Arboricultural Development Report

7 October 2010

[90764] Rev.C

Arbtech Consulting Ltd
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If this report has been released electronically the appendices referred to herein can be found in the annexed zip folder/s as .pdf or .dwg files. If this report has been released in hard copy the appendices will be bound into the back of this report. Plans may be annexed separately as A1 or A0 copies where a bound-in A3 copy is not appropriate.

Report signed off – 7-Oct-10 at 9:35 AM

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Executive Summary

This report describes the extent and effect of the proposed development at 53 Fitzroy Park, London, N6 4JA ("site") on individual trees and groups of trees within and adjacent to the site.

Trees within and adjacent to the site have been surveyed by Arbtech Consulting Ltd using a methodology guided by British Standard 5837:2005 'Trees in relation to construction – Recommendations' ("BS5837").

Subsequently, this report has been produced, balancing the layout of the proposed development against the competing needs of individual trees and groups of trees within and adjacent to the site. This report comprises all of the requisite elements of an arboricultural implications assessment, method statement and supporting plans.

Checklist for submission to local planning authority:

Tree survey	☒
Tree constraints plan	☒
Arboricultural implications assessment	☒
Arboricultural method statement	☒
Tree protection plan	☒

This report and its appendices follow precisely the strategy for arboricultural appraisal intended to provide local planning authorities with evidence that trees have been properly considered throughout the development process.

It is the conclusion of this report that the overall quality and longevity of the amenity contribution provided for by the trees and groups of trees within and adjacent to the site will not be adversely affected as a result of the local planning authority consenting to the proposed development.

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General Information

Client: Kearsley Property Ltd.

Site: 53 Fitzroy Park, London, N6 4JA

Agent (if applicable): Emrys Architects, CAP House, 9-12 Long Lane, London, EC1A 9HA

Report author: David Greenwood

Brief proposal description: Demolition of existing house and replacement with multi-level detached dwelling.

Planning application reference: N/A

Documents referred to:

Document	Reference
Topographical survey drawing	0932_0100_002
Proposed layout drawing	0932_0200_AL_001 - 007
Landscape master plan drawing	N/A
LPA pre-app comments	N/A
British Standard 5837:2005	"BS5837"

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Tree Survey

Date: 06.08.2010

Limitations: The survey was made at ground level using visual observation only. Detailed examinations, such as climbing inspections and decay detection equipment were not employed, though may form part of the survey's management recommendations. Measurements were taken using specialist tapes, laser and GPS devices. Where this was not possible, measurements are estimated.

Scope: Pre-development tree surveys make arboricultural management recommendations based exclusively upon the individual tree or group of trees condition relative to their present context (*i.e. not in relation to the proposed development*).

Land use: The site is currently occupied by a large detached dwelling.

Topography: There are significant changes of level with the site sloping away from east to west with a number of retaining features.

Locality: The tree cover and quality in the locality is good and typical of such a mature residential area with large gardens.

Relative amenity value: The trees surveyed generally do contribute to a minor degree to the landscape amenity of the site and wider locality.

Condition, age and species diversity: A significant number of the trees have been subject to previous pruning works (pollarding, coppicing) and as such have inherent structural and physiological defects.

Status: No statutory protection check has been performed.

Further information: A full schedule including the survey data of all individual trees and groups of trees surveyed can be found at Appendix I.

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Arboricultural Implications Assessment

There are a number of issues to be addressed in an arboricultural implications assessment, and broadly these are as follows –

- The effect and extent of the proposed development within root protection areas of retained trees;
- The potential conflicts of the proposed development with canopies of retained trees; and
- The likelihood and reasonableness of any future remedial works to retained trees, beyond that which would have been scheduled in the course of ordinary management.

Development Footprint & Below Ground Constraints

Category R trees

#s T8 and T10 and T18-T20

These trees shall not limit or constrain the development in any way and will be removed for reasons of sound arboricultural management.

Justification. The trees and groups of trees do not possess the potential to provide a significant amenity contribution into the long term or are of poor structural/physiological condition.

#s T25 and T27

Although obtaining a BS5837 category of 'R', these trees will not be impacted by the proposals and as such will be retained and protected as part of the development; the RPAs are wholly outside of the proposed building footprint.

T26

This tree will be retained and protected as part of the development. The proposal will result in a minimal incursion into the RPA; the incursion accounts for <5% of the trees total RPA, given the existing changes in levels and retaining features, this will not be detrimental to its retention.

