Site Specific Arboricultural Survey, Impact & Method Statement

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

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2nd November 2012

Office: 15 Norcombe House, Wedmore St., Islington N19 4RD

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Client

REP Maygrove Road LLP

Scope of Report

This document has been produced to provide a detailed survey of trees within and surrounding the above site demise and that are nearby to the proposed planned development.

The scope of this report follows the recommendations and guidance described within *BS 5837:* **2012** *Trees in Relation to Design, Demolition and Construction – Recommendations* which sets out the principles and procedures to be applied to achieve a harmonious and sustainable relationship between trees and structures.

The report will assess the quality, amenity and landscape value of all surveyed trees and describe the protection of all trees to be retained and where they are likely to be affected by the proposed development construction activities. The report will also indicate the likely impact the proposals may have on those trees in the future.

The report will also recommend any required tree works to enable access and also to mitigate potential damage in the future.

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

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

Abbreviations:

All abbreviations introduced in brackets are used throughout the report

Arboricultural Impact Assessment

Proximity of Proposed Development to existing Trees

Ref: Addendum 1 - Table 1, Addendum 3 and Picture Gallery at end of report

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

Certain surrounding trees to the site may be impacted by the proposed design but the intention is to minimise this effect through design of the retaining wall along the northern edge of the site with the Peace Park. *See Landscape Approach Draft Plan-Criblock retaining wall etc.

The trees within the survey that could potentially be affected by the proposals are as follows: T4, T2, G2, G1, T11 and T9

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- T4 is a self-set Elderberry tree growing in the fence line that has been cut back before and is of
 no particular merit and could quite easily be pollarded to mitigate the potential effect of
 excavation within the RPA.
- T2 is a Raywood Ash that is part of the group of other Raywood Ash T1 and T3. The proposed retaining wall is positioned at 2 metres from the main stem of this tree at the nearest point and is within the RPA. However, if the AMS below is followed this will minimise the potential impact to the tree, which is in good condition.
- G2 it is proposed to remove and replace with suitable planting around the margins of the Peace
 Park and close to the proposed development.
- G2 it is proposed to remove and replace with suitable planting around the margins of the Peace Park and close to the proposed development.
- T11 is a multi-stemmed Sycamore tree and the proposed retaining wall is positioned at 2 metres from the main stem of this tree at the nearest point and is within the RPA. The tree has been reduced by approximately 30% in the recent past and provided this maintenance regime is continued this will mitigate the potential effects of the excavation within the RPA.
- T9 is a Silver Maple and will be severely impacted by the proposed retaining wall and it is considered best for this tree to be removed and replaced with suitable planting around the margins of the Peace Park and close to the proposed development.

Arboricultural Method Statement

Ref: Addendum 1 & 2

Tree Protection Barriers & Construction Exclusion Zone

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 BS5837 Tree Barrier Specification below.

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.

Excavation within RPA of Retained Trees

Ref: Addendum 1

Where piling for the retaining walls enters the RPA for retained trees the section of piling line within the RPA shall be first excavated carefully by hand down 1 metre and the recommendations as per section in addendum 1 on excavation within the RPA, will be followed.

This relates specifically to trees T2 and T11

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

Ref: Addendum 1

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 addendum 1

Access Facilitation Pruning & Tree Works

Ref: Addendum 2

The schedule of tree works and replacement planting are shown below.

Access facilitation pruning may be required for nearby trees during the demolition phase in order to prevent damage from plant and machinery to the branches of any overhanging crowns. If so, then this work will be carried out as per the specification in addendum 2 below.

Site Access and Construction Working Area (CWA)

Site access will be off of Maygrove Road and the CWA will be the whole of the site as described.

Site Storage and Accommodation

These areas will be outside of the construction exclusion zone.

Installation of Services

Arrangements for this element of the development of the site are unknown as at time of writing this report but are likely to remain as existing.

Changes to the service routes will be carefully considered using the AS below to advise on protection of nearby trees prior to commencement on site, if required.

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, to be arranged by the Site Manager under instruction from Architects, and thereafter at intervals of not less than 3 weeks until completion of construction works or more regularly if found necessary by site requirements.

