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Camden Lock Village
Arboricultural Development Report

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1.0 OBJECTIVES

Instructions were received from Stanley Sidings Ltd to carry out an assessment of trees located within land at Hawley Wharf, Camden, London NW1.

Following the tree survey assessment, to then provide arboricultural advice, carry out an Arboricultural Implication Assessment on the proposed development and provide recommendations for preliminary tree protection and precautionary measures.

The following documents were provided prior to carrying out the assessment;

- Topographical Survey by KND Surveys Ltd
- Hard Landscape General Arrangement by fabrik

This report combines the above tree survey report with the arboricultural impact assessment for ease of reference and provides an analysis of the potential impact of the proposals on existing trees, based on tree protection measures recommended in British Standards 5837 (2005) 'Trees in relation to construction', government guidance and current good practice.

This enables a review by the Council in context of other material considerations submitted in support of a planning application and a basis for issuing planning permission and the imposition of conditions.

2.0 SITE DESCRIPTION

The site, irregular in shape, is formed by a market, workshops and residential properties with associated hard standing and garden areas.

The site is bounded to the north by Hawley Road, to the east Kentish Town Road with Castlehaven Road and Chalk Farm to the west. The Grand Union Canal and Camden Lock form the southern boundary. Leybourne Road, Torbay Street and viaduct divide the site east to west.

The topography of the site is generally flat with the towpath to the southern boundary adjacent to the canal at a lower level. Vehicle and pedestrian access is from Hawley Rd, Kentish Town Road and Leybourne Rd with pedestrian access from Chalk Farm Road and Camden Lock footpath.

Within the local and wider landscape Camden is urban in appearance with trees formed by a mixture of street and municipal trees of robust landscape species, riparian habitat species to the canal edge and self-set Sycamore and Ash within unmanaged or neglected areas. In general, the trees are middle-aged to mature specimens predominately of London Plane, Maples, Ash, Lime, Birch, Cherry, Willow and Cypress.

3.0 STATUTORY DESIGNATION (Trees)

It is understood from enquiries with the London Borough of Camden Council that trees located off-site to the east boundary are subject to Tree Preservation Order C167 of 1997. The Tree Preservation Order covers selected individual trees within the rear garden area of 51 Kentish Town Rd, Camden and described as 2x Sycamore. Written consent must therefore be obtained from London Borough of Camden Council prior to carrying out works to trees subject to the TPO.

A copy of the TPO schedule and plan is included within Appendix 3 for reference.

In addition, the area of Hawley Wharf located between the lock and the railway line lies within a Conservation Area and as such all trees over 75mm diameter (measured at 1.5m a.g.l.) are subject to statutory protection. Six weeks written notification must be given to the LPA in writing prior to carrying out tree works. During this period the LPA may initiate a TPO in respect of the trees or make no comment and allow the works to proceed.

Table 1 below cross-references the TPO with the arboricultural survey schedule numbers used within this report. For the purpose of clarity all tree numbers within this report will reference the tree no. within the tree survey by *tree*:fabrik.

Table 1.

TPO No.C167/1997	Species	Arboricultural Survey Schedule No.
T1	Sycamore	17
T2	Sycamore	18

It is strongly recommended that the local planning authority be contacted to check if any material change has occurred and appropriate consent sought (if appropriate) prior to carrying out any tree works.

All tree works should be carried out by a competent person experienced in arboriculture and in accordance with British Standards 3998 (2010) Recommendations for tree work.

Similarly, the clients' attention is drawn to the responsibilities under the Wildlife & Countryside Act (1981) as amended by the Countryside and Rights of Way Act 2000. This may place additional constraints on trees above that considered within this report.

4.0 TREE SURVEY

4.1 General

A copy of the tree survey methodology and schedule forms Appendix 1. The Preliminary root protection area calculations are included within Appendix 2. The location of trees and reference numbers are recorded within the Tree Removal & Preliminary Protection Plan Appendix 6. A photographic record of the general tree stock forms Appendix 5.

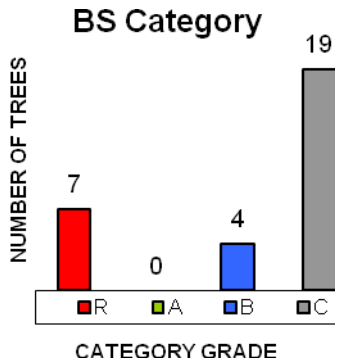
I visited the site on 8th October 2009 and again on the 1st September 2011 to update the tree survey and assess additional trees not previously recorded. General weather conditions at the time of the inspection were dry and sunny.

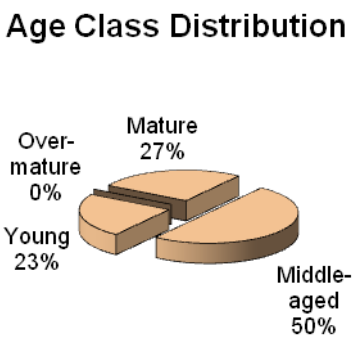
The assessment was carried out in accordance with the guidance and recommendations of British Standards 5837: (2005) 'Trees in relation to construction' and good arboricultural practice.

Trees identified within this assessment were visually inspected from ground level by a person qualified and experienced in arboriculture. The tree's common name and its dimensions are recorded within the tree survey schedule together with their age, physiological, structural condition and a category code.

4.2 Observations

A total of 29 individual trees and 1 group were assessed within the survey schedule including 4 category 'B' trees, 18 category 'C' trees and 1 group and 7 category 'R' trees in accordance with British Standards 5837 (2005) 'Trees in relation to construction'. No category 'A' trees were recorded within the site.





In general, the trees assessed within the site are of middle-age range including Ash, Birch, Dove Tree, Eucalyptus, Hornbeam, Leyland Cypress, Lime, Robinia, Sycamore Tree of Heaven and Willow.

5.0 DEVELOPMENT DESCRIPTION

Outline

School component: demolition of the existing buildings (excluding 1 Hawley Road) and the construction of a one form entry primary school and nursery and ancillary uses with all matters reserved.

Detailed

Mixed use component: the demolition of existing buildings across the site, and the single storey shop front extensions at 1-6 Chalk Farm Road (excluding 1 Hawley Road and the remaining structures at 1-6 Chalk Farm Road) together with the removal of trees which are not subject to Tree Preservation Orders and redevelopment to create a mixed use development comprising three new open spaces, eight new buildings to provide, employment, housing, retail, cinema, weekend and bank holiday farmers/produce market together with associated engineering works to create basements, plant and ancillary works, highways, public realm improvements, car and cycle parking and landscaping. Planning permission is also sought for a change of use from storage to an educational use at 1 Hawley Road

Listed Building Consent

Listed building consent for the demolition of 1c Hawley Road together with internal and external alterations to 1 Hawley Road including DDA access into the lower ground floor and steps from Chalk Farm Road onto the tow path.

6.0 IMPACT ASSESSMENT

6.1 General

Whilst this assessment considers the potential impact of only those existing trees located in close proximity to the proposed development, this impact should be considered in context of the surrounding tree cover and landscape.