#s T22 and T23

These trees will be retained and protected as part of the proposal. The proposed building footprint (lower ground floor) and parking area will incur into the RPAs of these trees.

In order that the foundation excavation works have the minimum impact on the RPAs, a hand dug trench is to be installed along the extent of the RPAs up to a maximum of depth of 600mm; any exposed roots can then be carefully severed. A specification for installation of trenches and root pruning can be found in the AMS and is illustrated on the TPP.

To ensure the hard surfacing has a minimum impact upon the RPAs, a no-dig solution sensitive to the long term interests of retained trees is required. A specification for no-dig surfacing can be found in the AMS and illustrated on the TPP.

Category C trees

#s T3 – T5, T7, T9, T11-T17 and T21

These trees shall be removed to facilitate the proposed construction and to allow for the distribution of excavated spoil throughout the rear garden. However, canopy cover is ecologically important and this loss will be mitigated by incorporating a number of good quality trees into the long term vision of the development.

Justification. The trees are not of sufficient quality to justify constraining the development. However, the high quality landscape proposals will enhance the existing amenity contribution so reflecting a net gain for the locality.

T6

This tree will not be impacted by the proposals; the RPA is wholly outside of the proposed footprint.

T24

This tree will be retained and protected as part of the development. The proposal will result in a minimal incursion into the RPA; the incursion accounts for <5% of the trees total RPAs, given the existing changes in levels and retaining features, this will not be detrimental to its retention.

Category B trees

#s T1 and T2

These trees will be retained and protected as part of the development. The rooting area of these trees will have been restricted by the retaining walls and will likely be confined to the raised area. The minor change of level to accommodate the excavated spoil will not be detrimental to the retention of these trees.

T28

This tree will not be impacted by the proposals; the RPA is wholly outside of the proposed footprint.

Protective barrier fencing will be installed to protect the RPAs from construction materials / traffic. A specification for protective barrier fencing can be found in the arboricultural method statement and is illustrated on the TPP.

As part of the landscaping, a number of hard surfaced pathways are proposed which will incur into a number of RPAs. To ensure the hard surfacing has a minimum impact upon the RPAs, a no-dig solution sensitive to the long term interests of retained trees is required. A specification for no-dig surfacing can be found in the AMS and illustrated on the TPP.

Development Footprint & Above Ground Constraints

The trees have an adequate clearance over the site; as such no remedial tree works are required to facilitate the development.

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Development Footprint & Future Tree Works

No issues arise in relation to light/shading of the site as a consequence of the development as no windows of proposed buildings/annexes are unreasonably shaded by the retained trees. No further pruning is required because of future conflicts arising between trees and buildings. The leaf litter and minor twig debris is not oppressively burdensome to cope with and does not render the proposed development unsafe.

Replacement Planting

The ratio of trees removed to trees replanted should not necessarily be 1:1. Instead, the ratio should take into consideration the available space for tree growth and development in order to ensure the trees are physically suited to the site at maturity.

Eleven new trees will be planted as part of the landscape proposals. A specification for and notation relating to the precise alignment of replacement is contained in the Replacement Tree Plan (RTP-01 Rev B) and the Arboricultural Method Statement for Replacement Tree Planting (ref 0039).

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Arboricultural Method Statement

Accidents and emergencies involving trees

Any accidents and emergencies involving trees shall be immediately reported to Arbtech and their advice sought and agreed to by the council.

Tree Works

For reasons of public safety, all tree works referred to herein must be carried out prior to any site personnel commencing works or any building materials being delivered.

Summary of Tree Works

Tree or Group Reference #	Remove	Canopy	Other
#s T3 – T5 and T7 – T21	Remove to ground level.		

Specification for Protective Barrier Fencing

Protective barrier fencing is to be installed immediately following the completion of the tree works, sited and aligned in accordance with the tree protection plan. Protective barrier fencing is to remain in situ for the entire duration of the development unless otherwise agreed in writing by the council.

Protective barrier fencing should be appropriate for the intensity and proximity of the development to protect trees where development activity is in close proximity. BS5837 defines protective barrier fencing to be "*a scaffold vertical and horizontal framework, well braced to resist impact with the vertical tubes spaced at a maximum of 3.0m. Onto this, weld mesh panels should be securely fixed with wire or scaffold clamps. Weld mesh panels on rubber or concrete feet are not resistant to impact and should not be used.*" Signage denoting the words "*tree protection area*" at 5.0m intervals should be fixed to the protective barrier fencing.

