Tree Survey
& Arboricultural Impact Assessment

Site:
Billingford
Elstree Hill
Bromley
BR1 4JE

In support of planning application for demolition of existing dwelling and construction of new build property.

London Borough of Bromley.

Prepared for: Mr E Ozdemir / Southeast Developers

Prepared by:

James Hedges BA (Hons), MICFor, M.Arbor.A, Dip.Arb. (RFS), Tech.Cert. (Arbor. A.)

ISA Certified Arborist (UI-0425)

9th April 2015 v.2.0

Contents

1) Terms of Reference

1.1 I received my initial instructions from Mr Neal Thompson of Robinson Escott Planning LLP by email on 9th February 2015 and confirmed on 11th February 2015 on behalf of Southeast Developers (the Client). An initial site meeting was held on 13th February 2015 and the tree survey undertaken by myself on 26th March 2015.

1.2 I have been instructed to undertake a Tree Survey in accordance with **British Standard BS5837: 2012 'Trees in relation to design, demolition and construction - Recommendations'** with regards the proposed development within the existing building footprint of 'Billingford' and produce an Arboricultural Impact Assessment in support of a planning application.

1.3 The Arboricultural Impact Assessment will include enquiring of Bromley Council as to the presence of any statutory protection for trees within the boundary of the property or those adjacent to the site which are likely to be affected by the proposed development.

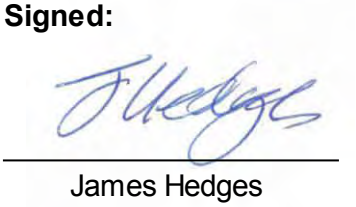
1.4 A topographical survey, existing and proposed site survey and floor plans (S14/4638/01) have been supplied by Offset Architects in .DWG format to be used to produce the Tree Survey & Constraints Plan and Draft Tree Protection plan which will accompany the Arboricultural Impact Assessment.

1.5 Qualifications held by me include:

- Royal Forestry Society Professional Diploma in Arboriculture
- Arboricultural Association Technicians Certificate
- City & Guilds in Arboriculture (Merrist Wood)
- International Society of Arboriculture Certified Arborist

I have over 10 years of practical arboricultural experience at craft level, private consultancy and as a local authority Arboricultural Officer. I am a Fellow of the Arboricultural Association (F.Arbor.A.) and a Professional Member of the Institute of Chartered Foresters (MICFor).

Signed:



James Hedges — 9th April 2015.

Chartered Forester.

2) Scope of Report and Limitations

2.1 The tree data gathered is for the purposes of a development site survey in accordance with BS5837:2012 and is **not** a detailed tree safety inspection. As general guidance It is recommended that regular tree safety inspections are carried out by a competent person to ensure that the owner / controller of the land fulfils their duty of care to persons who may reasonably be affected.

2.2 A preliminary visual assessment of each tree was carried out from ground level noting external faults and features only. All measurements are estimated and tree locations on the attached plans are approximate.

2.3 This preliminary assessment did not include a detailed examination of tree root systems, aerial access, or the use of internal decay detection equipment. A tree with internal faults will often display associated external evidence of such faults; these would be noted in a visual tree inspection. However such signs are not always apparent at all times of the year, for example fungal fruiting bodies or leaf size and condition. The survey findings and recommendations have been drawn from the evidence present on the day of inspection.

2.4 Unless otherwise stated in the Tree survey, only trees identified by the Client have been surveyed as per instructions received. Off-site trees whose Root Protection Areas are considered to be within the proposed development footprint are to be considered where relevant. It is recommended that the owners of any trees adjacent to the site have them inspected by a qualified and competent arboriculturist.

2.5 This survey expressly excludes any liability for any direct or indirect structural damage that the trees may cause to property including any structural movement, subsidence and heave. Where necessary, appropriate specialists e.g. structural engineer, building surveyor or drainage should be consulted for specific advice including foundation design. No reliance shall be placed on any comment(s) made in respect of the structural integrity of any main structure or drainage system located on the premises to which this survey and report relates.

2.6 The Local Planning Authority (London Borough of Bromley) must be consulted prior to any works being carried out to establish whether any Tree Preservation Orders (TPO's) or Conservation Areas apply to the site. Failure to obtain written permission may result in a substantial fine and criminal conviction. No works to any neighbouring trees should be undertaken without the agreement and express permission (in writing) of the owner.