A site meeting with the Tree Officer, London Borough of Camden, was held on 14th January 2011 at which the design strategy and arboricultural information against which the site layout has evolved, including tree loss, replacement planting and layout design were discussed. Whilst the layout has evolved following further feedback from Planning Officers, the outline principles in respect of trees were agreed and remain. A copy of the minutes of that meeting form Appendix 4.

A summary of the potential impact on each tree can be found below within Table 1 below and is illustrated within the accompanying Tree Removal & Preliminary Protection Plan [tf752/TPP/200] Appendix 6. A preliminary Method Statement forms Appendix 7 which outlines the practical tree protection and precautionary measures to be observed during the proposed demolition and construction process.

Summary	Category Code			
	R	A	B	C
Tree removal required to facilitate development – outline (school)	22			1, 7, 23, 26, 27, 28
Tree removal required to facilitate development – detailed (mixed use)	13, 14, 16, 20, 21		4	2, 3, 5, 6, 15
Trees that can be adequately protected in accordance with BS 5837 (2005) but require demolition or removal of hard surfacing within the RPA.	G30		19, 25	17, 18, 19
Tree removal recommended due to limited future life expectancy.	24			
Tree pruning required to retain ornamental tree.			19	

Table 1: Summary of implication assessment.

6.2 Potential Impact on existing trees

The proposed site layout retains the principal arboricultural features subject to the TPO and the linear group of trees located to the southwest of the site that contribute

positively to the street scene and Hampstead Road Bridge. Together with the off-site trees, these trees maintain the street scene and appearance of the local area.

Whilst tree loss will occur, trees identified for removal are not subject to a TPO and, with the exception of the Lime (4), the general tree stock is of domestic scale, of poor condition typical of trees located within a mixed use urban area of high activity.

The proposal will result in the direct loss of 19 trees, of which, 1 tree is assessed as category 'B', 11 trees are assessed as category 'C' and 7 trees are assessed as category 'R'.

Trees assessed as category 'R' are considered to be of such condition that any existing value would be lost within 10 years and which should, in the current context, be removed for reasons of sound arboricultural management regardless of potential development.

Equally, British Standards 5837 (2005) 'Trees in relation to construction' – recommendations, states that 'C' category trees '*will usually not be retained where they would impose a significant constraint on development'*.

Of these trees, the Cypress (1) and two Silver Birch (2 & 3) are located adjacent Hawley Road. Whilst of some visual amenity, the trees are located within small front gardens in close proximity to the existing buildings. The trees therefore have limited future potential to attain full maturity and located opposite mature London Planes, their removal would not have an adverse impact on the appearance of the street scene.

Similarly, the Ash (7) is located to the rear of existing buildings. This tree displays previous crown reduction works and it is likely that further reduction works will be required in future to maintain the tree within its location due to the characteristics of the species. This will have a periodic and adverse impact on the trees health and visual amenity in the medium to long term.

To the south of the site, two Ash (13 & 14) and two Sycamore (15 & 16) are located adjacent to the canal. The Ash are located within a narrow soft ground strip with a concrete retaining wall directly to the north. The root stock is therefore constrained and now forms a perched and linear surface root formation. Together with crown die-back and trunk defects these trees are of poor quality and condition. The two Sycamore located further to the east are also of poor condition and located within a heavily compacted soil are considered to have a limited useful life expectancy. Subject to

replacement trees to maintain the canal side amenity, the loss would be short-term and provide a net benefit with regards to tree quality in the future.

Remaining trees assessed as 'C' category are of domestic scale, poor quality or located to the rear of buildings and therefore have limited visual amenity and reasonably be replaced through mitigation.

Towards the centre of the site a mature Lime (4) is located within a rear garden directly adjacent a high boundary wall. No access was gained to carryout a detailed inspection of the trees basal area, however, the tree appears outwardly to be of fair health and is therefore assessed as 'B' category accordingly. Whilst the tree's crown is visible from the surrounding road network, its removal allows efficient use of land in context of the proposed School. Mature trees are located to the north off Hawley Road and to the west within the existing open space and therefore the appearance of the area would be maintained whilst replacement planting establishes.

Remaining trees identified for retention can be adequately protected during construction in accordance with BS 5837 (2005), however, additional tree protection and precautionary measures will need to be observed during the demolition process.

In particular, an existing structure is located directly adjacent to the off-site Sycamore (17 & 18). This area is to be returned to soft ground, however given the proximity of the structure it is likely to have had a significant influenced on the tree's rooting pattern and which may to some extent have become dependant of the structure. Precautionary measures will therefore need to be adopted during the demolition of the structure using a top down pull back approach and consideration given to leaving the foundation below ground level. It is recommended that this operation be carried out under arboricultural supervision to assess any roots uncovered and that the trees be regularly inspected on an annual programme.

To the south of the site, it is intended to retain the Fig (19) reducing the trees crown to re-train the tree against the boundary wall. Figs trained against walls is characteristic of management for this species and therefore the tree would be maintained within its existing environment.

Landscape mitigation is proposed as part of the development which includes tree planting in mitigation of the above loss. This will maintain tree cover within this urban area and enhance the condition and quality of the tree stock. For Hard and soft landscape details please see details submitted under separate cover by fabric Landscape Architects.

7.0 CONCLUSION

The layout respects the principal arboricultural features including the off-site trees subject to the TPO and those located adjacent Hampstead Road Bridge.

Whilst some tree loss will occur, the existing trees are of generally poor structural condition, of domestic scale or allow efficient land use and their loss is mitigated by the presence of other trees within the vicinity. The tree removal would not therefore have a significant impact on the appearance or character of the local or wider landscape.

Tree protection and precautionary measures will be required to minimise potential root disturbance during demolition as highlighted within this report. However, subject to the provision and implementation of a detailed Arboricultural Method Statement, in our opinion, the existing trees shown for retention can be adequately protected throughout the development process in accordance with British Standards 5837 (2005) 'Trees in relation to construction'.

The provision for adequate protection and precautionary measures could therefore be satisfactorily addressed through the imposition of an appropriately worded condition by the Local Planning Authority and the development proposal supported.

APPENDIX 1

Tree Survey Schedule

Tree Inspection Methodology

For the purpose of clarity, trees are identified by a reference number within the Tree Survey Schedule which corresponds with the tree no. recorded within the Tree Survey Reference Plan.

This is a basic data collection exercise for the sole use of identifying site constraints in context of the planning process and a record of the trees condition at the time of surveying. This is not a vegetation assessment for NHBC guidance or a higher level inspection (full hazard or risk assessment) and no guarantee, either expressed or implied can therefore be given with regards to identification, safety, stability or internal condition.

All observations are confined to that which was visible from the site and areas of public access. Where dense ivy/ground vegetation hampered visual assessment of trees its quality and condition was assessed from that which was visible from the point of inspection. This preliminary assessment may therefore be subject to amendment following additional detailed inspection.

The tree's common name and its dimensions are recorded within the tree survey schedule together with their age, physiological, structural condition and a category code in accordance with the guidelines set out in British Standard 5837: (2005) 'Trees in relation to construction'.

Where a tree's crown is heavily asymmetrical, the crown radius for each cardinal compass point is given. Together with the height, clearance between ground level and the crown, this provides a good guide to the size and outline form of the tree.