Prohibition

- Mechanical digging or scraping is not permitted within a defined root protection area or within areas cordoned off by protective barrier fencing.
- Fires are not permitted within ten metres of any vegetation.
- Machinery, plant and vehicles are not permitted to be washed down within five metres of vegetation.
- Leaning objects against or attaching of objects to a tree is not permitted.
- Chemicals and materials are not to be transported, stored, used or mixed within a root protection area or within areas cordoned off by protective barrier fencing.

Specification for installation of hand dug trench and root pruning

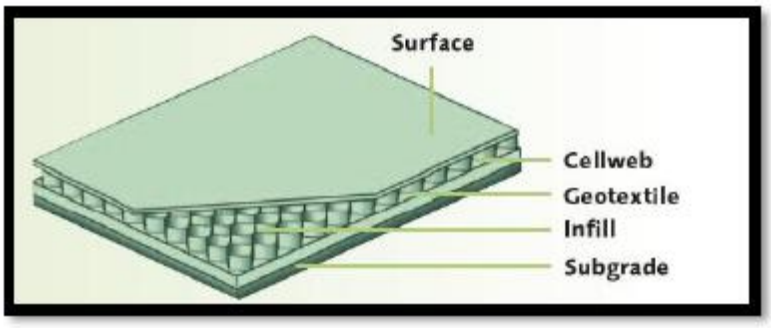
To minimise any potential impact of the excavation works in proximity to trees reference T22 and T23, a trench will be installed within the RPAs along the extent of the building footprint, to a depth of 600mm. Any exposed roots will then be root pruned. The location of the trench is illustrated on the TPP.

Roots whilst exposed should be wrapped in dry, clean hessian sacking to prevent desiccation and to protect from rapid temperature changes. Roots should be pruned back, preferably to a side branch, using a proprietary cutting tool such as bypass secateurs or handsaws, making a clean cut of a smaller diameter wound as possible.

Specification for Surface Treatments

To permanently enhance the site's sensitivity to trees, the development requires a no-dig engineering solution to providing for new hard surface treatments within the RPAs of trees reference T22 and T23. The engineering solution must allow for the lateral and vertical exchange of water and gases in the soil beneath it, and must not allow for shearing or localized compaction. This will be addressed by installing a cellular confinement system. The cellular confinement system will be CellWeb (a Geosynthetics Ltd product); the precise specification of which will be supplied by the manufacturer and conditioned as part of consent to be approved in writing by the council prior to development commencing.

The CellWeb solution should follow the manual breaking of existing hard surface treatment/s. It will consist of a geotextile laid onto the ground; having been de compacted (see below) and exposed to a maximum depth of 0.1m, with a cellular confinement system fixed atop and charged with a washed, no fines aggregate. This will then be "dressed" using traditional paving or gravel. An example diagram showing the CellWeb construction is reproduced below with the kind permission of Geosynthetics Ltd.



Prior to the geotextile being installed, the soils within RPAs should be de compacted with well composted organic mulch integrated in radial trenches away from the stem to provide the trees with the very best available technology and environment in which to flourish and provide an amenity contribution in the long term.

Specification for replacement planting

Tree planting shall occur during soft landscaping works and following completion of construction and earthworks (including spreading of spoil).

All trees to be planted in accordance with the approved Replacement Tree Plan (RTP-01 Rev B) and the Arboricultural Method Statement for Replacement Tree Planting (ref. 0039).

Site Monitoring

The development's tree protection is to be monitored by Arbtech Consulting Ltd, who will be retained to record and report observations to the council at appropriate intervals. As a suggested minimum, the company should visit once to brief site personnel prior to any works commencing;

once to sign off the installation of tree protective measures; once per month during the development; and once to sign the development off and recommend that non-permanent tree protective measures can be removed.

