



**TREE SURVEY,
ARBORICULTURAL IMPACT ASSESSMENT,
TREE PROTECTION PLAN & HEADS OF
TERMS FOR THE ARBORICULTURAL METHOD
STATEMENT Rev:3,**

with regard to proposed development at:

9 Clarendon Road, Haringey, N8 0DJ,

for:

Paul Simon Magic Group.

Job no. MJC-20-0119

26th November 2020.

Mark Carter

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1.0 Instruction

- 1.1 MJC Tree Services Limited have been instructed by Simon Oliver, acting on behalf of Paul Simon Magic Group, as follows:

"Re: Development Site Tree Survey & Reports in Accordance With BS5837:2012 at 9 Clarendon Road, Haringey, N8 0DJ.

To visit the above site and carry out the following works:

- *To carry out a ground level and visual survey of trees on and adjacent to the site that are identified for survey and assessment under the criterion given in British Standard 5837:2012 'Trees in Relation to design, demolition and construction – Recommendations' (BS5837:2012):*
- *To draw up a Tree Constraints Plan and tree survey schedule in accordance with BS5837:2012, using as a base plan an existing site layout plan showing all tree stems on and immediately adjacent to the site, existing site features and spot levels, that will need to be supplied, via email, as a .dwg (AutoCAD) file to the above office before the survey can be undertaken:*
- *To provide an explanation of the tree constraints to the design team:*
- *To combine these elements into a single report and to supply the completed report in an electronic format as a .pdf file, with the plans available as .dwg (AutoCAD) files."*

And:

"In response to specific additional instruction from yourself, to carry out the following works:

- *To discuss a proposed development of the site with the design team in the light of the identified tree constraints with a view to arriving at a proposed layout that is acceptable in arboricultural planning terms:*
- *To draw up an Arboricultural Impact Assessment for the proposed development of the above site, using the tree constraints information for reference and a proposed site layout plan (including all access and service plan details) that will need to be supplied, via email, as a .dwg (AutoCAD) file to the above office before the report can be completed:*
- *To draw up a Tree Protection Plan and, if required, the heads of terms for an Arboricultural Method Statement for the proposed development that will provide adequate protection to the trees identified for retention:*
- *To combine these elements into a single report and to supply the completed report in an electronic format as a .pdf file, with the plans available as .dwg (AutoCAD) files."*

2.0 Qualifications and Caveats

2.1 The author of this report is a:

- Fellow of the Institute of Chartered Foresters:
- Chartered Arboriculturist:
- Chartered Surveyor:
- Registered Consultant of the Institute of Chartered Foresters.
- Professional Member of the Arboricultural Association:

He also holds the Royal Forestry Society's Professional Diploma in Arboriculture and has over 26 years experience in UK arboriculture. A full CV and CPD record are available as a .pdf file upon request to the above office.

2.2 The tree survey was preliminary in nature and was carried out from ground level using visual techniques only. No trees were climbed or internally investigated. Should a more detailed inspection be required then this will be highlighted in the recommendations.

2.3 Trees are living organisms whose health and condition can change rapidly. The health, condition and safety of trees should be checked on a regular basis, preferably at least once a year. The conclusions and recommendations in this report are based only on the observations made by the author during the tree survey.

2.4 This report is for the sole use of the above named client and refers only to those trees identified within. It may not be reproduced in whole or in part, or sold, lent, hired out or divulged to any third party not directly involved in the subject matter, without our consent. Use by any other person(s) in attempting to apply its contents for any purpose other than stated in this report renders the report invalid for that purpose.

2.5 This report is supplied subject to our terms and conditions in force at the time of our instruction by the client.

3.0 Introduction

- 3.1 This report is presented largely in the form of annotated plans with a tree survey schedule that are intended to be read in the sequence they are presented, cross referencing as instructed in the annotations.
- 3.1.1 The reason for this graphical form of report presentation is to make its interpretation easier by the greater design team and the demolition/construction team. These teams work in a graphical environment, and if the arboricultural reports involved in the design and demolition/construction processes are to be easily interpreted by these teams they must also be presented in a graphical environment. To do otherwise would create an unhelpful disconnect between the arboricultural information and the design and demolition/construction teams. It also allows the report and the proposed development to be assessed on site by officers of the Local Planning Authority (LPA) whilst referencing a small number of single page documents, thereby avoiding the need to keep flicking backwards and forwards through a written report whilst holding open a large site plan.
- 3.1.2 The layout and order of the plans and schedule are intended to illustrate a logical progression from the existing site (Tree Survey Plan and Tree Survey Schedule), through the proposed development, its impact on the trees in terms of tree losses, the establishment of conflicts with the retained trees and how these conflicts will be resolved in principle (Arboricultural Impact Assessment), to the specific tree protection measures required and the identification of where specific arboricultural methodologies are required (Tree Protection Plan and Heads of Term for the Arboricultural Method Statement).
- 3.2 The tree works recommended on the schedule are based on the current context of the site, they are not works required as a result of any proposed development. This is to comply with section 4.4.1.1 of BS5837:2012 that states "*...the tree survey should be completed and made available to designers prior to and/or independently of any specific proposals for the development*". The tree works required as a result of the proposed development are detailed in the Arboricultural Impact Assessment plan.
- 3.3 An Arboricultural Method Statement has not been drawn up and submitted with this report. This method statement should not be drawn up at this stage of the development process in order to comply with the recommended flow chart provided in Figure 1 of BS5837:2012, which makes it clear that the arboricultural methodologies, i.e. the method statement, should be drawn up AFTER statutory planning permission has been granted, and not before.