2.7 Full consideration must be given to current legislation by anyone proposing to carry out works to trees, particularly with regards to the presence of European Protected Species (including bats). Arboricultural ('tree surgery') contractors should be adequately trained, experienced and carry adequate insurance. All works should be carried out to the current edition of British Standard BS3998 'Recommendations for Tree Work', 2010.

2.8 This report should be considered valid for a period of **12 months** from date of issue assuming that any recommendations are carried out. Additional inspection is recommended following exposure to extreme weather, significant wounding or damage (e.g. incursion into the rooting zone, impacts, etc.) or any other event giving cause for concern.

2.9 The information contained within this document is provided without prejudice and is based upon the author's knowledge, experience, qualifications and published research. The author cannot be held responsible for the consequences of a difference of opinion held by third parties, for example the Local Planning Authority or Planning Inspectorate.

3) Arboricultural Impact Assessment (AIA)

3.1 General Description of the Site and Surroundings

'Billingford' is a two storey detached property with access from Elstree Hill onto a large block-paved front driveway and parking area. A number of established trees are present within the boundary of the property including those bordering Elstree Hill.

3.2 Description of the Proposed Development

It is proposed to demolish the existing two storey house ('Billingford') and construct a new build property incorporating a lower ground floor level within (approximately) the current building footprint.

3.3 Legal Constraints

Enquiries made of the Local Planning Authority (Bromley Council) confirm that there are a significant number of individual trees within (and surrounding the property) subject to Tree Preservation Order LE1 1967. This particular Order was transferred from Lewisham Council to Bromley Council in 1994, but is still effective in protecting the listed trees

3.4 Impact of the Proposed Development on the Amenity Value of the Trees

3.4.1 Direct Loss of Trees

The proposed development does not require the direct removal or loss of any trees. However, the poor physiological and structural condition of the Sycamore tree 383 on the lower lawn is such that its removal (and replacement planting) is recommended on purely arboricultural grounds regardless of whether the development is permitted or not. Recorded as a Category 'U' tree (BS5837:2015), the tree is in significant decline and has several serious structural defects that mean it cannot realistically be retained as a living tree in the context of the current land use for longer than ten years. The tree is partially screened by the other significant vegetation along the boundary of the property and the extent of remedial works required would reduce any remaining visual amenity value to near zero. Cypress 386a is a small young tree which is showing signs of extensive dieback and should similarly be removed.

Robinia trees 381 and 385 have both been recorded as Category 'U' trees due to the presence of structural defects and their overall declining physiological condition. Their removal is also recommended on arboricultural grounds although it is anticipated that due to their location on the boundary (rather than adjacent to the new development) this should be subject to a separate application (trees protected by Tree Preservation Order).

3.4.2 Retained Trees

Due to recent landscaping works and changes in ground levels of the neighbouring property (no.27) proximal to Lime tree 377 within the circular Root Protection Area (RPA), reduction pruning (20% height and lateral branch spread) is recommended to reduce wind-loading and the risk of tree failure. This would result in a tree approximately 14m in height with a radial branch spread of 4m.

Given the distances from the proposed development only minimal levels of future pruning are anticipated for the retained trees. The orientation and location of Lime tree 377 means that occasional pruning (primarily crown lifting and crown thinning) may be required to enhance light levels reaching the lower ground floor flat. Such operations should not have a significant adverse effect on the visual amenity of the tree or its structural condition.

Retention of the trees identified in the Tree Survey will provide an immediate softening effect to the development and support the establishment of new planting within the site. Providing that adequate tree protection measures are implemented, the amenity value of the trees within and adjacent to the site will be preserved. Retained trees will be protected from soil compaction and impact damage where necessary by protective barriers and / or ground protection. Protective barriers will be fit for purpose, complying with BS5837: 2012 unless otherwise agreed with the Local Planning Authority (LPA). Such alternatives may include the use of temporary buildings or existing hard surfaces as part of tree protection or alternative fencing specification for areas of lower risk e.g. areas where existing walls form effective boundaries. A Heads of Terms Arboricultural Method Statement is included in section 4 of this report, supported by a Draft Tree Protection Plan.