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Authored by – **David Greenwood** [Arboricultural Consultant]

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Report signed off – 7-Oct-10 at 9:35 AM

ARBTECH
ENVIRONMENTAL SERVICES

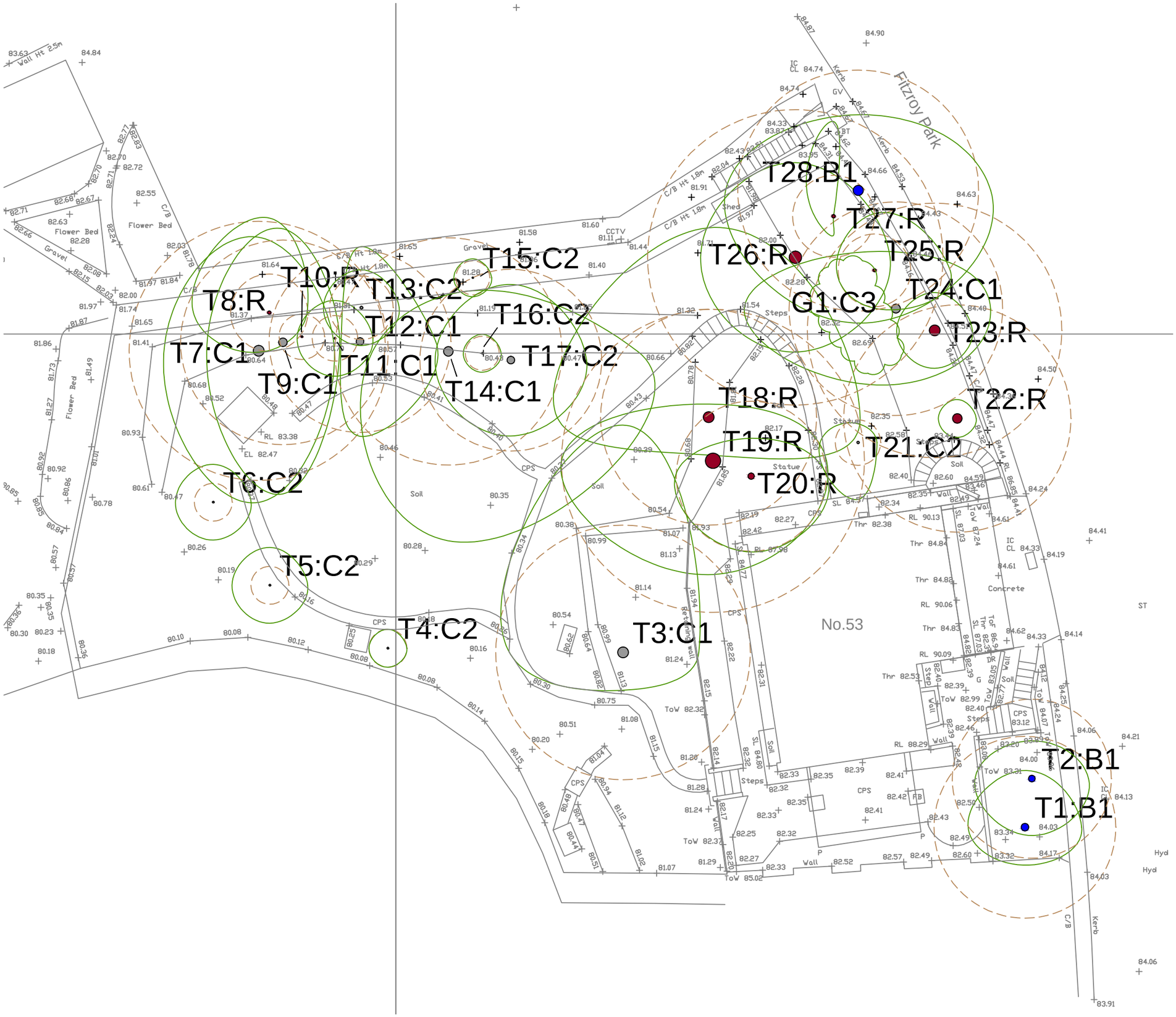
Survey schedule (Appendix I)
Tree survey field data compliant to British Standard 5837:2005
Date/s of survey Start 06/08/2010 Finish -
Survey undertaken Contrac 90764 Site 53 Fitzroy Park, London, N6 4JA