The estimated life expectancy in context of the species is provided as guidance only.

The quality and value of each tree is assessed, grading the tree to one of four categories. The purpose of the tree categorization method is to allow informed decisions to be made concerning which trees should be removed or retained should development occur.

Details of the preliminary root protection area (RPA) around each individual tree are provided within Appendix 2 and illustrated on the Tree Survey Reference Plan to assist in assessment of site layout and the likely impact of construction works proposed within the vicinity of trees to be retained.

Where the trees root morphology within the preliminary RPA may be influenced by existing site features, these areas of restrictive growth may be illustrated within the Tree Survey Reference Plan for higher grade trees ie category 'A' & 'B'. The preliminary root protection area may therefore require adjustment; this may change its shape but not reduce its area (m^2) in accordance with BS 5837 (2005) Trees in relation to construction 5.2.4. It is recommended that *tree*:fabrik be consulted and additional detailed evaluation and guidance be considered within the emerging site layout.

KEY TO TREE SCHEDULE

Tree No: Relates to individual trees identified within the Tree Survey Schedule and Plan

Species: Common name

Height: Estimated height expressed in metres

Stem diameter: Diameter of main trunk taken at 1.5m above ground level. Where the stem diameter is affixed by a '*' this measurement has taken above the root flare for multi-stemmed trees.

Abbreviations: E: Estimated Ave: Average A.G.L: Above ground level
G.L: Ground Level DED: Dutch Elm Disease

Branch Spread: Estimated crown radius expressed in metres. Where a trees crown is heavily asymmetrical the crown radius for each cardinal compass point is given.

Age Class:

Y Young	Less than one third of optimum life expectancy for species in this location
MA Middle aged	Between one to two thirds of optimum life expectancy for species in this location
M Mature	Between two thirds and optimum life expectancy for species in this location
OM Over mature	In excess of optimum life expectance for species in this location and entering a period of decline

Physiological Condition:

N Normal	Leaf colour, crown/bud density and shoot extension normal for species in this location
P Poor	Discoloured, chlorotic/necrotic margins or leaves, crown/bud low density and deadwood poor for the species in this location
D Dead	Dead

Category	Definition		Identification on plan
Trees for removal	R	Trees in such a condition that any existing value would be lost within 10 years and which should, in the current context, be removed for reasons of sound arboricultural management.	DARK RED
Trees to be considered for retention	A	Trees of high quality and value. Trees in such a condition as to be able to make a substantial contribution (a minimum of 40 years is suggested)	LIGHT GREEN
	B	Trees of moderate quality and value Trees in such a condition as to make a significant contribution (a minimum of 20 years is suggested)	MID BLUE
	C	Trees of low quality and value Trees currently in adequate condition to remain until new planting could be established (a minimum of 10 years is suggested), or young trees with a stem diameter below 150mm.	GREY

Sub-categories	1. Mainly arboricultural values	2. Mainly landscape values	3. Mainly cultural values, including conservation

Root Protection area

This is the minimum Root Protection Area (RPA) recommended within Table 2 of British Standards 5837 2005 'Trees in relation to construction'. The RPA is an area (m2) equivalent to a circle with a specified radius. This is the minimum area in m2 which should be left undisturbed. All measurements are rounded to the nearest 0.5m.

Notes:
Whilst 'C' category trees will usually not be retained where they would impose a significant constraint on development, young trees with a stem diameter of less than 150mm should be considered for relocation or replacement through mitigation.

Tree No.	Species	Ht (m)	Stem Dia (mm)	Branch spread (m)				Height of crown clr (m)	Age Class	Phys. Condition	Structural Condition	Remaining contribution (est. years)	Category grading
				N	E	S	W						
1	Leyland Cypress	13	450e	4	4	4	4	1.5	M	N	Growing base of front garden boundary walls & damage already occurring. Prominent but Limited future potential	10 to 20	C1
2	Silver Birch	11	160e	3	3	2	3	1	MA	N	Growing in paved front garden area. Prominent but Limited future potential	10 to 20	C1
3	Silver Birch	15	160	3	3	2	3	1	MA	N	Growing in paved front garden area. Prominent but Limited future potential	10 to 20	C1
4	Lime	22	600e	7	7	7	7	2	M	N	No close access to trees 4, 5, 6 & 7. but appears relatively healthy with only minor branch die-back. Twin-stems at 4m a.g.l. Large prominent tree to rear garden areas & railway.	20 to 40	B1
5	Sycamore	7	100e	2	2	2	2	1	Y	N	Self-set tree located in raised bed area. Limited future potential	10 to 20	C1
6	Robinia	8	200e	4.5	4.5	4.5	4.5	1	MA	N	Poor crown formation typical of being previously topped. Located centrally within rear garden area. Limited future potential	10 to 20	C1
7	Ash	15	540e	5	6	5	5	1.5	M	N	Located in rear garden area, previously topped at 8m a.g.l	10 to 20	C1
8	Weeping Willow	9	650*	4	4	4	6	2	M	N	Lost major stem E side at 1m a.g.l & remaining W stem has tight fused twin-stems at 1.5m a.g.l. Growing restricted rooting area to side of canal with retaining wall to the S. Limited future potential but prominent & character species of canal area.	10 to 20	B1
9	Raywood Ash	11	310	2	0.5	6	6	3	MA	N	Trees 9 to 12 are located in raised bed area with retaining wall on S side & higher ground to the N. Large old wound at 2m a.g.l, inclined to the S, multiple old pruning wound on lower stem to give clearance to the bridge & occasional dead wood. Limited future potential but forms prominent group with trees 10, 11 & 12.	10 to 20	C1
10	Raywood Ash	11	240	2	1	4	4	6	MA	N	Suppressed tree with asymmetrical crown with occasional dead wood & multiple old pruning wound on lower stem.	10 to 20	C1
11	Raywood Ash	11	290	3	2	4	4	6	M	N	Multiple old pruning wounds on lower stem & occasional dead wood	10 to 20	C1
12	Raywood Ash	11	400	4	6	6	8	2	MA	N	Inclined to the S, asymmetrical crown, low canopy over path & occasional dead wood	10 to 20	C1

