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Site Specific Arboricultural Survey & Method Statement (AMS)

Land at rear of 65 Maygrove Road and Maygrove House, London NW6

Richard Wassell MIHort NDArb(RFS)Kew Diploma NEBOSHlevel3

12th December 2011

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Client

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Scope of Report

This document has been produced to provide a survey of trees in the surrounding demises to the land at 65 Maygrove Road, which are close to the proposed development zone of that site and to describe specific information on protection of those trees as required.

This is intended to support the planning application for development of this site.

The tree survey for the site can be found in appendix 3 below

Abbreviations:

All abbreviations introduced in brackets are used throughout the report

Tree Protection Fencing (TPF) & Tree Protection Plan (TPP)

There are no trees within the demise of the site at 65 Maygrove Road and the site is surrounded by a permanent vertical metal palisade(north boundary) and chain link(east boundary) fence at 2 metres high, which acts as TPF to the nearby surrounding trees.

If during the construction phase this fence has to be taken down then it shall be replaced with the TPF as described below, keeping to the same line and prior to any construction work continuing in that zone.

The TPF shall be as described within the appended pdf: BS5837 Tree Protection Barrier Specification.

This specification meets the requirements to protect retained trees as described within BS5837 clause 7. The fencing when erected shall have signs to protect the Tree Protection Zone (TPZ) as per the appended pdf: TPZ Keep Out Notice (SG1) and securely fixed to all TPF panels.

Protection of Existing Surfaces within Root Protection Area (RPA) of Nearby Trees

Due to all the trees surveyed being outside the site boundary there will not be a requirement for RPA protection as this is provided for by the TPF as in the above para.

Post holes for site hoarding that are required within the RPA of nearby trees shall be dug by hand and are to be a maximum of 300 x 300mm and 450mm deep – see section below on excavation within the RPA in appendix 1

Access Facilitation Pruning & Tree Works

Currently there is not a requirement for any tree works to the nearby trees.

It may become a requirement for certain trees to be pruned to prevent damage by construction related plant and machinery. If this is the case then any work shall be undertaken by a competent Arborist as described in Appendix 2 below

Site Access and Construction Working Area (CWA)

Arrangements for these elements of the development of the site are unknown as at time of writing this report. Both aspects will be carefully considered using the AS below to advise on protection of nearby trees prior to commencement on site.

Site Storage and Accommodation

Arrangements for these elements of the development of the site are unknown as at time of writing this report. Both aspects will be carefully considered using the AS below to advise on best location to provide for protection of nearby trees prior to commencement on site.

Impact on Trees from Foundation Construction

The nature of this site will require a considerable amount of excavation work to achieve the design proposal.

It is proposed to off-set the piled retaining wall along the North-East zone closest to tree T2 by a minimum of 1.5 metres. This will provide enough rooting space to minimise any potential impact to that tree.

It is proposed to off-set the piled retaining wall along the South and South-East zone closest to tree T9 by a minimum of 2.5 metres and a minimum of 3 metres from trees T11 and T12. This will provide enough rooting space to minimise any potential impact to those trees. Tree T10 will not be affected.

It is proposed to off-set the piled retaining wall along the Eastern boundary line by between 1 to 1.5 metres from the existing chain link fence line. This should provide enough space for the young trees that have grown up along this fence line to survive in the future with good Arboricultural management.

** **Please see Appendix 1-section on Excavation within RPA of Trees****

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Installation of Services

Arrangements for this element of the development of the site are unknown as at time of writing this report. Service routes will be carefully considered using the AS below to advise on protection of nearby trees prior to commencement on site.

Conclusion

The proposed development of the land at 65 Maygrove Road has been designed as far as reasonably practical to minimise the impact on the surrounding trees to the site. The planted trees within the Maygrove Peace Park are an important local amenity and need to be given the best protection during the construction phases of this proposal and also adequate good Arboricultural management in the future.

Arboricultural Supervision (AS)

AS shall be required during work within and adjacent to the RPA of retained trees. It must be undertaken at regular intervals with a written record of the meetings maintained and photographs taken if required. The AS must include a pre-construction commencement site visit and thereafter at intervals of not less than 2 weeks until completion or more regularly if found necessary by site requirements.