Item ı	Species	Age	Vitality	BS Cat	BS Cá	Clr	Heigh	DBH	N	S	E	W	Notes	Mgt reco's
T1	Sycamore (*Acer pseudoplatanus*)	M	Good	B	1	3	18	400	3	2	3	3	The ivy around the lower stem of the tree has been severed in the recent past	Remove the remains of the dead ivy
T2	Sycamore (*Acer pseudoplatanus*)	M	Good	B	1	3	18	350	2	3	3	3	Leaning at 45 degree angle towards the west	None
T3	Common lime (*Tilia* x *europaea*)	OM	Fair	C	1	4	17	560	12	2	4	6	Leaning at 45 degree angle to the north, small cavity on the western stem, lapsed pollard with a large amount of end weight upon the pollard point. Given the lean and the cavity there is a high probability that the tree will not be able to sustain regular pollarding work in the future.	
T4	Bay (*Laurus nobilis*)	M	Fair	C	2	Ground level	3	100	1	1	1	1	Multi-stem	
T5	Plum (*Prunus domestica*)	M	Fair	C	2	1	5	100	2	2	2	2	Multi-stem	
T6	Apple (*Malus domestica*)	M	Fair	C	2	1	5	100	2	2	2	2	Multi-stem	
T7	Weeping willow (*Salix* x *sepulcralis*)	M	Fair	C	1	4	15	570	6	8	4	5	Previously pruned (possibly 2007), there is now a significant amount of end weight on this new pruning points that now require to be removed.	Prune back to previous (2007) pruning points and remove ivy
T8	Apple (*Malus domestica*)	M	Fair	R	R	1	8	170	5	2	2	4	Suppressed by the large willows to the south, leaning at 45 degree angle towards the northwest, co-dominant at approximately 2m above ground level and ivy upon its stem and within its crown	Remove suppressed tree
T9	Weeping willow (*Salix* x *sepulcralis*)	M	Fair	C	1	4	16	450	6	8	3	4	Previously pruned (possibly 2007), there is now a significant amount of end weight on this new pruning points that now require to be removed.	Prune back to previous (2007) pruning points and remove ivy
T10	Weeping willow (*Salix* x *sepulcralis*)	MA	Dead	R	R	2	10	100	0	0	0	0	Previously topped (2007) no section of the crown is alive.	Remove
T11	Ash (*Fraxinus excelsior*)	MA	Good	C	1	2	10	100	2	2	2	2	Suppressed by the crowns of the large willows surrounding it.	
T12	Weeping willow (*Salix* x *sepulcralis*)	M	Fair	C	1	3	16	400	5	5	4	1	Previously pruned (possibly 2007), there is now a significant amount of end weight on this new pruning points that now require to be removed.	Prune back to previous (2007) pruning points and remove ivy
T13	Apple (*Malus domestica*)	MA	Fair	C	2	1	6	140	2	2	2	2	Suppressed by the crowns of the large willows surround it.	

T14	Weeping willow (*Salix* x *sepulcralis*)	MA	Fair	C	1	2	15	500	3	10	10	4	Leaning at 45 degree angle towards the east, previously pruned (2007)	Prune back to previous (2007) pruning points and remove ivy
T15	Ash (*Fraxinus excelsior*)	Y	Fair	C	2	1	7	75	1	1	1	1	Suppressed by the crowns of the large willows surrounding it.	
T16	Apple (*Malus domestica*)	Y	Fair	C	2	1	7	75	1	1	1	1	Suppressed by the crowns of the large willows surrounding it.	
T17	Apple (*Malus domestica*)	OM	Poor	C	2	1	8	400	4	4	4	4	Suppressed by the crowns of the large willows surrounding it.	
T18	Sycamore (*Acer pseudoplatanus*)	M	Fair	R	R	4	20	570	10	2	8	8	Multi-stem lapsed coppice stool located on top of an embankment, some of the apical stems are co-dominant these have similar diameter, there is included bark at some of the union points, the apicals have thin taper due to competing with each other and with T19 to the south. The tree is located in an unsustainable location for its species, size and form given to recoppice the tree now would resulted in a rapid decline of the tree and crown reduction and thinning would not reduce sufficient end weight with the crown to reduce the risk of failure at the included union points.	
T19	Sycamore (*Acer pseudoplatanus*)	M	Fair	R	R	4	20	800	3	6	6	8	Multi-stem lapsed coppice stool located on top of an embankment, some of the apical stems are co-dominant these have similar diameter, there is included bark at some of the union points and the apicals have thin taper due to competing with each other and with T18 to the north. The tree is located in an unsustainable location for its species, size and form given to recoppice the tree now would resulted in a rapid decline of the tree and crown reduction and thinning would not reduce sufficient end weight with the crown to reduce the risk of failure at the included union points.	