Tree No.	Species	Ht (m)	Stem Dia (mm)	Branch spread (m)				Height of crown clr (m)	Age Class	Phys. Condition	Structural Condition	Remaining contribution (est. years)	Category grading
				N	E	S	W						
13	Sycamore	8	250	3	3	3	3	2	MA	P	Constricted rooting with surface damage & 50% die-back of crown N side	>10	R
14	Raywood Ash	11	410	4	6	6	8	2	MA	N	Constricted rooting with minor surface damage, large old decayed stem wound at 1.5m a.g.l SE side, large lateral stem removed N side at 3m a.g.l resulting in asymmetrical crown & occasional dead wood.	10 to 20	C1
15	Sycamore	12	310	4.5	2	4.5	4.5	4	MA	N	Large decayed wound at base N side, surface root damage & constrained rooting area.	10 to 20	C1
16	Sycamore	12	420*	2.5	2.5	3.5	2	3	MA	N	Tight triple-stems at g.l with large old wounds E side, surface root damage & constrained rooting area. Limited future potential	>10	R
17	Sycamore	13	640e	4	9	9	4	2	M	N	Previously topped at 8m a.g.l reforming asymmetrical crown. Located approximately 1m from base of building & heavily pruned back W side to clear roof.	10 to 20	C1
18	Sycamore	16	650*	6	6	4	4	4	M	N	2x large lateral stems E side at 1.5m a.g.l, previously topped at 9m a.g.l & located approximately 1m from building	10 to 20	C1
19	Fig	7	380*	4.5	5	4.5	5	0	M	N	Located off-site adjacent 1.8m high wall, outwardly fair health and condition, previously crown reduced with multi-stems. No access for detailed inspection, estimated basal area.	20 to 40	B1
20	Tree of Heaven	7	120ave	4.5	4.5	4.5	4.5	3	Y	N	Located adjacent chainlink fence within boundary, multi-stemmed from ground level, debris and built up ground level within basal area, limited future potential	<10	R
21	Norway Maple	7	240*	4	4	4	4	1.5	MA	N	Located adjacent chainlink fence within boundary with barbed wire through crown, multi-stemmed from 0.5m a.g.l. debris and built up ground level within basal area, limited future potential.	<10	R
22	Buddleia	4	30ave	3	3	3	3	1	Y	N	Shrub growing from retaining wall.	<10	R
23	Tree of Heaven	7	110e	2	2	2	2	2	Y	N	Sapling located within rear garden. No access for detailed inspection, estimated basal area.	10 to 20	C2
24	Elder	6	210e	3	2	4	3.5	2	MA	N	Located directly adjacent 3m high boundary wall, 2.5m from existing building. Poor quality shrub.	<10	R

Tree No.	Species	Ht (m)	Stem Dia (mm)	Branch spread (m)				Height of crown clr (m)	Age Class	Phys. Condition	Structural Condition	Remaining contribution (est. years)	Category grading
				N	E	S	W						
25	Hornbeam	15	360e	4	4	4	4	3	MA	N	Located off-site. separated by boundary wall, crown break at 3m. No access for detailed inspection, estimated basal area.	20 to 40	B2
26	Dove Tree	6	100e	3	3	3	3	2	Y	N	Located within rear garden, twin stemmed from g.l. ornamental tree with open crown, domestic scale at present.	20 to 40	C2
27	Birch	5	60e	1.5	1.5	1.5	1.5	2	Y	N	Located within rear garden, domestic scale at present.	20 to 40	C2
28	Cypress	6	120e	1.5	1.5	1.5	1.5	2	MA	N	Located within rear garden, ubiquitous species, domestic scale.	20 to 40	C2
29	Eucalyptus	15	280e	4	5	4	4	1	MA	N	Located directly adjacent 2.5m high wall, possble trunk in contact with wall, inappropriate species, limited future potential. No access for detailed inspection, estimated basal area.	10 to 20	C2
G30	Sycamore	7	170e	3	2	2	2	3	Y	N	Self-set saplings adjacent boundary wall. No access for detailed inspection, estimated basal area.	<10	R

APPENDIX 2
Root Protection Area Calculations

Tree No.	Species	Stem Dia (mm)	Age Class	Remaining contribution (est. years)	Category grading	Root protection area		
						Radius (m)	M^2	Square
1	Leyland Cypress	450e	M	10 to 20	C1	5.4	91.6	9.6
2	Silver Birch	160e	MA	10 to 20	C1	1.9	11.6	3.4
3	Silver Birch	160	MA	10 to 20	C1	1.9	11.6	3.4
4	Lime	600e	M	20 to 40	B1	7.2	162.9	12.8
5	Sycamore	100e	Y	10 to 20	C1	1.2	4.5	2.1
6	Robinia	200e	MA	10 to 20	C1	2.4	18.1	4.3
7	Ash	540e	M	10 to 20	C1	6.5	131.9	11.5
8	Weeping Willow	650*	M	10 to 20	B1	6.5*	132.7*	11.5*
9	Raywood Ash	310	MA	10 to 20	C1	3.7	43.5	6.6
10	Raywood Ash	240	MA	10 to 20	C1	2.9	26.1	5.1
11	Raywood Ash	290	M	10 to 20	C1	3.5	38.1	6.2
12	Raywood Ash	400	MA	10 to 20	C1	4.8	72.4	8.5
13	Sycamore	250	MA	>10	R	3	28.3	5.3
14	Raywood Ash	410	MA	10 to 20	C1	4.9	76.1	8.7
15	Sycamore	310	MA	10 to 20	C1	3.7	43.5	6.6
16	Sycamore	420*	MA	>10	R	4.2*	55.4*	7.4*
17	Sycamore	640e	M	10 to 20	C1	7.7	185.3	13.6
18	Sycamore	650*	M	10 to 20	C1	6.5*	132.7*	11.5*
19	Fig	380*	M	20 to 40	B1	3.8*	45.4*	6.7*
20	Tree of Heaven	120ave	Y	<10	R	1.4	6.5	2.5
21	Norway Maple	240*	MA	<10	R	2.4*	18.1*	4.3*
22	Buddleia	30ave	Y	<10	R	0.4	0.4	0.6
23	Tree of Heaven	110e	Y	10 to 20	C2	1.3	5.5	2.3
24	Elder	210e	MA	<10	R	2.5	20	4.5
25	Hornbeam	360e	MA	20 to 40	B2	4.3	58.6	7.7
26	Dove Tree	100e	Y	20 to 40	C2	1.2	4.5	2.1
27	Birch	60e	Y	20 to 40	C2	0.7	1.6	1.3
28	Cypress	120e	MA	20 to 40	C2	1.4	6.5	2.5
29	Eucalyptus	280e	MA	10 to 20	C2	3.4	35.5	6
G30	Sycamore	170e	Y	<10	R	2	13.1	3.6