3.5 Above and Below Ground Constraints

3.5.1 The British Geological Survey Map Sheet 270 (Solid & Drift Edition) indicates the underlying superficial geology to be Harwich Formation (sand and flint pebble beds). While this is not considered to be a shrinkable soil, because of the approximate nature of geological mapping it is recommended that the foundation design is informed by further investigation and reference to NHBC Chapter 4.2 ‘Building Near Trees’.

The design of new planting and landscape proposals should be based upon a soil analysis which considers the pH and any nutrient deficiencies or imbalances.

3.5.2 It is intended, subject to Building Regulations, to connect to existing underground services without significant re-routing. Any additional services required by the development should be located to avoid conflict between retained trees and / or new planting. Any upgrading of underground utilities must be in accordance with advice from the LPA.

3.5.3 The proposed extension will potentially involve an incursion into approximately 10% of the *circular* RPA of Lime tree 377. It is my opinion that this will not result in the significant loss of rooting area, root damage or reduction in physiological condition based upon:

- The presence of the existing retaining wall and foundations to the north of the tree
- The existing variation in ground level to the north of the retaining wall (in excess of 1m above the lower lawn level to the south of the wall)
- The likely distribution of the rooting area within the lower lawn, particularly to the south and east and the tolerance of the species to root disturbance
- The use of low invasive surfacing when extending the paved hardstanding area
- The adoption of an appropriate arboricultural method statement to ensure that adequate precautions (e.g. manual excavation) and site supervision are in place to ensure that any roots encountered are dealt with appropriately

The shape of the RPA has been modified, taking into account the above factors, to ensure that the area potentially lost by the encroachment is more than compensated for (BS5837:2012 4.6.3 and 5.3.1) and avoiding the need for special engineering methods.

Given the location of Horse Chestnut N1 on the opposite side of Kirkstone Way and the fact that it has recently been heavily pollarded (with a history of previous reduction pruning), the proposed development is not considered to have any significant impact on its proportionally reduced RPA

3.5.4 The intended use and pattern of occupation should mean that the future growth and maintenance requirements of the retained trees can be reasonably managed (see 3.4.2 above). Due to their distance and orientation the retained trees should not cause significant issues of shade and dominance or 'post-development tree resentment'. Consideration has been given to the fact that Lime tree 377 is a deciduous species and therefore will provide dappled shade in the summer yet will be leafless when solar gain is most valuable (BR 209) and allowing increased levels of daylight to pass through (particularly for the lower ground floor flat). As the proposed layout is similar to that of the existing building the shading experienced should not be significantly different to that currently encountered. The proposed layout also avoids placing windows at canopy height which may have resulted in increased pressure for tree pruning or removal.

3.5.5 Sufficient distances (in accordance with BS5837: 2005 Table 3) should be allowed between young trees / new planting and built structures to minimize the impact of future growth.

3.6 Construction of the Proposed Development

3.6.1 Demolition

Details of demolition operations have not yet been provided although there is sufficient space and separation to ensure that no retained trees are adversely affected e.g. via the use of protective barriers and a 'top down, pull back' method of demolition.

3.6.2 Ground Level Changes

The planned reduction in ground level to the north of Lime 377 should not have an adverse impact on the rooting area of the tree with the reduced level above that of the existing lower lawn area (see existing and finished ground levels on Draft Tree Protection Plan).

3.6.3 Construction within or adjacent to the RPA

Construction near or within the RPA's of retained trees is anticipated on the following occasions:

- New foundations and construction of building (outside of modified RPA for Lime 377)
- Removal of wall and steps to north of Lime 377, construction of new wall and extension of hardstanding area
- Replacement fencing bordering Elstree Hill (minimal incursion)
- New soft landscaping adjacent to Lime 384 and Cherry 386 (minimal incursion)

Providing that the appropriate precautions are observed it is highly unlikely that there will be any detrimental effect on the overall health of the trees to be retained.

3.6.4 Changes to Surfacing within the RPA

Any installation or upgrading of block paving surfacing within the RPA's of retained trees should be carried out carefully using hand tools or other appropriate machinery. Temporary ground protection should be installed in these areas once the surface has been removed and the new permeable surface installed using low-invasive methods. The majority of the new hardstanding area to the north of Lime 377 is outside of the modified RPA although consideration should be given to the use of permeable surfacing.