T20	Wild cherry (*Prunus avium*)	OM	Poor	R	R	10	16	330	2	4	4	4	Co-dominant tree at approximately 6m above ground level it has been topped at approximately 8m above ground level to remove the southern crown from going over the roof of the dwelling this tree will not be able to sustain regular pollarding works this is evident by the very small amount of regrowth on the southern apical. It has a thin taper for its species it is leaning south towards the dwelling within the site, this is due to its northern alive crown being suppressed by the sycamore trees to the north.
T21	Ash (*Fraxinus excelsior*)	Y	Fair	C	2	4	14	120	1	3	1	2	Multi-stem southern largest apical has a thin taper for its species it is leaning south towards the dwelling within the site, this is due to its northern crown being suppressed by the sycamore trees to the northeast, northwest and north.
T22	Sycamore (*Acer pseudoplatanus*)	OM	Poor	R	R	10	20	500	1	1	1	1	Lapsed pollard, that is co-dominant with two apicals at approximately 6m above ground level there is include bark above the union, a western scaffold branch is growing from the apical main stem at a main degrees angle, previously pruned (2007) resulting in a lion tail form in the crown which has a small alive crown ratio for the size and species of the tree. The tree is also located on top of steep embankment. Given the position of the tree, the past pruning works, the form and its current lack of vigour it appear that the tree has entered senility and see now dying.

T23	Sycamore (*Acer pseudoplatanus*)	OM	Poor	R	R	8	20	560	2	2	2	2	Lapsed pollard, that is co-dominant with three apicals at approximately 2m above ground level there is include bark above the union, there is a further pollard point above the 2m point at approximately 6m above ground level and again there is included unions at this points. The lower section of the mains stem is located on top of steep embankment and there for all of its roots are located in area that has a high rate of run off and it has developed a 45 degree lean towards the south. Within the upper stem there area a number of cankers and cavities. Previously pruned (2007) this has resulted in a loin tail form in the crown which has a small alive crown ratio for the size and species of the tree. Given the position of the tree , the past pruning works, the form and its current lack of vigour it appear that the tree has entered senility and see now dying.	
T24	Sycamore (*Acer pseudoplatanus*)	M	Fair	C	1	8	20	470	3	4	5	8	Located within an embankment with surround mature trees suppressing its crown and it has been pruned in the recent past.	None
T25	Sycamore (*Acer pseudoplatanu*s)	Y	Poor	R	R	2	10	160	3	2	4	2	Suppressed by the crowns of the large sycamore and lime trees surrounding it.	
T26	Common lime (*Tilia* x *europaea*)	OM	Poor	R	R	3	18	650	5	5	5	5	Large basal cavity approximately 80cm from ground level, widest point 20cm and a depth of 50cm and it is a lapsed pollard there is a cavity at this point.	
T27	Common lime (*Tilia* x *europaea*)	M	Fair	R	R	3	10	180	5	1	0	1	Suppressed by the crowns of the large sycamore and lime trees surrounding it has developed a lean of 45 degree towards the north when T26 is removed it will be exposed to new wind force that it will not be able to adapt to with new growth in a sufficient time in order to be within a suitable level of risk of failure within the site.	
T28	Sycamore (*Acer pseudoplatanus*)		Fair	B	1	4	20	530	4	7	7	7	Lapsed pollard, co-dominant tree at approximately 6m and has been pruned in the recent past due to the close proximity to over head services.	None
G1	5x Sycamore (*Acer pseudoplatanus*)	MA	Fair	C	3	7/10'	2	100	3	3	3	3	Self-set trees under the canopy of the mature around them	



KEY

- Tree Crown Spread
- Root Protection Area (RPA)
- Tree Stem
- 001 Tree No.

TREE CATEGORY ID.

- Category A
- Category B
- Category C
- Category R

REV.	DESCRIPTION	DWN	CHK'D	DATE

CLIENT

Kearsley Property Ltd

PROJECT

90764

53 Fitzroy Park, London, N6 4JA

TITLE

Tree Constraints Plan (TCP)