4.0 Summary

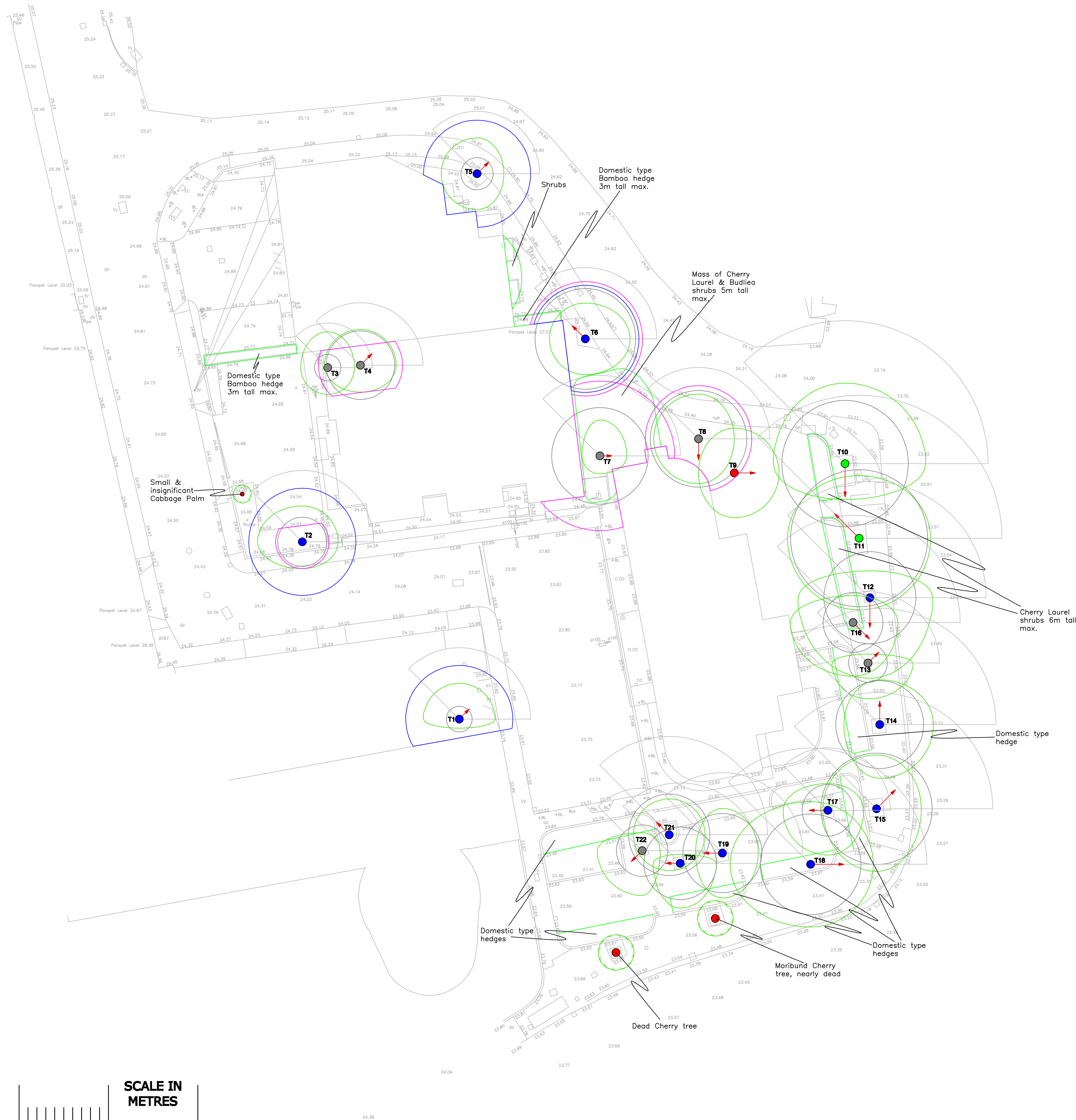
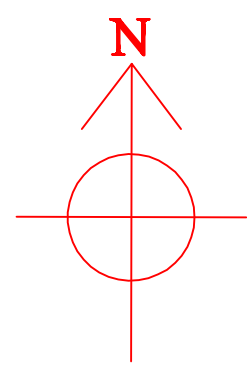
- 4.1 It is proposed to redevelop the site as illustrated in the Arboricultural Impact Assessment plan.
- 4.2 The proposed development requires the removal of 14 individual trees, the crown reduction of a further 6 trees, and special methods of construction in order to protect the root protect areas of retained trees, all as set out in the Arboricultural Impact Assessment plan. Sufficient room has been designed into the proposed development layout to accommodate new tree and shrub planting to mitigate for the tree losses, and the special methods of construction are achievable in practical terms and their requirements in terms of levels have been accommodated in the proposed development. Therefore, there are no substantive arboricultural reasons for the Local Planning Authority (LPA) to object to the proposed development, providing the tree protection measures suggested above and detailed in the Tree Protection Plan are undertaken, along with adequate mitigation planting of new trees as suggested above. In order to ensure that these measures take place, it is likely that, if the LPA grant planning permission for the proposed development, they will make that permission conditional of the following:
- Adherence to the Tree Protection Plan:
 - The pre-commencement drawing up and approval of a comprehensive Arboricultural Method Statement that must be followed throughout the development works:
 - The pre-commencement drawing up and approval of a comprehensive soft landscaping scheme for the proposed development that includes adequate mitigation planting of new trees and shrubs to compensate for the identified tree losses:
 - The pre-commencement drawing up and approval of an underground service plan.
- 4.2.1 The use of these conditions is reasonable, necessary and commonplace. Therefore, the required use of these conditions should not form a legitimate reason for the LPA to object to the proposed development.