APPENDIX 3

Copy of TPO C167 of 1997

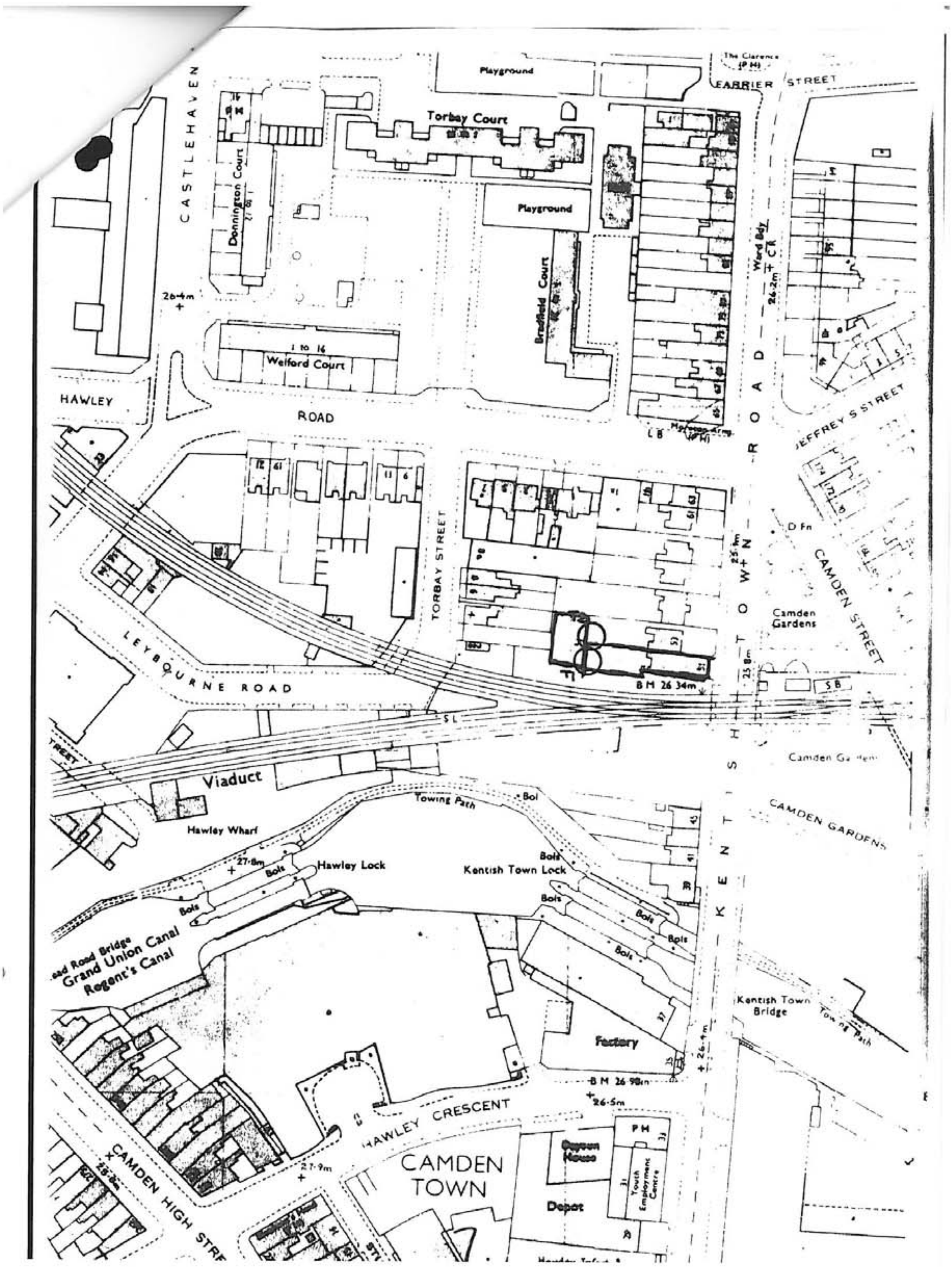
(extract)

FIRST SCHEDULE

TREES SPECIFIED INDIVIDUALLY
(encircled in black on the map)

No. on Map.	Description.	Situation.
T1	Sycamore Tree	Both trees are situated at the rear of 51 Kentish Town Road, London NW1, situated close to the rear wall of the workshop (also numbered 51) at the rear of 51 and 53 Kentish Town Road, London NW1. T1 grows approximately 1m from the rear wall. T2 is growing at the base of the wall with a slight lean away from the wall.
T2	Sycamore Tree	

6


Playground
Torbay Court
Playground
Donnington Court
CASTLEHAVEN
Bradfield Court
Welford Court
HAWLEY
ROAD
FARRIER STREET
JEFFREY'S STREET
TORBAY STREET
LEYBOURNE ROAD
Camden Gardens
CAMDEN STREET
Viaduct
Hawley Wharf
Towing Path
Hawley Lock
Kentish Town Lock
Grand Union Canal
Regent's Canal
KENTISH TOWN ROAD
CAMDEN GARDENS
Kentish Town Bridge
Factory
HAWLEY CRESCENT
CAMDEN TOWN
Depot
CAMDEN HIGH STREET

APPENDIX 4

Meeting Minutes 14-01-11

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FILE NOTE

MEETING PURPOSE: To discuss proposed development and design layout with regards to arboricultural constraints and opportunities

Project: **Hawley Wharf, Camden** **Job No.** tf 752
Venue: Chalk Farm Rd (site)

Attendance: Alan Richardson (AR) - *tree*:fabrik **Date:** 14-01-11
Maike Neuendorff (MN) - fabrik
Natalie Thompson (NT) - Gerald Eve LLP
Kevin Fisher (KF) - London Borough of Camden

No	Minute
1.	NT introduced the site and planning context and outlined discussions with LBC.
2.	AR provided overview of tree stock and proposed implication of the proposals on existing trees.
3.	KF considered the trees directly adjacent to the Camden Lock Bridge were of visual importance and their retention was desirable. It was confirmed that the trees are located outside of the site and subject to adequate tree protection the trees could be safely retained within the proposed scheme.
4.	The health and condition of trees located along the Canal to the frontage of the site were then discussed and the reasons for the proposed removal to facilitate removal of the retaining wall and changes in land levels. KF raised no objection to the tree loss subject to satisfactory mitigation.
5.	Species replacement was then discussed by MN and the proposed landscape response with preference for riparian species. KF agreed with retaining the waterside theme and suggested preference for Weeping Willow where crown volume would allow to compliment those on the opposite side of the Lock and Bridge. KF also suggested that replacement trees be of robust size to minimise risk of vandalism etc. The two replacement trees proposed to the south of the site (arches space) were also discussed with regards to pedestrian flow/crown space and KF said that this would be looked at.
6.	We then walked over to the north site adjacent Torbay Street and viewed the proposals. NT explained that the final scheme would be dependent on the outcome of a meeting with LBC and whether the site would be residential and/or to include a new school.
7.	The site to the east of Torbay Street was viewed first which would result in the removal of a mature Ash to the rear of the existing buildings for both schemes. Whilst outwardly of fair health the tree displayed signs of previous pollarding with wounding below the crown break. It was also confirmed that the off-site Sycamore subject to the TPO could be adequately retained with adjacent existing structures and hard surfacing returned to soft ground within both schemes where possible. The proposed landscape scheme was also considered.
8.	KF raised no objection to the tree loss, however, he preferred that the replacement trees be of adequate stature to attain visual amenity within the local and wider street scene that that of ornamentals proposed. This may mean that the number of replacements be reduced to accommodate trees with larger potential.
9.	The site to the west of Torbay was then discussed. It was noted that the tree was subject to existing built form on the east side and appeared to be of fair health. All agreed that the Lime tree was of visual amenity.

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10.	AR explained that the Lime tree was shown for retention within the residential scheme but could not be practically retained if the preference was for a new school.
11.	It was agreed that its retention/removal would be decided by LBC in their final decision with regards to the school and the balance between other material considerations.
12.	AR thanks everyone for attendance.

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APPENDIX 5

Photographic Record

1. General view of Leyland Cypress (1) left of picture with principal London Plane directly opposite and open space to entrance of flats in background of street scene.