Tree Grading Categories

**** Grading Category:** As per BS 5837:2005 Table 1 – Tree quality assessment, which refers to tree quality and landscape/amenity value; A=high, B=moderate, C=low, R=trees of poor quality that require removal **

** Please refer to Tree Survey Schedule in Appendix 3 for description of trees categorized **

Trees for retention:

1 Category A trees = none

2 Category B trees = 5 trees

3 Category C trees = 8 trees

Trees for removal:

1 Category R trees = none

References

1. BS 5837 – 2005 Trees in Relation to Construction – Recommendations
2. Wassells Arb. Tree Survey and Location Plan dated 12/12/2011
3. 65 Maygrove Road Picture Gallery Zip file

4. Smith Lam Architects – Dwg. A102 Rev.B
5. Smith Lam Architects – Dwg. A103 Rev.B
6. Smith Lam Architects – Dwg. A104 Rev.B
7. Smith Lam Architects – Proposed Illustrative Plan
8. J. Skellern Assoc. –Dwg 65MR_SA

Declaration

This Tree Survey and AMS have been written and checked by Richard Wassell of Wassells Arboricultural Services Ltd. and are provided without prejudice as a professional assessment of the trees described.

Signed: R.J.Wassell Date: 12.12.MMXI

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Appendix 1

Table 1

Table of tree protection measurements

Tree Number As per tree survey plan & schedule	Crown Spread metres	Grading Category	Stem Diameter @ 1.5 metres agl. Millimetres	Root Protection Area (RPA) - Radius *measured from centre of stem* Metres	Tree/Root Protection Area (RPA) Sq. Metres	Affect of building proposal on the total RPA
G1	N/A	Not graded	150 - 250	Average 2.4 per tree	18 per tree	Possibility of minor intervention into the RPA but with no/little impact
T1	N =4 S = 3 E = 4 W =4	B	340	4	50	Not affected
T2	N =3 S = 4 E = 3 W =4	B	340	4	50	Possibility of minor intervention into the RPA but with no/little impact
T3	N =3 S = 4 E = 4 W =3	B	340	4	50	Not affected
G2	N/A	Not graded	150 - 300	Average 2.7 per tree	23 per tree	Not affected
T4	N =4 S = 2 E = 4 W =4	Not graded	Multi-stemmed x 6 Base 250	2.5	20	Not affected
T5	N =3 S = 3 E = 3 W =3	Not graded	Multi-stemmed 3x150	1.5	7	Not affected
G3	N =4 S = 4 E = 4 W =4	C	Average 350	4.2	55 per tree	Not affected
T6	N =3 S = 4 E = 5 W =4	C	370	4.5	64	Not affected

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Tree Number As per tree survey plan & schedule	Crown Spread metres	Grading Category	Stem Diameter @ 1.5 metres agl. Millimetres	Root Protection Area (RPA) - Radius *measured from centre of stem* Metres	Tree/Root Protection Area (RPA) Sq. Metres	Affect of building proposal on the total RPA
T7	N =3 S = 4 E = 4 W =5	C	330	4	50	Not affected
T8	N =3 S = 3 E = 3 W =3	C	170	2	13	Not affected
G4	N/A	Not graded	N/A	N/A	N/A	Not affected
T9	N =3 S = 3 E = 3 W =3	C	350	4.2	55	Possibility of minor intervention into the RPA but with no/little impact
T10	N =4 S = 4 E = 4 W =4	C	Multi-stemmed x 4 Base 400	4	50	Not affected
T11	N =4 S = 4 E = 4 W =4	B	Multi-stemmed x 5 Base 500	5	79	Possibility of minor intervention into the RPA but with no/little impact
T12	N =4 S = 4 E = 4 W =4	B	Multi-stemmed x 4 base 500	5	79	Possibility of minor intervention into the RPA but with no/little impact

Protecting Root Zone of Trees:

The Root Protection Area (RPA)

This is the area surrounding a tree that is considered to contain sufficient rooting volume to ensure the survival of the tree in the future. The root system is typically concentrated in the uppermost 600 – 1000mm of the soil and is not necessarily symmetrical around the tree, being dependant on a number of factors such as water, nutrients, oxygen, soil penetrability and physical obstructions such as existing foundations or changes in level (terracing).

The RPA is deemed to be a minimum area, which should be left undisturbed around each retained tree. This area is envisaged/portrayed as a circle around each tree but where there appears to be restrictions to root growth the circle is reshaped to reflect more accurately the likely distribution of the rooting area of the tree concerned.