3.6.5 Planning of Construction Operations

The proposed design layout makes allowance for the following:

- Access for underground utilities without the need to enter any RPA's

- Space for foundation excavations without significantly affecting any retained tree RPA's
- Location for delivery and storage of materials, welfare facilities and contractors' car parking

3.7 End Use of the Space

The proposed layout offers a reasonable degree of space for the intended use of the site with the new footprint similar to that of the existing building. The retained trees should not result in any conflicts with the use of the site and so will avoid post development pressure to remove further trees.

3.8 Mitigation of Tree Removal

Limited space and the number of trees currently surrounding the site restricts the opportunities for new planting. However, in the event of Sycamore 383 or any other Category 'U' trees being removed for reasons of prudent management then an appropriate replacement can be planted. It is proposed to enhance the front border with additional planting that will enhance the general amenity of the site and visual amenity in particular. The landscape proposals should make particular reference to:

- The use of native trees and shrubs where possible
- Inclusion of semi-mature tree stock where necessary
- Provision of protective fencing to protect areas for new planting and provision for recovering any other areas that may have suffered (e.g. compaction) prior to planting

3.9 Conclusions

- The proposed development will not result in a significant incursion into the Root Protection Area of any retained trees. The adoption of a detailed Arboricultural Method Statement should ensure there are no adverse effects as the result of any demolition, excavations or construction operations and that any roots encountered are dealt with appropriately.
- The space available for the development should avoid any significant conflicts with retained trees and should minimise any issues of post-development tree resentment and the corresponding pressure for removal or excessive pruning, therefore ensuring their continued contribution to visual amenity.
- The poor condition of Sycamore 377 is such that removal is recommended on the grounds of good arboricultural management at an early stage. Robinia trees 381 and 385 have also been recorded as Category 'U' trees and whose removal should be considered although this may be subject to a separate application. The loss of any trees can readily be mitigated by appropriate new tree and shrub planting.

4) Arboricultural Method Statement (Heads of Terms)

An Arboricultural Method Statement (AMS) will be required where any construction operations, including access, are proposed within or adjacent to the RPA (or crown spread where this is greater) of any retained trees. This applies to trees within the scope of this proposed development.

The intention of the method statement is to minimise the risk of any adverse impact on the trees to be retained (especially damage caused by excavation and soil compaction) and to clearly demonstrate how relevant operations will be undertaken. It should also specify appropriate tree and ground protection measures in accordance with BS5837:2012 which will be detailed on the finalised Tree Protection Plan (TPP). The following Heads of Terms AMS and Draft Tree Protection Plan (DTPP) identifies the key areas for consideration; a detailed AMS may subsequently be agreed or conditioned at a later date by the LPA. Areas of relevance to the proposed development to be addressed in the detailed Arboricultural Method Statement include:

Site and Planning Information

Pre-development tree works

All works will be carried out in accordance with BS3998: 2010 'Recommendations for Tree Work' and in line with a schedule of works agreed by the Local Planning Authority as part of any approved planning permission or additional applications to prune / remove protected trees.

Tree protective barriers, ground protection measures (specification, location and dimensions) and temporary access arrangements

Protective fencing will be fit for purpose, complying with Figures 2-4 in BS5837:2012 or any other specification agreed in writing with the Local planning Authority and may include the use of existing walls, if effective. They shall be erected prior to any demolition or construction (excluding pre-development tree works) taking place at distances specified within the approved plans and remain in place until completion of the construction phase. Removal is only to take place following the approval of the Local Planning Authority / Local Authority Tree Officer. Temporary ground protection should be capable of supporting any expected loads without distortion or causing compaction to the underlying soil.

Site access, parking and site facilities

To be in accordance with the plans agreed by the Local Planning Authority and outside of the RPA of any retained trees unless appropriate ground protection measures are in place and approved by the LPA.

Works programme / phasing

The phasing and timing of any works likely to impact on the RPA of any retained trees is to be clearly identified to ensure that adequate protection, precautions and supervision are in place.

Storage of spoil and building materials

No spoil or building materials are to be stored within any Construction Exclusion Zones (CEZ) unless specifically agreed by the Local Planning Authority.

Demolition of the existing building(s) and removal of hard surfacing, boundary walls and steps

In accordance with detailed method statement to avoid unauthorised incursions into the RPA of any retained trees.