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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.

Provided the recommendations shown above and the methodology for protection of any retained trees are followed, there will not be an affect on the current condition of those trees that are retained as part of the proposed scheme.

Tree Grading Categories

Ref: Grading Category as per BS 5837:2012 Section 4.5 Table 1 & Table 2 – Tree quality assessment chart. Tree Survey Schedule in Addendum3 for description of trees categorized

The grading categories are based on the following criteria: mainly arboricultural qualities (1) / mainly landscape qualities (2) /mainly cultural values, including conservation (3) and as shown below:

A=high quality (1/2/3)

B=moderate quality (1/2/3)

C=low quality (1/2/3)

U=trees of such a condition that they cannot realistically be retained as living trees in the context of the current land use

Trees categorized within this report:

- 1 Category A trees = none
- 2 Category B trees = T1, T2, T3, G3, T6, T7, T8, T9, T10, T11 and T12
- 3 Category C trees = T4 and T5
- 4 Category U trees = G1 and G2

Trees for removal on this site:

1 Trees = G1, G2 and T9

References

- 1. BS 5837:2012 Trees in Relation to Design, Demolition and Construction Recommendations
- 2. BS3998:2010 Tree Work Recommendations
- 3. NJUG Volume 4 Issue2 2007 Guidelines for the planning, installation and maintenance of utility apparatus in proximity to trees.

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- 4. NHBC Standards Section 4.2 Building Near Trees
- 5. British Geological Survey London & the Thames Valley
- 6. Principles of Tree Hazard Assessment Lonsdale 2001
- 7. Diagnosis of Ill Health in Trees Stouts & Winter 2004
- 8. Picture Gallery at end of report
- 9. Tree Survey Plan –

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 an objective and professional assessment of the trees described.

Signed: R.). Wassell Date: 02.11. MMXII

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Addendum 1

Ref: Tables C.1 & D.1of annex C & D in BS 5837:2012

Table 1 - Tree protection measurements

	- Tree prote	ı			Tues /D1	Affect of builting
Tree Number As per tree survey plan & schedule	Spread metres	Grading Category	Stem Diameter @ 1.5 metres agl. Millimetres	Root Protection Area (RPA) - Radius *measured from centre of stem*	Tree/Root Protection Area (RPA) Sq. Metres	Affect of building proposal on the total RPA
				Metres		
G1	N/A	U	Average 200	Average 2.4 per tree	18 per tree	Scheduled to remove and replace due to effect of proposed development
T1	N =4 S = 3 E = 4 W =4	В	340	3.9	48	No affect
T2	N = 3 S = 4 E = 3 W = 4	В	340	3.9	48	Less than 20% of RPA affected
ТЗ	N =3 S = 4 E = 4 W =3	В	340	3.9	48	No affect
G2	N/A	U	Average 225	Average 2.7 per tree	23 per tree	Scheduled to remove and replace due to effect of proposed development
T4	N =4 S = 2 E = 4 W =4	С	Multi- stemmed x 6 Base 250	3	28	Less than 20% of RPA affected
T5	N =3 S = 3 E = 3 W =3	С	Multi- stemmed 3x150	1.8	10	No affect
G3	N =4 S = 4 E = 4 W =4	В	Average 350	4.2	55 per tree	No affect
Т6	N =3 S = 4	В	370	4.5	64	No affect

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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
	E = 5 W =4					
T7	N = 3 S = 4 E = 4 W = 5	В	330	3.9	48	No affect
Т8	N =3 S = 3 E = 3 W =3	В	170	1.8	10	No affect
Т9	N = 3 S = 3 E = 3 W = 3	В	350	3.9	48	Scheduled to remove and replace due to effect of proposed development
T10	N =4 S = 4 E = 4 W =4	В	Multi- stemmed x 4 Base 400	4.8	72	No affect
T11	N = 4 S = 4 E = 4 W = 4	В	Multi- stemmed x 5 Base 450	5.4	92	Less than 20% of RPA affected
T12	N =4 S = 4 E = 4 W =4	В	Multi- stemmed x 4 base 450	5.4	92	No affect