2. General view of Silver Birch (2 & 3).

3. General view of Lime (4).

4. General view of canalside trees

5. General view of a restricted rooting area of tree (13 & 14).

6. General view of canalside Sycamore (15 & 16).

7. General view of Ash (7) displaying previous crown reduction.

8. General view of restricted rooting area and poor structural form of Tree of Heaven (20).

9. General view of proximity to boundary wall of Elder (24).

APPENDIX 6

Tree Removal & Preliminary Protection Plan

APPENDIX 7
Preliminary Method Statement

1.0 General

1.2 The primary purpose of the Method Statement is to aid the preservation of retained trees and those located off-site within the influence of development, through setting out the appropriate working practices, construction techniques and tree protection measures that are to be adopted when the proposed construction is undertaken in the proximity of trees.

1.3 The methodology of this Tree Protection Strategy follows a logical sequence of events. Variations to the sequence could significantly reduce the efficiency of the tree protection measures.

1.4 To ensure that the Local Planning Authority Tree Officer has an opportunity to visit the site, the Local Authority is to be given notice in writing 5 full working days prior to the date of commencement of development to check all physical tree protection.

1.5 All works within the RPA of any retained trees will be carried out in accordance with the Method Statement.

1.6 It is recommended that works are carried out under supervision by an experienced and qualified arboricultural consultant. It is the responsibility of the client to appoint an Arboricultural Consultant prior to commencement of works.

1.7 All damage to protective barriers or accidental damage to trees must be reported to the Site Manager immediately. Works occurring within the vicinity will cease immediately until adequate tree protection measures are rectified. A record of the damage will be made by the Site Manager and, in consultation with the appointed arboricultural consultant, remediation measures carried out.

1.8 It is proposed therefore to phase tree protection through the construction processes as follows:

Stage 1 Pre-Commencement Meeting
Stage 2 Execute agreed tree works.
Stage 3 Erection of protective barriers prior to ground works and demolition.
Stage 4 Demolition of building within RPA of T17 & T18 and erection of protective barriers.
Stage 5 The setting back of protection barriers to facilitate removal of hard-surfacing within RPA's and final surface treatments
Stage 6 Construction and installation of hard-surfacing or landscaping within RPA's.
Stage 7 Dismantle protective barriers.

1.9 Equally as important as the physical measures of tree protection are the links of communication. The section below should include the details of the relevant parties and individuals that are important in the process of tree preservation at this development site. Such details should be retained by all relevant parties and available on site at all times. It is an undertaking that the relevant parties are advised of any changes in personnel or contractor during the development process.

	Company	Contact	Tel.
Client			
LPA Tree Officer			
Project Manager			
Arboricultural Consultant			

2.0 ARBORICULTURAL SUPERVISION

2.1 During development, operations are required within the RPA and construction exclusion zone of retained trees. It is recommended that works within the RPA or construction exclusion zone of any retained tree are carried out under supervision by an experienced and qualified Arboricultural Consultant.

2.2 It is the responsibility of the client to appoint an Arboricultural Consultant prior to commencement of works to an agreed scope of works.

2.3 The agreed works stages and scope of arboricultural supervision shall be informed by the Method Statement.

2.4 It is the responsibility of the site manager to inform the appointed Arboricultural Consultant at least 72hrs before commencement of each operation within the scope of works to enable attendance by the Arboricultural Consultant and inform the Local Authority Representative.

2.5 The Site Manager will contact the appointed Arboricultural Consultant of any unscheduled works within the RPA or construction exclusion zone. The extent of the works will be discussed and a method statement and provision for tree protection implemented. All unscheduled works must be agreed by the appointed Arboricultural Consultant and the Local Authority Representative prior to commencement of the works.

2.6 Following completion of each work stage the appointed Arboricultural Consultant will circulate a report to the Site Manager and Local Authority Representative within two weeks.

3.0 PRE-COMMENCEMENT MEETING

3.1 A pre-commencement meeting shall be held on site prior to the commencement of any construction works. This shall be attended by the contractor's site manager or agent, the appointed Arboricultural Consultant and the Local Authority Tree Officer. The methods of tree protection outlined in this statement shall be fully discussed at the meeting, so that all aspects of their implementation and sequencing are made clear to all parties. Trees to be removed shall be marked and pruning works to be discussed and agreed in writing with the Tree Officer. Any clarifications or modifications to this statement shall be recorded and circulated to all parties in writing. If appropriate, the tree surgery and any other specialist contractors should also attend this meeting.

3.2 A copy of this Method Statement shall be supplied to all relevant site personnel who have control over any aspect of excavations within the crown spread of any trees to be retained. The contractor will provide adequate instruction on its implementation for all relevant staff.

3.3 The Site Manager shall inform the appointed Arboricultural Consultant at the completion of each stage for inspection and a report circulated to all parties and the Local Planning Authority in writing.

4.0 TREE SUGERY WORKS

4.1 All tree works to facilitate access and development must be agreed with the Local Planning Authority and written consent obtained.

4.2 All tree works are to be carried out in accordance with BS 3998 Recommendations for tree work 2010 and current good arboricultural practice by a qualified and experienced tree contractor.

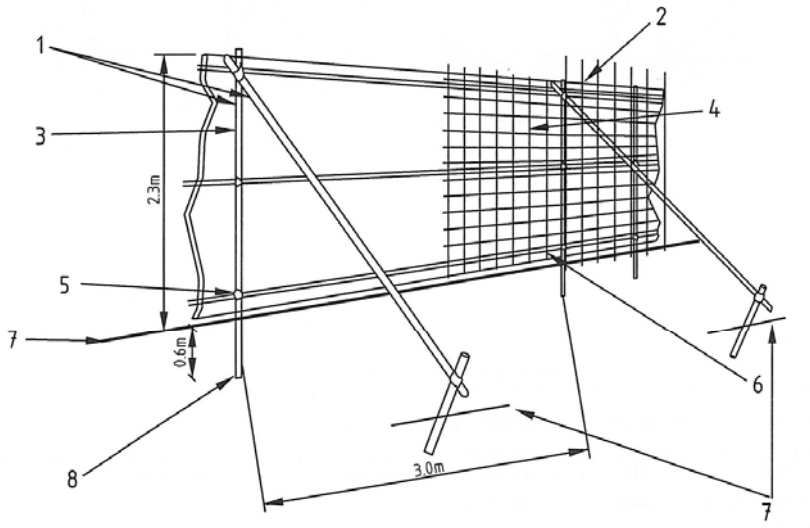
4.3 Trees identified for removal are located throughout the site. The position of the trees to be removed are shown on *tree*:fabrik drawing Tree Removal & Protection Plan tf 752/TPP/200 (Appendix 5).

5.0 TREE PROTECTION BARRIERS

5.1 Following the completion of facilitative tree works and removal, the tree protection barriers will be erected. The position for barriers is shown on *tree*:fabrik drawing Tree Removal & Protection Plan tf 752/TPP/200 (Appendix 5) and the root protection areas forms appendix 2. The area excluded from activity by the barriers forms the **Construction Exclusion Zone.**

5.2 The position of the barriers is to be marked out on site and agreed at each stage with appropriate representatives from the Contractor and appointed arboricultural consultant. The barriers will be erected **PRIOR** to any works in the vicinity of the trees or the delivery of machinery, materials, plant or equipment to the site or any adjacent land thereto.