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5.0 Tree Constraints Plan



Tree Constraints Plan Notes

1.0 Introduction

- 1.1 The tree survey was carried out on the 19th May 2020.
- 1.2 The survey was carried out in accordance with British Standard 5837:2012 'Trees in relation to design, demolition and construction – Recommendations' (BS5837:2012).
- 1.3 The survey was carried out from ground level using visual techniques only. No trees were climbed or internally investigated. Should a more detailed inspection be considered necessary then this will be highlighted in the recommendations section of the tree survey schedule.
- 1.4 The tree works recommended on the schedule are based on the current context of the site, they are not works required as a result of any proposed development. This is to comply with section 4.4.1.1 of BS5837:2012 that states "...the tree survey should be completed and made available to designers prior to and/or independently of any specific proposals for the development". Any tree works required as a result of the proposed development will be listed separately in the Arboricultural Impact Assessment plan (AIA).

2.0 The Trees

- 2.1 The details of the individual tree survey are provided on the following tree survey schedule.
- 2.2 The tree constraints have been calculated and are illustrated in accordance with BS5837:2012.
- 2.3 A number of trees included in the survey were omitted from the supplied site plan, namely tree no's. T1, T3, T4, T7, T8 and T9. The position of these trees has been estimated by eye while the author was on site. This issue is noted in the tree survey schedule. If the position of any of these trees becomes critical to any proposed development of the site, their position should be confirmed by a competent land surveyor and this report updated accordingly.
- 2.4 Root Protection Areas (RPA)
 - 2.4.1 The indicative and circular RPA of several trees, as derived by using the calculation provided at section 4.6.1 of BS5837:2012 and illustrated by a grey circle in this plan, extend under the footprint of nearby and existing structures. It has been considered reasonable to assume that these structures will have restricted past tree root growth to varying degrees. Section 4.6.2 of BS5837:2012 states "Where pre-existing site conditions or other factors indicate that rooting has occurred asymmetrically, a polygon of equivalent area should be produced. Modifications to the shape of the RPA should reflect a soundly based arboricultural assessment of likely root distribution." In order to comply with this requirement the RPA of some trees have been modified to form an irregular polygon, illustrated with a magenta margin in this plan, as follows.
 - 2.4.2 Tree no's. T2, T4, T6, T7 and T8. The indicative RPA extends under the existing and substantial buildings on site. It has been considered reasonable to assume that the walls and foundations of the building(s) will have created an effective barrier to root growth. In order to compensate for this, the area of indicative RPA that extends under the buildings has been excluded, and the equivalent area evenly added to the remaining RPA that was considered unrestricted.
 - 2.4.3 Where the indicative RPA extends under existing paths, roads, and light buildings and structures, it has been considered reasonable to assume that these have not formed a significant barrier to root growth. Therefore no modification as a result of these structures has been considered necessary.
- 2.5 The areas of potentially significant shade illustrated in this plan have been derived following the guidance provided at section 5.2.2 Note 1 of BS5837:2012. This area does not indicate an area where development may not take place, it merely indicates an area where tree shade may have an adverse impact on a proposed development if that part of the development has a need for high levels of direct and natural light e.g. patios and living room windows, and it may also reduce useable amenity space in gardens.
- 2.6 Some of the surveyed trees were considered to have significant potential for future growth. The potential and estimated mature crown spread of these trees is illustrated by a blue crown spread margin in this plan.
- 2.7 The online mapping system provided by the Local Planning Authority (LPA) was consulted on the 24th March 2020 in order to check on the protected status of the surveyed trees. This check indicated that none of the surveyed trees are protected by a Tree Preservation Order, or are within a Conservation Area.
- 2.8 The online 'MAGIC' mapping system provided by DEFRA was consulted on the 1st June 2020 in order to check whether any ancient woodlands were present on or close to the site. This check indicated that no ancient woodlands were present on or close to the site.