- RPA radius shown as dashed bold black circle around the tree measured from centre of stem
- Category shown as solid coloured in area around tree as per the existing crown spread (groups without crown spread shown do same as RPA radius) to the following colours:
- A category = light green RGB code: 000-255-000
- B category = Mid blue RGB code: 000-000-255
- C category = Grey RGB code: 091-091-0914
- U category = Dark red RGB code: 127-000-000

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Protecting Root Zone of Trees (BS 5837:2012 section 6.2 Figs. 2 & 3):

The Root Protection Area (RPA)

This is the area surrounding a tree that is deemed to contain sufficient roots and rooting volume to maintain the trees viability in the future. The root system is typically concentrated in the uppermost 600 – 1200mm 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 a design layout tool that is deemed to be a minimum area around a tree where the protection of roots and soil structure are treated as a priority. This area is envisaged as and portrayed with 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

- 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. Unless unavoidable, 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

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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.

Site Hoarding

Site hoarding shall be no closer than 1.5 metres away from the stem of retained trees and consist of 20mm plywood sheets supported by minimum 100mm square posts and 100 x 50mm rails with posts at 2.5 metre centres.

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

Ground Protection System Specification:

- Level area of RPA concerned by blinding with sharp sand at maximum depth of 50mm
- Lay geo-textile membrane such as 'Terram' to cover area concerned
- Cover geo-textile with maximum of 100mm MOT Type 1 sub-base
- Retain MOT type 1 with edge restraint such as 30 x 100mm edging board pegged every 2 metres to prevent migration of the sub-base

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Addendum 2

Ref: Addendum 3

Schedule of Tree Works

Trees and vegetation recommended for removal:

Tree number	Species	Tree work
G1	Various	Fell to ground level and carry out replacement planting as agreed with LA
G2	Sycamore	Fell to ground level and carry out replacement planting as agreed with LA
Т9	Silver Maple	Fell to ground level and carry out replacement planting as agreed with LA

Recommended work for trees being retained:

Access facilitation pruning of overhanging crowns as required after consultation with AS.

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 'Natural Target Pruning' technique as defined by: BS 3998:2010 section 7.2.5 and Fig. 2 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.

Tree Planting:

Replacement for trees removed is proposed as part of the proposed new landscape scheme and this will take the form of native tree planting with species such as Small Leaved Lime, Hornbeam and Field Maple planted as container grown advanced nursery stock at 18/20cm girth and 5 metre + height.

Planting method to be Method 2 as below

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Addendum 3 - Schedule of Tree Survey Information - BS5837:2012 section 4.4

SITE: 65 Maygrove Road, NW6 DATE: 7th December 2011 and updated 30th October 2012

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	U	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	B1 & 3	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	B1 & 3	20-40	Good	Above average condition Growing within Peace Park as planted trees in landscape.	
Т3	Fraxinus oxycarpa 'Raywoodii' Raywood Ash	340	15	N =3 S = 4 E = 4 W =3	SM	B1 & 3	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	U	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	
Т4	Sambucus nigra Elder	Multi- stemmed x 6 Base 250	8	N =4 S = 2 E = 4 W =4	М	C1	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	C1	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	B1 & 3	10-20	Moderate	Group on top of mound probably planted as a feature. Average condition and all leaning outwards	
Т6	Fraxinus oxycarpa 'Raywoodii' Raywood Ash	370	12	N =3 S = 4 E = 5 W =4	SM	B1 & 3	20-40	Good	Above average condition. Planted street side tree	
Т7	Fraxinus oxycarpa 'Raywoodii' Raywood Ash	330	12	N =3 S = 4 E = 4 W =5	SM	B1 & 3	20-40	Good	Above average condition. Planted street side tree	
Т8	Fraxinus excelsior Common Ash	170	10	N =3 S = 3 E = 3 W =3	Y	B1 & 3	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	М	Not graded	10-20		Overgrown planting requiring remedial prune	
Т9	Acer saccharhinum Silver Maple	350	12	N =3 S = 3 E = 3 W =3	М	B1	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	М	B1	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	B1	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	М	B1	20-40	Moderate	Self-set tree growing in embankment. Recently crown reduced by approx. 30% Average condition	