Key Points

1. AVOID building works within the RPA if at all possible but if not then carefully consider the following: where the RPA is likely to be severely affected because of site design constraints then felling and planting replacement(s) trees in a more suitable location on the site will need to be considered.
2. Where possible do not use strip foundations within the RPA, if absolutely necessary consider using a trenching saw or excavate by hand to avoid 'shatter damage' to the root system.
3. Consider using piling techniques for foundations @ maximum 350 mm diameter with ground beams on or above the surface of the root zone.
4. Do not exceed entering the root zone by more than one fifth of RPA radius.
5. Do not trench tangentially across the root zone for footings and services unless it cannot be avoided.
6. Consider 'no dig' techniques for services installation, with radial service lines being preferable to tangential across the root zone. Where this is undertaken then boring must be carried out below 600mm deep.
7. Any hard surfacing, paths and roads need to have the same considerations for the RPA and as in the above points. Where possible paths and hard surfacing (patios etc) need to be surface constructed (cellular) and semi-porous to allow water penetration and gaseous exchange into the root system of trees.

Excavation within Root Protection Area of trees

Where trees are to be retained then any proposed foundation, underground services work and hard surfacing such as roads/paths falling within the RPA of trees that are to be retained shall be kept as far away from tree stems as possible(SEE NOTE 1 ABOVE). Where any such works are necessary within the RPA there will be a requirement to dig carefully by hand and ensure any roots encountered of maximum 25mm in diameter shall be exposed and correctly pruned back by a competent Arborist. Where larger roots are encountered of above 25mm in diameter then advice from the Arboricultural Supervisor (AS) for the site must be sought prior to any work being undertaken.

Any roots exposed/ pruned back as part of the above operation shall NOT be left exposed to drying out. All roots exposed/pruned shall be either covered with damp Hessian sacking prior to backfill or backfilled/covered immediately with a suitable open and free draining compost/loam.

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Appendix 2

Schedule of Tree Works

(Reference Tree Schedule on Existing Site Survey drawing)

Trees and vegetation recommended for removal:

NONE

Recommended work for trees being retained:

NONE

Tree work to be carried out to the following standards and guidelines:

1. BS 3998: 2010 Recommendations for Tree Work

2. Tree pruning cuts will be carried out using the 'Target Pruning' technique as defined by: *The Pruning of Trees, Shrubs and Conifers: George E. Brown & Tony Kirkham – 2nd edition revised & enlarged 2004 and Section 3.1.27 of The Arboricultural Association Specification for Tree Works June 2008.*
3. Crown clean involves removal of dead, diseased & dying wood from tree crown, thinning of overcrowded crown, and removal of all epicormic growth within crown including stem & basal epicormic growth on Lime trees.

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Appendix 3 - Schedule of Tree Survey Information – BS5837

SITE: 65 Maygrove Road, NW6 DATE: 7th December 2011

Tree Number	Species	Diameter mm	Height metres	Crown Spread metres	Age Class	Grading Category	Estimated Future Lifespan	Structure	Physiology, Condition & other factors	Management recommendation
G1	8 x Sycamore 1 x Elder 1 x Goat Willow	150 - 250	10 -12	N/A	Y	Not graded	10-20	Moderate	All self-set trees growing in the chain link fence-line to the site and on overgrown bank of the Peace Park. All multi-stemmed. Future compromised by location and growing conditions. Average condition	
T1	Fraxinus oxycarpa 'Raywoodii' Raywood Ash	340	15	N =4 S = 3 E = 4 W =4	SM	B	20-40	Good	Above average condition Growing within Peace Park as planted trees in landscape.	
T2	Fraxinus oxycarpa 'Raywoodii' Raywood Ash	340	15	N =3 S = 4 E = 3 W =4	SM	B	20-40	Good	Above average condition Growing within Peace Park as planted trees in landscape.	
T3	Fraxinus oxycarpa 'Raywoodii' Raywood Ash	340	15	N =3 S = 4 E = 4 W =3	SM	B	20-40	Good	Above average condition Growing within Peace Park as planted trees in landscape.	
G2	Acer pseudoplatanus 3 x Sycamore	150 - 300	12	N/A	Y	Not graded	10-20	Moderate	All self-set trees growing in the chain link fence-line to the site. All multi-stemmed. Future compromised by location and growing conditions. Average condition	
T4	Sambucus nigra Elder	Multi-stemmed x 6 Base 250	8	N =4 S = 2 E = 4 W =4	M	Not graded	10-20	Moderate	Self-set tree growing in fence line. Has been cut back on site side. Declining	