Changes to ground levels

Changes to ground levels are only to be made in accordance with the approved plans and where a detailed method statement has been produced to minimise the impact on the rooting systems of the retained trees. Where this necessitates the lowering of existing ground levels then this should only be undertaken with the use of hand tools or the smallest plant available and care taken not to damage any structural roots. Treatment of any exposed roots is to be in accordance with BS5837:2012.

Details of construction works within the Root Protection Areas

As per 'Changes to ground levels'.

Details of 'Special Engineering' methods

Where relevant, specifications relating to special engineering methods should be included as an annex to the Arboricultural Method Statement.

Location and installation method for drainage and other utilities

The use of overhead utilities is not anticipated for this development. Where possible, existing underground utility runs will be re-used. Where new services runs are required, these will be routed outside of the RPA of any retained trees unless specifically agreed by the Local Planning Authority and subject to a detailed method statement.

Upgrade or installation of new hard surfacing within Root Protection Areas (including Lime 387)

In order to minimise the impact on the rooting area and tree root function the design and construction of a new surface should adequately consider and allow for the following factors:

- Allow gaseous exchange (horizontally and vertically)
- Water permeable
- Preserves the soil structure at a suitable bulk density
- Prevention of contaminants entering the rooting area
- Allows for future growth of the root system
- Prevents damage to the roots during demolition or construction
- Recognises that the majority of roots are found in the top 600mm of soil

New surfaces should be installed with 'low invasive' techniques using hand tools and the utilization of a cellular confinement system as part of the sub-base.

Soft landscaping

In accordance with BS3936: 1989, BS4428:1989 and BS8545:2012. Any new tree planting to be at distances specified in NHBC Chapter 4.2.

Site responsibilities and the role of the pre-commencement meeting

Unless otherwise agreed in writing, it will be the responsibility of the Site Manager to ensure that the content of the Arboricultural Method Statement is adhered to. The main contractor and any sub-contractors are to be briefed by the Site Manager on the relevant sections of this prior to commencing any work. The Site Manager is responsible for contacting the LPA at any time issues relating to the trees on site are raised.

Prohibited activities and general precautions

In line with BS5837:2012 including storage / discharge of materials and avoiding fires.

Arboricultural Supervision, reporting and audit process

Day-to-day supervision will be the responsibility of the Site Manager.

Emergency procedures

Clearly defined emergency procedures e.g. for fuel spillages or unauthorised incursions into Construction Exclusion Zones to be prepared and communicated to all site personnel.

Appendix 1 – Reference Material

- APN 12 ‘Through the Trees to Development’ 2007
- British Standard 3936:1989 onwards ‘Nursery Stock’ (all parts)
- British Standard 3998:2010 ‘Recommendations for Tree Work’
- British Standard 4428:1989 ‘Code of Practice for General Landscape Operations (excluding hard surfaces)’
- British Standard 5837:2012 ‘Trees in relation to design, demolition and construction - Recommendations’
- British Standard 8545:2014 ‘Trees from nursery to independence in the landscape - Recommendations’
- BR209 ‘ Site Layout Planning for Sunlight and Daylight’ 2011
- DCLG Planning Practice Guidance –Tree Preservation Orders and trees in conservation areas
- NHBC Chapter 4.2 ‘Building Near Trees’ 2014
- National Joint Utilities Group NJUG Volume 4 ‘Guidelines For The Planning, Installation And Maintenance Of Utility Apparatus In Proximity To Trees (Issue 2)’ 2007
- Countryside and Rights of Way Act 2000
- Conservation of Habitats and Species Regulations 2010
- Health and Safety at Work Act 1974
- Management of Health and Safety at Work Regulations 1999
- The Town & Country Planning Act 1990, The Town and Country Planning (Trees)(England) Regulations 2012, The Planning (Listed Buildings & Conservation Areas) Act 1990
- Wildlife and Countryside Act 1981
- Hedgerow Regulations 1997

BS5837, 2012 - TREE SURVEY SCHEDULE

Client: Southeast Developers
Site: Billingford, Elstree Hill, Bromley, BR1 4JE
Date of Survey: 26/03/2015

Arboricultural Consultant / Surveyor: J Hedges MICFor, F.Arbor.A, Dip.Arb.(RFS)
Tagged: Yes (Previously 377-386 inclusive)
Weather: Damp, light wind