3.0 The Site

- 3.1 The site was broadly level and comprised the West Indian Cultural Centre, a Day Centre and a factory building.
- 3.2 Surrounding land use was entirely a mix of highways, residential and commercial development.
- 3.3 An online check with the British Geological Survey's Geology of Britain Viewer was made on 1st June 2020.
 - 3.3.1 This check indicated that the soils on site were likely to be made up of the following:
 - Bedrock Geology: London Clay Formation – Clay, silt and sand. Sedimentary bedrock formed between 56 and 47.8 million years ago during the Palaeogene period.
 - Superficial deposits: No superficial deposits recorded.
 - Observing the soil being excavated in the nearby road works, the local soils on site would seem to be clay.
 - 3.3.2 These types of soils are likely to be subject to significant and persistent volumetric changes in response to moisture content. Therefore there could be a risk of tree root related subsidence on the this site, and this risk must be allowed for and accommodated in any proposed development of the site.
 - 3.3.3 The local topsoil will be prone to rapid compaction to the point that tree root growth is impeded. In areas where the existing soil structure needs to be protected i.e. in the RPA of retained trees or proposed new tree and shrub planting areas, the soil must be protected from demolition and construction activities and traffic by either tree protection barriers or adequate temporary ground protection.
 - 3.3.4 No dig methods of hard surface and road/drive construction using a three dimensional cellular confinement sub base can be used on these types of soil over the RPA of retained trees, but in order to provide adequate protection to tree roots in these areas the sub base may need to be thicker than is routinely used, and it is recommended that the advice of the sub base manufacturer is sought before proposing such constructions.

MJC TREE SERVICES LIMITED

Site:
9 Clarendon Road, Haringey,
N8 0DU.

TREE CONSTRAINTS PLAN

Plan no. MJC-20-0119-01
rev:1

This is based on the Laser
Surveys' topographical survey
plan no. 9761/1 rev:0,
amended by MJC on
26/11/2020.

This plan was produced in
colour. A monochrome
version must not be relied
upon.

KEY

- T1 Category U tree and ref' no'
- T1 Category A tree and ref' no'
- T1 Category B tree and ref' no'
- T1 Category C tree and ref' no'

- Crown spread of surveyed trees

- Extents of noted shrubs and hedges

- Moribund or insignificant trees not individually surveyed and recorded

- Estimated mature crown spread for trees with significant potential for future growth

- Indicative root protection area (RPA)

- Modified root protection area (RPA)

- Direction of lowest significant branch, length of arrow indicates height i.e. the longer the arrow the higher the branch

- Areas of potentially significant shade constraint for A, B & C grade trees, based on surveyed heights

SCALE
1:250 @ A1

6.0 Tree Survey Schedule

TREE SURVEY SCHEDULE

Key:

- **Ht** = Height estimated in metres.
 - **Stem Diam** = Stem or trunk diameter, measured and calculated in accordance with Annex C and section 4.6 of BS5837:2012.
 - **oi** = Measurement taken over ivy, which is likely to produce an exaggerated figure;
 - **cmb** = combined stem diameter value for multi stem trees.
 - **Crown Spread** = Crown spread to the cardinal points in metres, measured by pacing.
 - **1st significant branch ht' & direction** = First significant branch height in metres and direction of growth e.g. N = North.
 - **Crown base ht'** = Minimum distance between surrounding ground level at the trunk base and the base of the main crown, estimated by eye in metres.
 - **Life stage** is chosen from the four following categories;
 - Y = Young;
 - SM = Semi mature;
 - EM = Early mature;
 - M = Mature;
 - OM = Over Mature.
- **Ht** = Height estimated in metres.
 - **Stem Diam** = Stem or trunk diameter, measured and calculated in accordance with Annex C and section 4.6 of BS5837:2012.
 - **oi** = Measurement taken over ivy, which is likely to produce an exaggerated figure.
 - **Crown Spread** = Crown spread to the cardinal points in metres, measured by pacing.
 - **1st significant branch ht' & direction** = First significant branch height in metres and direction of growth e.g. N = North.
 - **Crown base ht'** = Minimum distance between surrounding ground level at the trunk base and the base of the main crown, estimated by eye in metres.
 - **Life stage** is chosen from the four following categories;
 - Y = Young;
 - SM = Semi mature;
 - EM = Early mature;
 - M = Mature;
 - OM = Over Mature.
 - **n/a** = not available.