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Tree Number	**Species**	**Diameter** mm	**Height** metres	**Crown Spread** metres	**Age Class**	**Grading Category**	**Estimated Future Lifespan**	**Structure**	**Physiology, Condition & other factors**	**Management recommendation**
T5	Acer pseudoplatanus Sycamore	Multi-stemmed 3x150	10	N =3 S = 3 E = 3 W =3	Y	Not graded	20-40	Moderate	Self-set tree growing in fence line. Has been cut back on site side. Average	
G3	3 x Prunus avium Cherry	Average 350	12	N =4 S = 4 E = 4 W =4	M	C	10-20	Moderate	Group on top of mound probably planted as a feature. Average condition and all leaning outwards	
T6	Fraxinus oxycarpa 'Raywoodii' Raywood Ash	370	12	N =3 S = 4 E = 5 W =4	SM	C	20-40	Good	Above average condition. Planted street side tree	
T7	Fraxinus oxycarpa 'Raywoodii' Raywood Ash	330	12	N =3 S = 4 E = 4 W =5	SM	C	20-40	Good	Above average condition. Planted street side tree	
T8	Fraxinus excelsior Common Ash	170	10	N =3 S = 3 E = 3 W =3	Y	C	20-40	Good	Above average condition. Self-set street side tree growing in mature shrub bed.	
G4	Laurel and Cotoneaster shrub bed	All <150	4-5	N/A	M	Not graded	10-20		Overgrown planting requiring remedial prune	
T9	Acer saccharhinum Silver Maple	350	12	N =3 S = 3 E = 3 W =3	M	C	20-40	Good	Above average condition. Planted street side tree on embankment	
T10	Acer pseudoplatanus Sycamore	Multi-stemmed x 4 Base 400	12	N =4 S = 4 E = 4 W =4	M	C	20-40	Moderate	Self-set tree growing in embankment. Average condition	

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Tree Number	**Species**	**Diameter** mm	**Height** metres	**Crown Spread** metres	**Age Class**	**Grading Category**	**Estimated Future Lifespan**	**Structure**	**Physiology, Condition & other factors**	**Management recommendation**
T11	Acer pseudoplatanus Sycamore	Multi-stemmed x 5 Base 500	12	N =4 S = 4 E = 4 W =4	M	B	20-40	Moderate	Self-set tree growing in embankment. Recently crown reduced by approx. 30% Average condition	
T12	Acer pseudoplatanus Sycamore	Multi-stemmed x 4 base 500	12	N =4 S = 4 E = 4 W =4	M	B	20-40	Moderate	Self-set tree growing in embankment. Recently crown reduced by approx. 30% Average condition	

KEY:

Tree Number and Species = number of tree on plan and Common Name/botanical name
Height = estimated height of tree from surrounding ground level +/- 1.5 metres
Diameter = diameter of main stem @ 1.5 metres above ground level
Crown Spread = maximum extent of branches measured radially from the base of the tree, trees with asymmetrical crowns are shown with distances in relation to compass points. N = north etc.
Crown Height (H) = height to base of tree crown from ground level
Age Class = Young: age less than 1/3rd life expectancy | Semi-mature: 1/3rd to 2/3rd life expectancy | Mature: Over 2/3rd life expectancy | Over mature: mature and in state of decline | Veteran: Surviving beyond typical age range for species
Grading Category**:** As per BS 5837:2005 Table 1 – Tree quality assessment, which refers to tree quality and landscape/amenity value; A=high, B=moderate, C=low
Estimated Future Lifespan = estimated useful and remaining contribution to the site in years
Structure = structural condition of the tree based on roots, trunk, and major stems/branches along with the presence of any structural defects and decay organisms. Categories are: Very Good; Good; Moderate; Poor; Hazardous
Physiology/Condition = Overall health, condition and function of the tree in comparison to a 'normal' specimen of its species and age. Categories are: Above average; Average; Declining
Other factors = any other physical/environmental factors that could influence the tree now/in the future

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1. Management Recommendations: **N** = no work required**. CC** = removal of dead, diseased & dying wood from tree crown, thinning of overcrowded crown, removal of Ivy from crown & stem and removal of all epicormic growth within crown including stem & basal epicormic growth on Lime trees.**LC** = lift crown. **TC** = thin crown. **RC** = reduce crown. **P** = pollard. **SP** = scaffold pollard. **RE** = remove epicormic and basal growth. **FP** = Formative prune **F** = fell to ground level. **FG** = fell and grind out stump. **R** = carry out replacement planting. **AI** = 3 yearly arboricultural inspection