DWN	DATE	CHK'D	DATE	APP'D	DATE	SCALE
DG	16/08/2010					1:200

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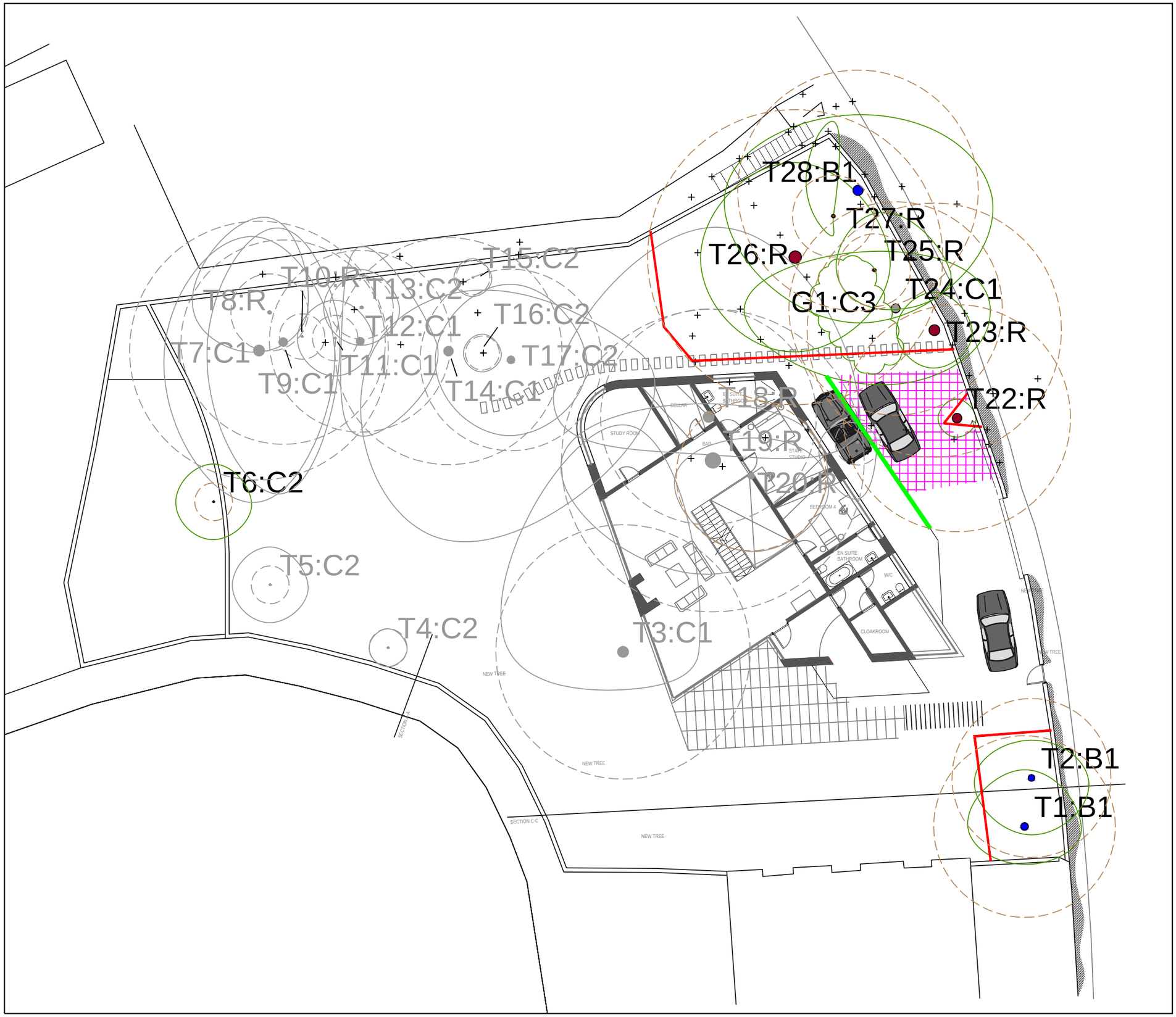
Drawing Number

TCP – 01

A3

REV.



KEY

- Tree Crown Spread
- Root Protection Area (RPA)
- Tree Stem
- 001 Tree No.
- Protective Barrier Fencing (PBF)
- Sensitive excavation of existing hard surfaces and installation of no-dig permeable surfacing
- Installation of hand-dug trench to 600mm and root pruning
- T4:C2 Trees to be removed

REV.	DESCRIPTION	DWN	CHK'D	DATE

CLIENT

Kearsley Property Ltd

PROJECT

90764

53 Fitzroy Park, London, N6 4JA

TITLE

Tree Protection Plan (TPP)

DWN	DATE	CHK'D	DATE	APP'D	DATE	SCALE
DG	07/10/2010					1:200

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Drawing Number

TPP – 01

A3

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