Read with Tree Survey Plan TSP01
TPO/CA Status: ***TPO LE1 1967***

Tree #	Species	Height (m)	Stem @ 1.5m Diameter (mm)	Branch spread (m) N	E	S	W	1st Branch Height (m)	Canopy Height (m)	Life Stage	Physiological Condition	Structural Condition	Preliminary Management Recommendations	Estimated Remaining Yrs	Category UABC	RPA Radius (mm)
377	**Lime** (*Tilia X europaea*)	17	530	5.0	4.0	5.5	Est. 5.5	3.2 north	3.5	M	Good	Twin-stemmed from 3m. Minor Squirrel damage and minor deadwood. signs of recent excavation / landscaping on bank to west	Reduce height to 14m and radial spread to 4m.	20+	B1	6360
378	**Sycamore** (*Acer pseudoplatanus*)	17	580	5.5	5.5	5.5	Est. 5.5	5.5 south	4.5	M	Fair	Non-occluded stem wound north east 0.4m-2.5m with heartwood exposed. History of crown lifting to 5m. Upper crown dieback, moderate deadwood. Squirrel damage including recent branch failure.	Remove deadwood and damaged branches.	10+	C2	6960
379	**Lime** (*Tilia X europaea*)	16	310	Est. 4	Est. 4	Est. 4	Est. 4	2.5 central	2.0	EM	Good	Minor deadwood and Squirrel damage. Partially distorted stem 2m-2.5m with upper crown growing into 381.	Remove basal epicormic growth.	20+	C2	3720
380	**Lime** (*Tilia X europaea*)	15	290	Est. 4.5	Est. 4.5	Est. 4.5	Est. 4.5	1.5 west	2.0	EM	Good	Minor deadwood and Squirrel damage. Upper crown growing into 381.	Remove basal epicormic growth.	20+	C2	3480
381	**False Acacia** (*Robinia pseudoacacia*)	16	630	Est. 6	8.0	7.0	Est. 6.5	9 east	5.0	M	Fair	*Ganoderma sp.* single old fungal fruiting body east at ground level with decay probed to 15cm. Swept stem over road with corrected crown. Minor / moderate deadwood and localised crown dieback.	Fell, grind and re-plant.	<10	U	7560
382	**Holly** (*Ilex aquifolium*)	7	216	3.5	3.0	3.0	3.0	0.0	2.0	EM	Good	Twin-stemmed from ground level. No significant defects noted.	None.	20+	C2	2592

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383	**Sycamore** (*Acer pseudoplatanus*)	15	710	3.5	9.5	Est. 7	7.5	3.5 east	2.5	M	Poor	Previously heavily topped. Moderate / major deadwood and Squirrel damage including recent branch failure. Limited re-growth from large diameter pruning wounds / extensive dieback Multiple non-occluded wounds and branch snags / stubs. Tree of poor form with heavily imbalanced crown.	Fell, grind and re-plant.	<10	U	8520
384	**Lime** (*Tilia X europaea*)	13	320	Est. 3.5	Est. 3.5	Est. 3.5	Est. 3.5	2 central	1.0	EM	Good	Distorted stem at 2m. Minor deadwood and Squirrel damage.	Remove basal epicormic growth.	20+	C2	3840
385	**False Acacia** (*Robinia pseudoacacia*)	15	530	5.5	8.0	8.0	4.0	6.5 south	2.5	M	Fair / Poor	Partially swept stem over road with corrected crown. Extensive burring on main stem with decay at 0.5m north west. Minor / moderate deadwood and localised crown dieback. Owner reports gradual progressive stem movement (push fence over).	Fell, grind and re-plant.	<10	U	6360
386	**Cherry** (*Prunus sp.*)	6	210	2.5	3.5	2.5	3.5	1.5 west	2.5	EM	Fair	Minor deadwood and dieback. Multiple pruning wounds and branch snags to 5cm diameter.	None.	10+	C1	2520
386a	**Lawson Cypress** cv.	3	Multi-stem <75mm	1.0	1.0	1.0	1.0	Multi-stemmed from ground level	1.0	Y	Poor	Extensive crown dieback.	Fell, grind and re-plant.	<10	U	-
386b	**Holly** (*Ilex aquifolium*)	4	<75	1.0	1.0	1.0	1.0	Ground level	Ground level	Y	Good	No significant defects noted.	None.	10+	C	-

