30m diameter.
- Changes in ground levels are to be avoided, any lowering or raising of levels should be carried out using a suitable method statement that provides continued soil conditions of gas exchange and water penetration.
- Planting is to be done with care and to avoid severing tree roots generally, planting should be completed outside the RPA.



Notes:

This drawing was produced in colour, a monochrome copy should not be relied upon.

Project: 3 Loom Place, Radlett

Drawing Title: Tree Protection Plan

TPS
Arboricultural Consultancy

25 Frietuna Road
Frinton On Sea
Essex
CO130QP
T +44 (0)7813204621
E info@treeplanningsolutions.co.uk
W www.treeplanningsolutions.co.uk

Date: 6th July 2023
Scale: 1:200 @ A1

Drawing Number: TPSQU0079 TPP

TPS

Appendix 6

Example of arboricultural monitoring form

Tree Planning Solutions

Contract Monitoring Form

Details

Date	
Time	
Surveyor	
Client	
Site	
Ref	

Trees

Tree ref	Condition	Recommendations

Barrier

Tree ref	Barrier type	RPA radial distance as per planning permission	Actual barrier radial distance at site	Condition of barrier	Condition of signage	Comments

Tree Planning Solutions

Ground Protection

Tree ref	Type of ground protection installed	RPA distance as per planning permission	Actual distance of ground protection at site	Condition of ground protection	Comments

Additional Comments