Ref no	Species	Ht (m)	Stem diam (mm)	No. of stems	Crown spread (m)				1 st sig' branch ht' (m)	Direction of 1 st sig branch	Crown base ht' (m)	Life stage	General observations	Preliminary management recommendations	Rem' cont' (years)	Reten' Cat
					N	E	S	W								
T1	Himalayan Birch	8#	120#	1	4#	4#	1#	4#	1.7#	NE#	1.3#	SM#	- The tree was not plotted in the supplied topographical survey plan and its position was estimated by eye whilst on site. If the position of this tree becomes critical to any proposed development on the site the position of this tree must be confirmed by a competent land surveyor and this survey and report updated accordingly. - The tree was an attractive feature with some potential for future growth. - The tree was offsite and inaccessible therefore all assessments and measurements used were estimates made from a distance.	- No works currently identified. - RPA: radius = 1.4 metre; area = 7 square metres.	20-40#	B2#

Ref no	Species	Ht (m)	Stem diam (mm)	No. of stems	Crown spread (m)				1 st sig' branch ht' (m)	Direction of 1 st sig branch	Crown base ht' (m)	Life stage	General observations	Preliminary management recommendations	Rem' cont' (years)	Reten' Cat
					N	E	S	W								
T2	Flowering Cherry	8	230	1	4	4	3	5	2	ESE	2	SM	- The tree was an attractive roadside feature. - The crown had been lifted in the past over the pavement and highway. - The tree had some potential for future growth.	- No works currently identified. - RPA: radius = 2.8 metre; area = 24 square metres.	20-40	B2
T3	Almond	5#	100# + 75# = 125 combined	2	4	3	3	3	2	SSW	2	SM	- The tree was not plotted in the supplied topographical survey plan and its position was estimated by eye whilst on site. If the position of this tree becomes critical to any proposed development on the site the position of this tree must be confirmed by a competent land surveyor and this survey and report updated accordingly. - The tree was inaccessible behind a locked gate and fence, therefore all assessments and measurements used were estimates made from a distance. - The tree was suffering from severe Peach Leaf Curl disease. - The tree was growing abutting the nearby walls and fence, and this was likely to result in direct damage being caused to both the walls and fence, and the tree, therefore the long-term retention of this tree was not anticipated.	- Consider felling and replacing with a better formed specimen Almond tree, located slightly further away from the walls and fence. - RPA: radius = 1.5 metre; area = 7 square metres.	10-20	C1

Ref no	Species	Ht (m)	Stem diam (mm)	No. of stems	Crown spread (m)				1 st sig' branch ht' (m)	Direction of 1 st sig branch	Crown base ht' (m)	Life stage	General observations	Preliminary management recommendations	Rem' cont' (years)	Reten' Cat
					N	E	S	W								
T4	Flowering Cherry	7#	250# + 200# = 320 combined	2	4#	4#	3#	4#	2#	NE#	2#	EM#	- The tree was not plotted in the supplied topographical survey plan and its position was estimated by eye whilst on site. If the position of this tree becomes critical to any proposed development on the site the position of this tree must be confirmed by a competent land surveyor and this survey and report updated accordingly. - The tree was inaccessible behind a locked gate and fence, therefore all assessments and measurements used were estimates made from a distance. - The tree was two stemmed from just above ground level with a swollen and potentially weak fork between the stems. - The presence of this structural defect makes the long-term retention of this tree unlikely. - The crown had been reduced in the past on the southern side, most likely to clear the nearby building. - The crown was in contact with the wall to the north and this introduces a potential risk of causing direct damage to both the wall and the tree.	- Consider felling and replacing with a better formed specimen tree. - RPA: radius = 3.8 metre; area = 46 square metres.	10-20#	C1#

Ref no	Species	Ht (m)	Stem diam (mm)	No. of stems	Crown spread (m)				1 st sig' branch ht' (m)	Direction of 1 st sig branch	Crown base ht' (m)	Life stage	General observations	Preliminary management recommendations	Rem' cont' (years)	Reten' Cat
					N	E	S	W								
T5	Flowering Cherry	7	150#	1	4	3	4	4	1.6	NE	2	SM	- The tree was an attractive roadside feature with some potential for future growth. - The original support stakes and protective mesh was still present around the trunk and this prevented close access to the trunk hence estimated stem diameter measurement used to calculate the root protection area. - The surrounding tarmac surface was becoming disrupted most likely as a result of direct root damage, a symptom common with this genus of tree. - However, this root growth could be accommodated by removing the immediately surrounding hard surface and replacing it with soft landscaping.	- Remove supporting stakes and protective mesh. - Consider removing the immediately surrounding asphalt surface and replacing with soft landscaping. - RPA: radius = 1.8 metre; area = 10 square metres.	20-40	B2
T6	Swedish Whitebeam	8	470 @ 1m agl	1	4	5	4	4#	1.5	NW	1.5	EM	- The tree was an attractive roadside feature with some potential for future growth. - The tree was heavily covered in Ivy which restricted the extent of visual survey possible. - A low branch bole was present hence stem diameter measurement at 1 metre above ground level used to calculate the root protection area.	- Sever at ground level Ivy stems growing up this tree and re-survey in 12 months-time, when the Ivy has died back. - RPA: radius = 5.6 metre; area = 100 square metres.	20-40	B2