5.3 Barriers must be fit for purpose and should consist of a scaffold framework comprising of a vertical and horizontal framework, well braced to resist impacts, with vertical tubes spaced at a maximum of 3m. Onto this, weldmesh panels should be securely fixed with wire or scaffold clamps unless similar fencing is agreed with the Local Planning Authority see Detail of Tree Protection Barriers (extract of Fig.2 BS5837 2005) below.



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
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

5.4 Ground protection for pedestrian movements and scaffolding within the RPA will be constructed in the form of a single thickness of scaffold boards on top of a compressible layer laid onto a geotextile see Detail of Scaffold within RPA (extract of Fig.3 BS5837 2005) below.

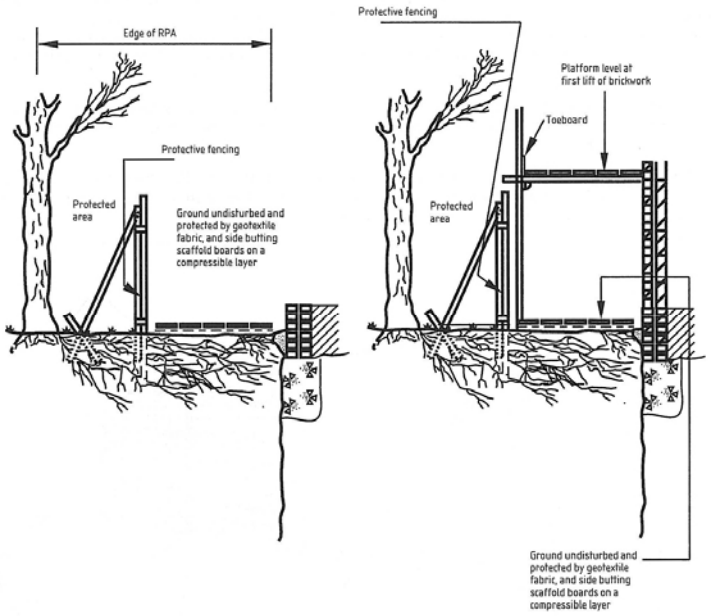


Figure 3 — Scaffolding within the RPA

5.5 Ground Protection for Vehicular movements will be formed by a temporary load bearing surface such as Evetrakway (www.evetrakway.co.uk). Any hollows within the existing ground surface will be filled to provide a flat surface. A geotextile material will then be laid within the position shown. The track way will then be laid and secured in place in accordance with manufacturers instructions.

5.6 Once the barriers and ground protection has been properly installed and erected in position, the fenced area is to be considered sacrosanct and must not to be removed or altered in any way without prior approval from the Arboricultural Consultant or Local Authority Tree Officer. A record of the position and adequacy of the fence is to be signed off by the Site Manager and Local Planning Authority.

5.7 Notices are to be fixed to the outside of the barriers with words such as **'TREE PROTECTION AREA – NO ACCESS AND NO STORAGE OR WORKING WITHIN THIS AREA'.**

5.8 The barriers are to remain in position from before site preparation, demolition and ground works until final completion or a time agreed by the Local Authority and Contractor. Only after the main construction phase is complete and in order to facilitate the final surface treatments, the tree barriers will be set-back in accordance with the Tree Protection Plan tf 851/TPP/200 (Appendix 4). All personnel using the site including site managers, agents, supervisors, operatives and other relevant personnel are to be informed of the role of the tree protective fences and its importance.

5.9 If 360-degree excavators are to be used during construction, at no time is the excavating arm to encroach over the position of the tree protection fence. Operation must always be in a way that avoids contact with lower branches.

5.10 No fires are to be lit within 10m of the tree protection barriers or crown, which ever is greater.

5.11 Within the Construction Exclusion Zone:

No mechanical or hand excavation
No changes in soil levels
No storage of plant, equipment or materials
No vehicles
No Spillage or discharge of chemical substance, cement washings or other materials
No fires

6.0 CRANES, RIGS & BOOMS

6.1 Precautionary measures must be observed to avoid contact with the crown of any retained trees from tall loads, plant with booms, plant & counterweights.

6.2 Protection and precautionary measures shall be considered by the client and Contractor and provision made within the contractor's Method Statement.

6.3 A copy of the protection and precautionary measures contained within the contractor's Method Statement will be provided by the Site Manager to the Arboricultural Consultant for checking.

7.0 EXCAVATION AND UTILITIES

7.1 Utility or drainage runs should be designed not to encroach within the RPA of retained trees using existing service routes where possible, obviating the requirement for new trenches. In the event that excavation is required within the RPA as part of agreed utility and drainage plans, hand tools only must be used in accordance with the guidance provided in National Joint Utility Guidelines Vol. 4 issue 2 dated Nov' 07.

7.2 In the event that roots are required to be pruned, sharp cutting tools are to be used to ensure the minimum damage is caused. Clean cuts can result in the redevelopment of fine roots. Poor untidy cuts can, however, result in root die back and decay. No roots greater than diameters of 25mm are to be pruned without prior agreement with the appointed arboricultural consultant or Local Authority representative.

8.0 REMOVAL OF DEMOLITION MATERIAL AND OVERBURDEN

8.1 Removal of demolition debris and overburden within the Construction Exclusion Zone will be required in order to erect the tree protection barriers. Operations must therefore be carefully carried out in order not to disturb tree roots that may be present below them.

8.2 Areas of potential conflict will be marked out on site by the Site Manager and appointed Arboricultural Consultant prior to commencement of any groundworks to indicate precautionary areas.

8.3 All plant and vehicles engaged in removal of demolition material and overburden must operate outside of the RPA.

8.4 Removal of demolition debris and overburden must be carefully carried out in order not to disturb tree roots that may be present below them. Hand tools or appropriate machinery should be used (under arboricultural supervision) to remove the debris or overburden. All material should be pulled tangentially away from the RPA's.

8.5 Any tree roots exposed by such operations should be treated at once. Exposed roots will be wrapped in dry, clean Hessian sacking to prevent desiccation and to protect from rapid temperature changes. Roots smaller than 25mm diameter may be pruned back, preferably to a side branch, using proprietary cutting tools.

8.6 Immediately following removal of demolition debris or overburden from the RPA the Tree Protection Barrier will be erected.

8.7 Works within this section shall be carried out under supervision of the Arboricultural Consultant.

9.0 DEMOLITION OF STRUCTURES WITHIN RPA'S

9.1 All plant and vehicles engaged in demolition works must operate outside of the RPA.

9.2 Precautionary measures must be observed to avoid contact with the crown of any retained trees from tall loads, plant with booms, plant & counterweights.

9.3 Protection and precautionary measures shall be considered by the client and Contractor and provision made within the contractor's Method Statement.

9.4 A copy of the protection and precautionary measures contained within the contractor's Method Statement will be provided by the Site Manager to the Arboricultural Consultant for checking and agreement by the LPA representative.

9.5 Tree protection barriers will be set back to the edge of the work zone.

9.6 Demolition of standing structures should be carried out top down and pulled back within the footprint of the existing building.

9.7 Following demolition and removal of demolition debris, areas of potential conflict will be marked out on site by the Site Manager and appointed Arboricultural Consultant prior to commencement of removal of the foundation base to indicate precautionary areas.