TREE SURVEY 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 = height of canopy and/or first major branch above ground level

Age Class = Young(Y): age less than 1/3rd life expectancy | Semi-mature(SM): 1/3rd to 2/3rd life expectancy | Mature (M): Over 2/3rd life expectancy | Over mature (OM): mature and in state of decline | Veteran (V): 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 - <10, 10-20, 20-40 & >40

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 (VG); Good (G); Moderate (M); Poor (P); Hazardous (H)

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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 (AA);

Average (A); Declining (D)

Other factors = any other physical/environmental factors that could influence the tree now/in the future

Management Recommendations: N = no work required. CC = removal of dead, diseased & dying wood from tree crown, thinning of overcrowded crown, removal of lvy 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

= estimated data

NDG = Next door garden

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

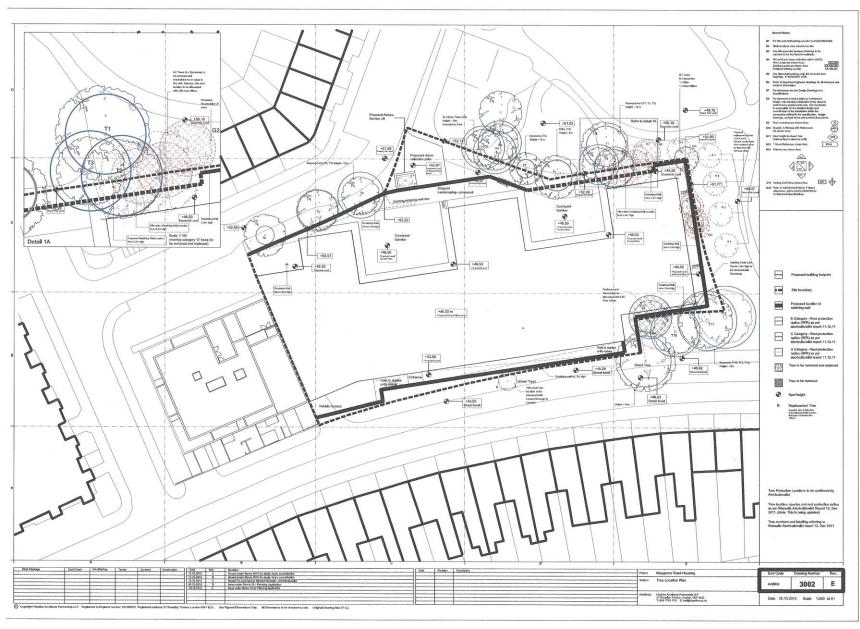
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PLAN OF SITE & TREES

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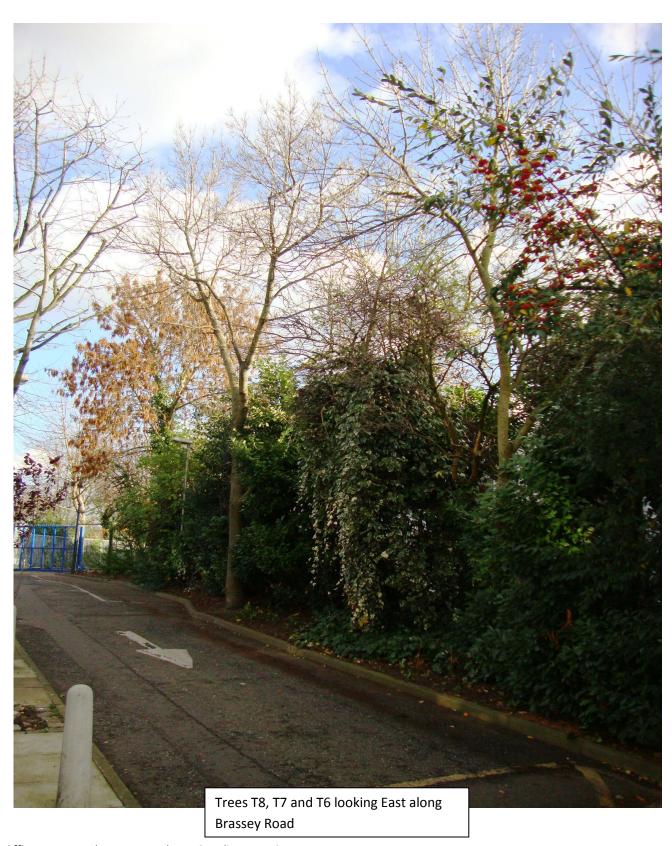
PICTURE GALLERY