Ref no	Species	Ht (m)	Stem diam (mm)	No. of stems	Crown spread (m)				1 st sig' branch ht' (m)	Direction of 1 st sig branch	Crown base ht' (m)	Life stage	General observations	Preliminary management recommendations	Rem' cont' (years)	Reten' Cat
					N	E	S	W								
T7	Swedish Whitebeam	9#	450#	1	4#	3#	2#	2#	2#	E#	2#	EM#	- The tree was not plotted in the supplied topographical survey plan and its position was estimated by eye whilst on site. If the position of this tree becomes critical to any proposed development on the site the position of this tree must be confirmed by a competent land surveyor and this survey and report updated accordingly. - The tree was inaccessible behind a locked gate and fence, therefore all assessments and measurements used were estimates made from a distance. - The tree was an attractive feature visible from the public highway, but unfortunately it was growing so close to the existing buildings that it was likely to come into repeated conflict with these structures in the future, therefore the long-term retention of this tree was considered unlikely.	- Consider replacing with a new tree more appropriately located. - RPA: radius = 5.4 metre; area = 92 square metres.	10-20#	C1#

Ref no	Species	Ht (m)	Stem diam (mm)	No. of stems	Crown spread (m)				1 st sig' branch ht' (m)	Direction of 1 st sig branch	Crown base ht' (m)	Life stage	General observations	Preliminary management recommendations	Rem' cont' (years)	Reten' Cat
					N	E	S	W								
T8	Rowan	8#	450#	1	5#	4#	5#	5#	2#	S#	2#	EM#	- The tree was not plotted in the supplied topographical survey plan and its position was estimated by eye whilst on site. If the position of this tree becomes critical to any proposed development on the site the position of this tree must be confirmed by a competent land surveyor and this survey and report updated accordingly. - The tree was inaccessible behind a locked gate and fence, therefore all assessments and measurements used were estimates made from a distance. - The tree was an attractive roadside feature but the crown was in contact with the nearby building, introducing a risk of causing direct damage to both the building and the tree. - Numerous bark cankers were present on the first and second order branches. - The branch bole was congested with multiple potentially weak forks forming. - The poor structural condition of the tree and its proximity to the building and its poor health makes the long-term retention of this tree unlikely.	- Consider replacing with a healthier and more appropriately formed tree. - RPA: radius = 5.4 metre; area = 92 square metres.	10-20#	C1#

Ref no	Species	Ht (m)	Stem diam (mm)	No. of stems	Crown spread (m)				1 st sig' branch ht' (m)	Direction of 1 st sig branch	Crown base ht' (m)	Life stage	General observations	Preliminary management recommendations	Rem' cont' (years)	Reten' Cat
					N	E	S	W								
T9	Swedish Whitebeam	8#	150# typical x 10 = 474 combined	10	5#	5#	5#	4#	0.7#	E#	1.8#	EM#	- The tree was not plotted in the supplied topographical survey plan and its position was estimated by eye whilst on site. If the position of this tree becomes critical to any proposed development on the site the position of this tree must be confirmed by a competent land surveyor and this survey and report updated accordingly. - The tree was inaccessible behind a locked gate and fence, therefore all assessments and measurements used were estimates made from a distance. - The tree was multi stemmed from just above ground level with potentially weak forks forming between these stems and some basal sucker growth that appeared to be from the root stock of Rowan was also present. - The tree was an attractive roadside feature but given the poor structural condition of the tree its retention was not considered appropriate.	- Fell and replace with a better formed specimen tree. - RPA: radius = 5.7 metre; area = 102 square metres.	0-10#	U#
T10	London Plane	16	590	1	9	9	4	8#	2.3	S	4	EM	- The tree was off site but accessible as it was a street tree. - The tree was an attractive roadside feature and may also have been a lapsed pollard originally cut at approximately 2.5 metres above ground level. - This species of tree is becoming prone to bark damage by the <i>Massaria</i> fungus so close monitoring at 18-monthly intervals should be carried out as a minimum safety requirement.	- No works currently identified. - RPA: radius = 7.1 metre; area = 158 square metres.	40+	A2