N/K = not known

Alan Mitchell System = Estimate of tree age based on open grown tree with full crown. Age in years = Girth (circumference) in centimeters measured at 1.5 metres above ground level and divided by 2.5 ie. Tree of girth 250 cm = 100years old

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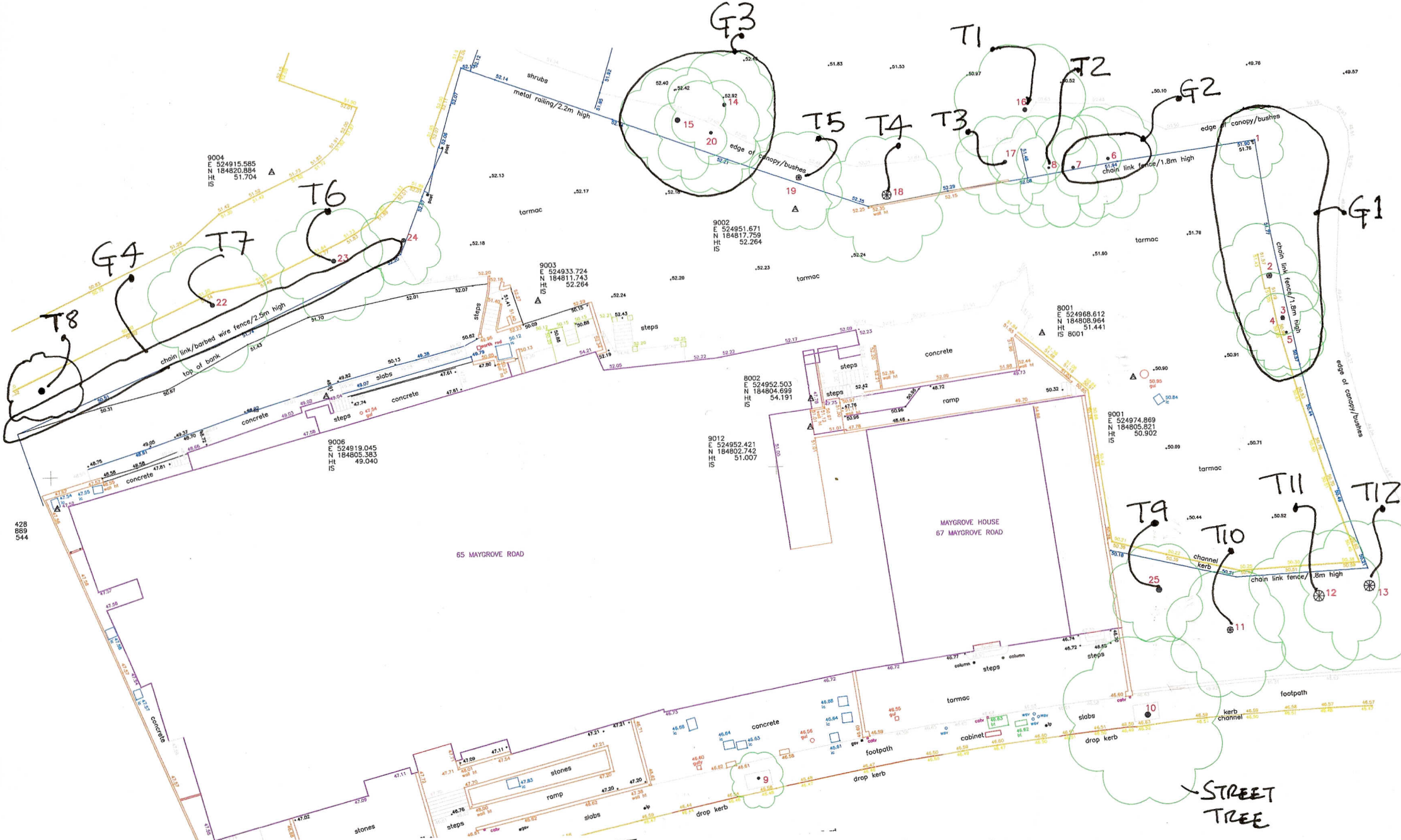


TREE LOCATION PLAN - TREE NUMBERS AS PER TREE SURVEY INFORMATION

WASSELLS ARB. - 12.12.MMXI RJW.