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386c	**Lawson Cypress** *(Chamaecyparis lawsoniana)*	5	125	1.0	1.0	1.0	1.0	0.5	0.5	Y	Good	Twin-stemmed from ground level. No significant defects noted.	None.	10+	C	1500
N1	**Horse Chestnut** (*Aesculus hippocastanum*)	9	900	Est. 4	Est. 4	Est. 4	Est. 4	4 central	2.5	M	Good / Fair	Neighbouring tree. Recently pollarded with multiple pruning wounds to 25cm diameter. Tree previously measured at 13m height.	None.	10+	C1	10800

***** END OF SURVEY; Count = 14 Trees *** Trees protected by Tree Preservation Order - NO WORKS to be carried out without approval in writing from Local Planning Authority.**

Key to Survey

377, 378, etc.	Individual tree survey ID number (not TPO reference numbers)
NESW	Radial branch spread recorded against the 4 compass points (where relevant)
Life Stage	Y = Young / recently planted SM = Semi Mature e.g. <1/3 life expectancy EM = Early Mature e.g. 1/3 – 2/3 life expectancy M = Mature e.g. 2/3 – full life expectancy OM = Over Mature
Physiological Condition	based upon the performance of the biological processes of the tree and its overall 'health'
Structural Condition	based upon the presence of any identified structural defects in specific parts of the tree or in its arrangement as a whole
Category	Based upon Table 1, BS5837, 2012
U	Trees is such a condition that they cannot realistically be retained as living specimens in the context of the current land use for longer than 10 years
A	Trees of high quality with an estimated remaining life expectancy of at least 40 years
B	Trees of moderate quality with an estimated remaining life expectancy of at least 20 years
C	Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm

Other Comments:

- ***Est.*** = estimated measurement
- ***Av.*** = average measurement
- ***Occluded wound*** = where a wound has been progressively closed by the formation of new wood and bark around it
- ***Non-occluded wound*** = where a wound has not closed (or is in the process of being closed) by the formation of new wood and bark
- ***Basal*** = in or around the base of the trunk
- ***Epicormic*** = growth arising from adventitious or dormant buds. In the case of European Lime trees this frequently occurs around the base of the tree
- ***Deadwood*** = Minor (<25mm), Moderate (25mm-150mm) and Major (>150mm)

Legend:

- CATEGORY A TREE
- CATEGORY B TREE
- CATEGORY C TREE
- CATEGORY U TREE
- ROOT PROTECTION AREA (RPA)
- CROWN SPREAD
- SHADE AREA
- TREE TO BE REMOVED
- LANDSCAPING TO BE REMOVED
- PROTECTIVE FENCING
- TEMPORARY GROUND PROTECTION
- LOW INVASIVE SURFACING
- ACCESS FACILITATION PRUNING
- CEZ — CONSTRUCTION EXCLUSION ZONE

Notes:
1) To be reproduced in colour only.
2) Refer to Tree Survey & Arboricultural Impact Assessment.
3) Do not scale from plan - refer to Architect's drawings for all measurements.

-	-	-

Chislehurst Tree Care

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Client: - Southeast Developers