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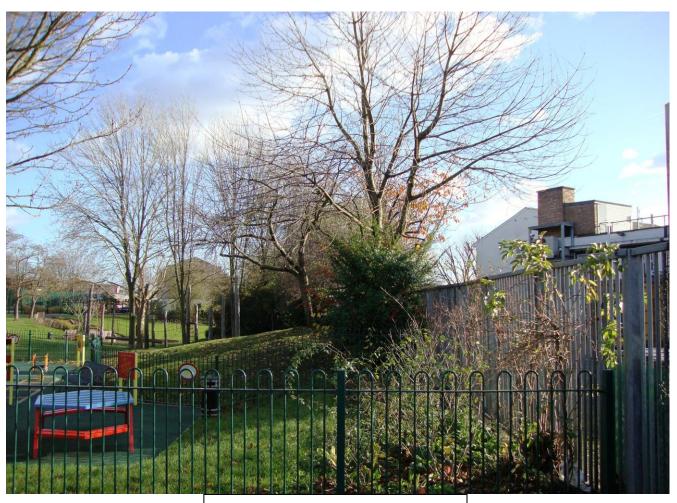
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Looking East along Northern boundary of the site

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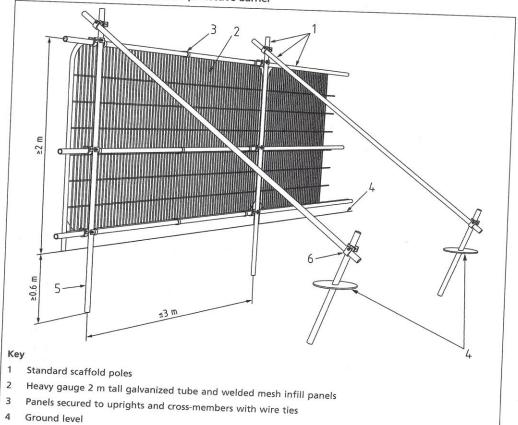
TREE BARRIER SPECIFICATIONS TREE PLANTING SPECIFICATIONS TREE CARE FLOW CHART

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6.2.2.4 All-weather notices should be attached to the barrier with words such as: "CONSTRUCTION EXCLUSION ZONE - NO ACCESS".

Default specification for protective barrier



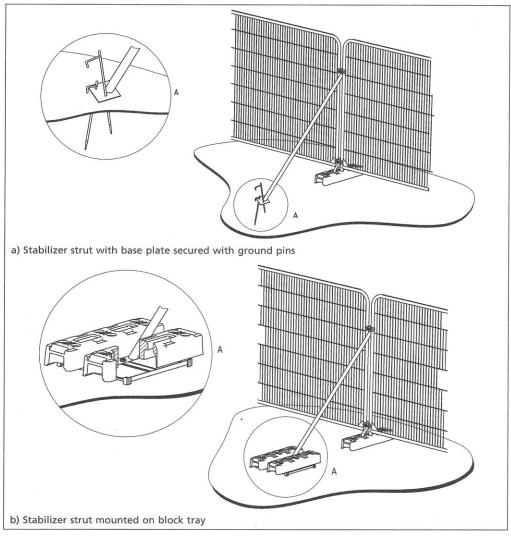
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Standard scaffold clamps

Uprights driven into the ground until secure (minimum depth 0.6 m)

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New Tree Planting Specification

All new trees planting whether as replacement planting for trees removed as part of the development or as additional trees within a landscape scheme for the development shall be of a size from standard trees up to advanced nursery stock.