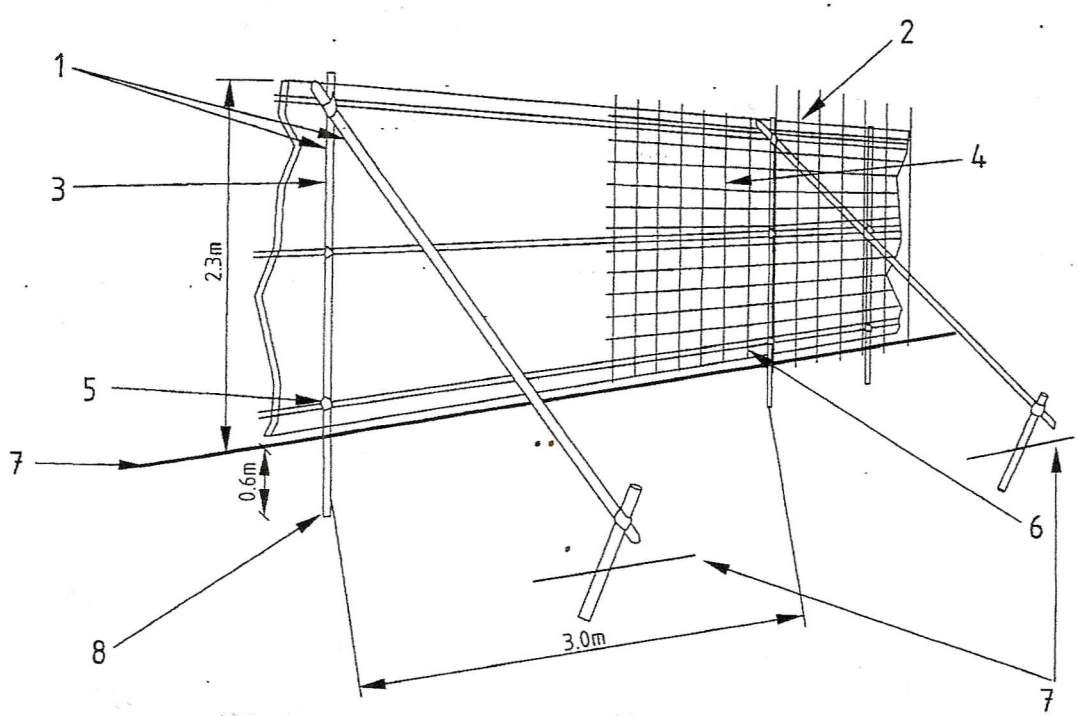
9.2 Barriers

9.2.1 Barriers should be fit for the purpose of excluding construction activity and appropriate to the degree and proximity of work taking place around the retained tree(s). On all sites, special attention should be paid to ensuring that barriers remain rigid and complete.

9.2.2 In most cases, barriers should consist of a scaffold framework in accordance with Figure 2 comprising a vertical and horizontal framework, well braced to resist impacts, with vertical tubes spaced at a maximum interval of 3 m. Onto this, weldmesh panels should be securely fixed with wire or scaffold clamps. Weldmesh panels on rubber or concrete feet are not resistant to impact and should not be used.

NOTE The above is preferred because it is readily available, resistant to impact, can be re-used and enables inspection of the protected area.

9.2.3 It may be appropriate on some sites to use temporary site office buildings as components of the tree protection barriers.



1 Standard scaffold poles
2 Uprights to be driven into the ground
3 Panels secured to uprights with wire ties and where necessary standard scaffold clamps
4 Weldmesh wired to the uprights and horizontals
ie. 'HERAS' PANELS
5 Standard clamps
6 Wire twisted and secured on inside face of fencing to avoid easy dismantling
7 Ground level
8 Approx. 0.6 m driven into the ground

Figure 2 — Protective barrier

 EXTRACT

APPENDIX SG 1 TO BE LAMINATED AND FIXED TO TREE PROTECTION FENCE PANELS WITH ZIP TIES

TREE PROTECTION ZONE

KEEP OUT!

NO DIGGING OR TRENCHING
NO STORAGE OF PLANT OR MATERIALS
NO VEHICLE ACCESS
NO FIRE LIGHTING
NO CHEMICAL HANDLING
AVOID PLANT CONTACT WITH TREE CANOPY

REPORT ANY DAMAGE
TO TREES OR FENCING IMMEDIATELY