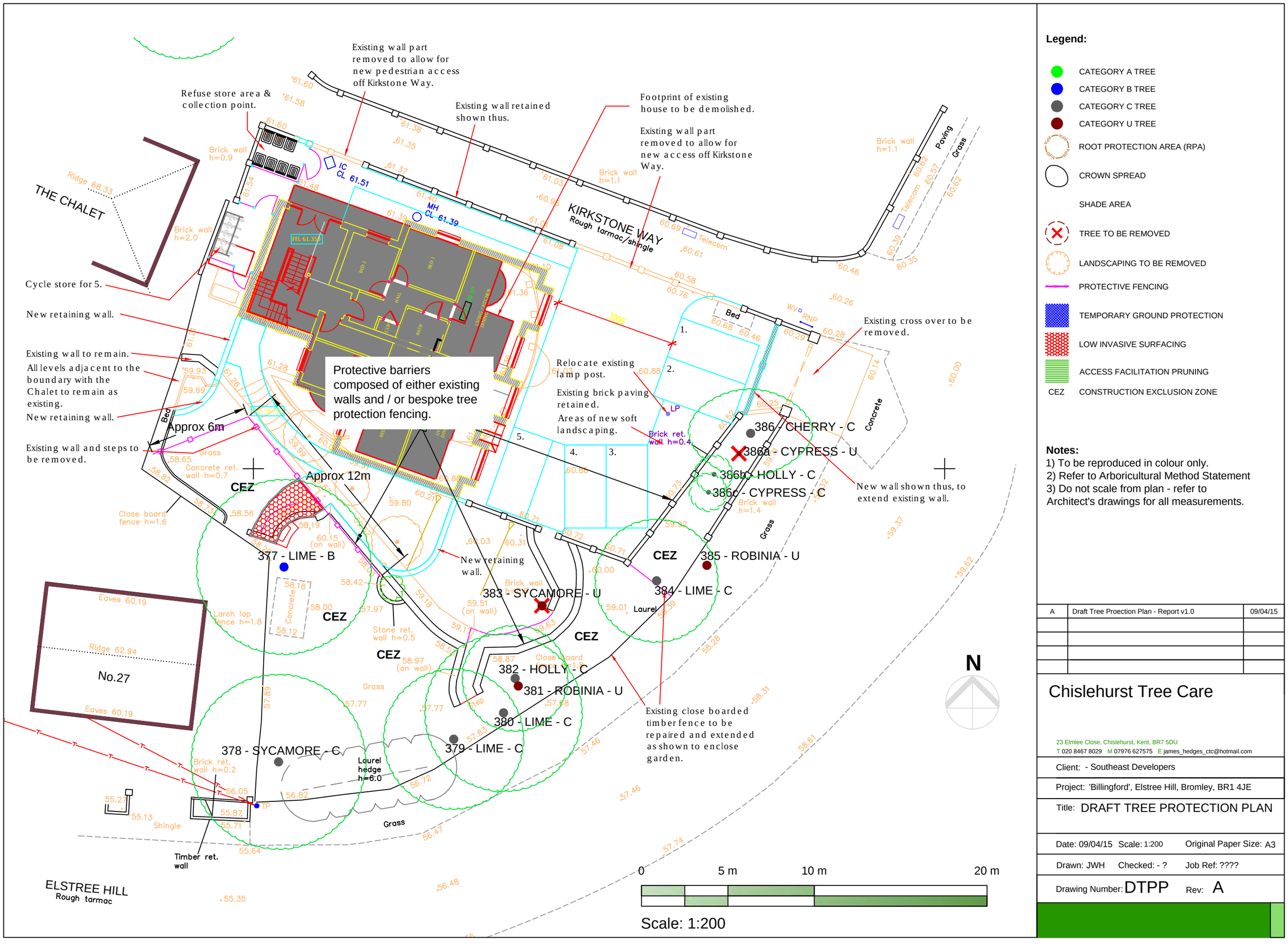
Project: 'Billingford', Elstree Hill, Bromley, BR1 4JE

Title: TREE SURVEY AND CONSTRAINTS PLAN

Date: 09/04/15 Scale: 1:200 Original Paper Size: A3

Drawn: JWH Checked: - ? Job Ref: ????

Drawing Number: TSCP Rev: A



Legend:

- CATEGORY A TREE
- CATEGORY B TREE
- CATEGORY C TREE
- CATEGORY U TREE
- ROOT PROTECTION AREA (RPA)
- CROWN SPREAD
- SHADE AREA
- TREE TO BE REMOVED
- LANDSCAPING TO BE REMOVED
- PROTECTIVE FENCING
- TEMPORARY GROUND PROTECTION
- LOW INVASIVE SURFACING
- ACCESS FACILITATION PRUNING
- CEZ CONSTRUCTION EXCLUSION ZONE

Notes:

1) To be reproduced in colour only.
2) Refer to Arboricultural Method Statement
3) Do not scale from plan - refer to Architect's drawings for all measurements.

A	Draft Tree Proection Plan - Report v1.0	09/04/15

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Title: DRAFT TREE PROTECTION PLAN

Date: 09/04/15 Scale: 1:200 Original Paper Size: A3

Drawn: JWH Checked: - ? Job Ref: ????

Drawing Number: DTPP Rev: A