Ref no	Species	Ht (m)	Stem diam (mm)	No. of stems	Crown spread (m)				1 st sig' branch ht' (m)	Direction of 1 st sig branch	Crown base ht' (m)	Life stage	General observations	Preliminary management recommendations	Rem' cont' (years)	Reten' Cat
					N	E	S	W								
T11	London Plane	16	640	1	7	8	8	8#	3	NW	4	EM	- The tree was off site but accessible as it was a street tree. - The tree was an attractive roadside feature and it may also have been a lapsed pollard originally cut at approximately 3 metres above ground level. - One significant branch had been removed from the eastern side at approximately 3 metres above ground level creating a large branch removal wound. - Callous growth was present around the periphery of this wound and the exposed surface of the wood did not seem to be significantly decayed. - This species of tree is becoming prone to bark damage by the <i>Massaria</i> fungus so close monitoring at 18-monthly intervals should be carried out as a minimum safety requirement.	- No works currently identified. - RPA: radius = 7.7 metre; area = 185 square metres.	40+	A2
T12	Raywood Ash	13	430	1	3	7	9	8	3	S	3.5	EM	- The tree was off site but accessible as it was a street tree. - The tree was an attractive roadside feature. - The crown was asymmetric and the trunk leant to the south, most likely as a result of competition for light and space with the nearby London Plane tree. - This species is noted for developing weak branch attachments (Lonsdale 1999) and this may ultimately curtail the life expectancy of this tree in this location.	- No works currently identified. - RPA: radius = 5.2 metre; area = 84 square metres.	20-40	B2
T13	Single-Leafed Ash	8	180	1	1	5	4	4	1.7	NE	1.2	SM	- The tree was off site but accessible as it was a street tree. - The crown was heavily asymmetric and suppressed by the nearby and larger Ash trees, and this tree had very little room left into which to grow.	- Consider felling as a thinning operation in order to benefit the neighbouring trees. - RPA: radius = 2.2 metre; area = 15 square metres.	10-20	C1

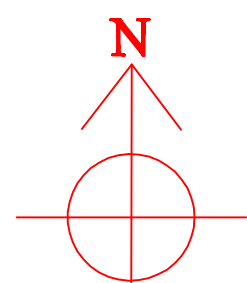
Ref no	Species	Ht (m)	Stem diam (mm)	No. of stems	Crown spread (m)				1 st sig' branch ht' (m)	Direction of 1 st sig branch	Crown base ht' (m)	Life stage	General observations	Preliminary management recommendations	Rem' cont' (years)	Reten' Cat
					N	E	S	W								
T14	Ash	13	410	1	5	6	6	4	1.8	N	4	EM	- The tree was off site but accessible as it was a street tree. - The tree was an attractive roadside feature. - Crown branch form was slightly poor with competing leaders and potentially weak forks developing between those leaders. - The surrounding hard surface was somewhat deflected by direct root action. - The tree may succumb to <i>Chalara</i> Ash Dieback. - However, no symptoms of Ash Dieback were visible at the time of survey and it is possible, given the tree's urban location and the lack of local inoculum from other Ash trees that this may be able to avoid <i>Chalara</i> Ash Dieback for several years.	- Monitor and assess condition on a 6-monthly basis, specifically for symptoms of <i>Chalara</i> Ash Dieback. - RPA: radius = 4.9 metre; area = 76 square metres.	20-40	B2
T15	Raywood Ash	13	520	1	6	5	7	6	1.7	NE	5	EM	- The tree was off site but accessible as it was a street tree. - The tree was an attractive roadside feature. - Crown branch form was slightly poor with competing leaders and potentially weak forks developing between those leaders. - The surrounding hard surface was somewhat deflected by direct root action. - The tree may succumb to <i>Chalara</i> Ash Dieback. - However, no symptoms of Ash Dieback were visible at the time of survey and it is possible, given the tree's urban location and the lack of local inoculum from other Ash trees that this may be able to avoid <i>Chalara</i> Ash Dieback for several years.	- Monitor and assess condition on a 6-monthly basis, specifically for symptoms of <i>Chalara</i> Ash Dieback. - RPA: radius = 6.2 metre; area = 122 square metres.	20-40	B2