The trees supplied will be either container grown or root-balled and preferably supplied and planted in the dormant season from October to March

Tree Sizes:

Standard = 8-10cm girth and 2.5-3.0 metres high

Heavy Standard = 12-14cm girth and 3.5-4.25 metres high

Advanced nursery stock = 16-18cm/18-20cm girth and 4.5-6.25 metres high

Girth is measured at 1 metre above ground and all trees will generally have a 1.5-1.8 metre clear stem

Method 1

- 1. Create planting pit by excavating to required depth and diameter to provide sufficient space to accommodate the root ball of the tree with 100-150mm space around the root ball to enable back fill to be placed and firmed. Ensure tree is located within the planting pit at the nursery level with the surrounding ground level.
- Back fill for the planting will be as dug for the tree pit and incorporated with 80 to 160 litres of Tree
 Planting & Mulching Compost prior to back filling. Where soil is of very poor quality this will be
 replaced with imported soil/growing medium to BS recommendations
- 3. Root balled trees to be placed in tree pit with hessian and wire wrap retained and container trees to be placed in pit prior to removal of container before back filling.
- 4. Root pruning of damaged and girdling roots should be carried out at this stage prior to back filling
- 5. Back filling is to take place in stages by firming layers of soil around the root ball to the finish surface level.
- 6. Support for the tree will be by using the short twin stake method. This requires use of 1.8 metre long and 100mm diameter machine rounded pressure treated stakes driven into the ground either side of root ball to a minimum of 600mm and at 180 degrees apart. Distance between stakes will vary depending on root ball size but should be no greater than 600mm
- 7. Trees shall be tied to the stakes using flexible tree banding positioned 100mm below top of the stakes. Each tie will be felt nailed to stake and taken around the tree with 3 twists on its self before nailing back on the stake. Tree ties should be tensioned accordingly to enable good support but flexibility for the tree.

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- 8. The tree planting to be completed with a 75mm layer of good quality composted bark mulch to 500mm radius around tree, which will assist with moisture retention and weed suppression during the establishment phase
- 9. Irrigation for the tree is to be supplied by the 'Treegator' system which shall be supplied at time of planting and positioned around the stem as required.
- 10. Aftercare for trees will consist of filling 'Treegator' once per week in growing season for the first year of establishment and up to 2 years after planting as required. Checking tree stakes and ties on an annual basis for up to 2 years after planting. Formative pruning of the crown as required within the aftercare period. Weed control of tree base area as necessary.

Method 2

- 1. As per method 1 above with the exception of points 6 and 7
- 2. Support for the tree will be by use of the 'Platypus' or similar tree root anchor system installed as per manufacturers recommendations
- 3. This system will be used for mainly advanced nursery stock plants and above

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Planning and design (based on architects' work stages) BS 5837:2012 recommendations and references Site operations Topographical survey and soil assessment (4.2 and 4.3) Vegetation clearance, if required for survey A Feasibility Tree survey (4.4) Feasibility and planning Tree categorization (4.5) Identify tree constraints and RPAs (4.5, 4.6 and Clause 5) Design brief Identify and review potential trees for retention and removal (Clause 5) C Conceptual design Produce new planting and landscape proposals (5.6) Produce tree protection plan (5.5) development* SCHEME DESIGN APPROVALS
(from client and regulatory bodies) Resolve tree protection proposals (6.2) Detailed/technical design Technical design' Agree new utility apparatus locations, routes and arboricultural methodologies (6.1 and Clause 7) Production Schedule trees for removal and pre-construction tree works (including access facilitation) (5.4 and 8.8) information G Tender Identify tree protection measures and include them on all relevant documents (6.2) documentation Physical barriers H Tender Implementation and aftercare action Site clearance and demolition (Clause 7) Access, storage and working areas installed (Clause 6) Mobilization Site monitoring and intervention as required (6.3) Construction Construction (Clause 7) to practical completion Inspection of trees and surrounding environment New planting (including relationships to new structures) (8.8) (Clause 8) Post-practical completion Recommendation for post-completion management (8.8) Remedial tree works if required

* The design development stage D in particular is an iterative process, responding to and resolving constraints as

they emerge but, once completed, there needs to be a high level of certainty for proposed outcomes.

Figure 1 The design and construction process and tree care

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** See Commentary on Clause 6.

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