9.8 Removal of the foundation base or hard surfacing must be carefully carried out in order not to disturb tree roots that may be present below them. Hand tools or appropriate machinery should be used (under arboricultural supervision) to remove the existing surface. All surfacing should be pulled tangentially away from the RPA's.

9.9 Any tree roots exposed by such operations should be treated at once. Exposed roots will be wrapped in dry, clean Hessian sacking to prevent desiccation and to protect from rapid temperature changes. Roots smaller than 25mm diameter may be pruned back, preferably to a side branch, using proprietary cutting tools.

9.10 Immediately following demolition or foundations the underlying soil structure must be protected by either the re-instatement of tree protection barriers to form the Construction Exclusion Zone or temporary ground protection installed prior to any heavy vehicles re-entering the site in accordance with section 5.0 above. Where ground protection is installed height restrictors must be erected to provide protection to the overhanging crown.

9.11 Works within this section shall be carried out under supervision of the Arboricultural Consultant.

10.0 REMOVAL OF HARD SURFACES WITHIN RPA'S

10.1 All plant and vehicles engaged in removal of hard surfaces must operate outside of the RPA or from existing hard surfaces within the RPA.

10.2 Prior to removal tree protection barriers will be set back to the edge of the work zone. Removal of hard surfacing must be carefully carried out in order not to disturb tree roots that may be present below them.

10.3 Excavation must not extend into the soil beneath the hard surface unless authorized by the Arboricultural Consultant. The existing hard surface will be broken up, lifted and removed outside of the RPA. When the hard surface or foundation is close to the soil level, hand tools or appropriate machinery is to be used (under arboricultural supervision) to prevent unnecessary damage to the tree roots. All surfacing should be pulled tangentially away from the RPA's.

10.4 Any tree roots exposed by such operations should be treated at once. Exposed roots will be wrapped in dry, clean Hessian sacking to prevent desiccation and to protect from rapid temperature changes. Roots smaller than 25mm diameter may be pruned back, preferably to a side branch, using proprietary cutting tools.

10.5 Immediately following removal of hard standing, the underlying soil structure must be protected by the re-instatement of tree protection barriers to form the Construction Exclusion Zone in accordance with clause 8.3 above. Where an existing surface is to be re-instated to soft ground the excavation should be infilled with good quality topsoil (General Purpose Grade0 according with BS 3884 ' Specification for top-soil'.

10.6 Works within this section shall be carried out under supervision of the Arboricultural Consultant.

11.0 INSTALLATION OF 'NO-DIG' HARD SURFACING

11.1 Within Precautionary Area 1 and following completion of practical construction or at a time otherwise agreed with the local planning authority, the tree barriers can be set-back and the final surface laid.

11.2 Where the final surface layer is to be laid onto soft ground, a 'no dig' construction using a three dimensional cellular confinement system in accordance with the engineers and manufacturers recommendations.

11.3 Where the surfacing is to be laid within an area previously occupied by structures or hard surfacing the existing make-up will be retained to form the sub-base. Where the existing hard surfacing is to be retained the final surface layer can be non-porous and installed by conventional construction methods.

11.4 The principles laid out in BS5837 (2005) 11.3 Principles for avoiding tree root damage during construction must be observed.

11.5 Within soft ground areas, construction shall ideally be undertaken in dry weather when ground is driest and least prone to compaction.

11.6 Ground vegetation should be killed using a translocated herbicide such as glyphosate. To prevent severe oxygen depletion in the soil during the process of decomposition, all dead organic material shall be removed.

11.7 All major protrusions such as rocks and demolition material shall be removed minimizing ground disturbance. All hollows will be filled with sharp sand.

11.8 Permeable matting will then be laid and the cellular confinement system laid on top and pegged into place

11.9 The cellular confinement system will then be installed in accordance with manufacturers' guidelines using 'no fines' aggregate. Edging will be constructed with boards attached to pegs driven into the ground. Pegs should be long enough to give adequate support during construction.

11.10 The final surface may be gravel or block paviours placed directly on top of the aggregate. Paving slabs or brick paviours should be dry-bedded on the sub-base and joints left unsealed.

12.0 STORAGE OF MATERIALS

12.1 All materials for construction purposes should be carefully stored outside the enforced construction exclusion zone.

12.2 In the event of any accident or spillage in or adjacent to the protected trees the Client is to immediately stop work in the vicinity and inform the Arboricultural Consultant of the event. The Arboricultural Consultant is to attend site to record the incident and then report it in writing to the Local Authority Tree Officer. Any remedial action required is to be undertaken only following the approval and advice of the Local Authority Tree Officer. In the event of spillage the area is to be secured with sandbags on the line of the tree protection area and measures taken to drain/soak any spillage away from the protected area.

13.0 LANDSCAPING WORKS

13.1 All landscaping will avoid soil re-grading and disturbance within the tree protective areas where possible. If cultivation of the soil and making up of levels is required, cultivation should not exceed 50mm depth and must at all times be by hand. All landscaping works, soft and hard, should be carried out as the last process of development. Any agreed soil re-profiling required to achieve the finished levels around trees will be carried out by hand with General Purpose grade topsoil and under supervision of the appointed arboricultural consultant.

14.0 TREE PROTECTION AND DISMANTLING PROTECTIVE BARRIERS

14.1 In order to implement final surface treatments it will be necessary to dismantle and re-erect the protective barriers. Within tree protection distances all works will conform to the principals set in section 5.0.

14.2 A minimum of seven days notice will be given to the Local Authority prior to the dismantling of the protective barriers.

APPENDIX 6
Qualifications and Experience

Brief qualifications and experience of Alan Richardson

Qualifications: I hold the National Diploma in Arboriculture and I am a Professional Member of the Arboricultural Association.

Career experience: I started my career at the grass roots of the industry working in Britain and West Germany, obtaining experience in all aspects of practical tree care. In 1989 I joined Westminster City Council as an Arboricultural Officer, dealing with municipal tree management. This provided me with a comprehensive insight into the social, safety and contract management issues of urban tree management.

In 1991 I joined English Heritage as the Trees and Woodlands Advisor providing specialist advice on all aspects of trees, woodlands and forestry within the historic environment. During the next nine years, I developed and established national policy and strategy for tree management on the 420 historic properties under guardianship including the co-ordination, inspection and monitoring of the annual H&S inspection programme, contracts and standards and represented English Heritage on policy matters relating to trees, including liaison with other government departments on joint projects such as the Veteran Tree Initiative and the Parklands & Wood Pasture Habitat Action Plan.

As a Director of ***tree* : fabrik**, I draw on the wide range of experience obtained and specialise in supplying bespoke arboricultural planning services to Local Planning Authorities and the private sector. This includes advising on a full range of tree issues within the planning environment, providing site surveys to BS5837 (2005) 'Trees in relation to construction', arboricultural implication reports, method statements and supervision, development control advice to Local Planning Authorities, successful enforcement and prosecution, appeal statements and attendance at hearings, liaison with and on behalf of Local Planning Authorities, developers, architects and town planners.

This comprehensive experience and current working knowledge of Local Authorities and the private sector encourages a pragmatic approach that has been found to be of benefit to all parties.

Continuing professional development**:** I keep current on arboricultural issues and best practice through membership of the Arboricultural Association and attendance at short courses.