Ref no	Species	Ht (m)	Stem diam (mm)	No. of stems	Crown spread (m)				1 st sig' branch ht' (m)	Direction of 1 st sig branch	Crown base ht' (m)	Life stage	General observations	Preliminary management recommendations	Rem' cont' (years)	Reten' Cat
					N	E	S	W								
T16	Sycamore	12	280	1	3	5	6	7	1.1	SE	2	SM	- This self-set tree contributed to the verdant street scene but the crown was heavily asymmetric as a result of competition for light and space with nearby trees. - The crown branch form was poor with competing leaders and potentially weak forks developing between the leaders. - The tree was also growing so close to the adjacent boundary wall that it was considered likely that it would cause direct damage to this structure in the future. - For these reasons, the long-term retention of this tree was considered unlikely. - The crown was very close to the nearby building and touching the roof of the nearby outbuilding.	- Lift crown to create a minimum 2 metres clear space over the outbuilding. - Reduce crown as necessary in order to create a 2 metres clear space against the brick building. - RPA: radius = 3.4 metre; area = 36 square metres.	10-20	C1
T17	Rowan	7	240	1	3	4	5	5	2	W	2	SM	- The tree was an attractive roadside feature but somewhat diminutive compared to other roadside trees. - The tree had clearly been grafted onto the rootstock of Swedish Whitebeam and there was clear disparity of growth between the trunk and the rootstock, with the rootstock enlarged compared to the trunk. - Basal suckers of Swedish Whitebeam were arising from this swollen base.	- Remove basal sucker stems. - RPA: radius = 2.9 metre; area = 26 square metres.	20-40	B2

Ref no	Species	Ht (m)	Stem diam (mm)	No. of stems	Crown spread (m)				1 st sig' branch ht' (m)	Direction of 1 st sig branch	Crown base ht' (m)	Life stage	General observations	Preliminary management recommendations	Rem' cont' (years)	Reten' Cat
					N	E	S	W								
T18	Single-Leafed Ash	13	470	1	7	7	7	9	2.2	E	2.3	EM	- The tree was an attractive roadside feature. - Significant quantities of small diameter deadwood were present throughout the crown. However, these were not considered large enough to pose a significant risk of harm through falling. - Crown branch form was slightly poor with competing leaders and potentially weak forks developing between those leaders and lower limbs that were beginning to become overextended. - Minor disruption of the surrounding hard surfaces was present, most likely as a result of direct root damage.	- No works currently identified. - RPA: radius = 5.6 metre; area = 100 square metres.	20-40	B2
T19	Swedish Whitebeam	9	370	1	5	4	5	3	1.8	W	1.8	EM	- The tree was an attractive roadside feature. - The crown had been lifted on several occasions in the past, creating a number of branch removal wounds, none of which seemed to be significantly decayed at the time of survey. - A degree of disruption of the surrounding hard surface was present, most likely as a result of direct root action.	- No works currently identified. - RPA: radius = 4.4 metre; area = 62 square metres.	20-40	B2
T20	Swedish Whitebeam	9	340	1	1	4	5	3	1.6	W	1.8	EM	- The tree was an attractive roadside feature. - The crown had been lifted on several occasions in the past, creating a number of branch removal wounds, none of which seemed to be significantly decayed at the time of survey. - A degree of disruption of the surrounding hard surface was present, most likely as a result of direct root action.	- No works currently identified. - RPA: radius = 4.1 metre; area = 52 square metres.	20-40	B2

Ref no	Species	Ht (m)	Stem diam (mm)	No. of stems	Crown spread (m)				1 st sig' branch ht' (m)	Direction of 1 st sig branch	Crown base ht' (m)	Life stage	General observations	Preliminary management recommendations	Rem' cont' (years)	Reten' Cat
					N	E	S	W								
T21	Purple Norway Maple	11	380	1	4	4	4	4	2	NW	2	EM	- The tree was an attractive roadside feature. - The crown had been lifted and reduced in the past, most likely in order to maintain clearance over the nearby car park and against the nearby building.	- No works currently identified. - RPA: radius = 4.6 metre; area = 65 square metres.	20-40	B2
T22	Rowan	7	240	1	2	2	5	5	1.7	SW	2	SM	- The crown was heavily asymmetric as a result of suppression by the nearby and larger trees. - Several bacterial bark cankers were present on the first and second order branches and these are likely to be weakening these branches. - Basal graft disparity was present that was very similar to that observed on tree no. T17, Rowan. - Given the tree's overall suppression and poor crown health, its long-term retention was not anticipated.	- No works currently identified. - RPA: radius = 2.9 metre; area = 26 square metres.	10-20	C1

7.0 Arboricultural Impact Assessment Plan



Arboricultural Impact Assessment

1.0 Introduction

- 1.1 It is proposed to redevelop the site as illustrated in this plan.
- 1.2 In this plan, the proposed development layout is illustrated in colour.
- 1.3 In order to provide context with the existing site, and highlight the proposed development, the existing site layout plan is also illustrated in pale grey in this plan.
- 1.4 The trees, their constraints, and areas where specific tree protection measures are required, are illustrated in accordance with the key.

2.0 Tree works

- 2.1 The proposed development does not require the removal of, or any works to be carried out on, any tree protected by a Tree Preservation Order or Conservation Area.
- 2.2 The proposed development requires the removal of tree nos. T2, T3, T4, T5, T6, T7, T8, T9, T16, T17, T19, T20, T21 and T22, one insignificant Cabbage Palm, and several domestic type hedges and shrub masses.
- 2.2.1 These trees, hedges and shrubs are illustrated with red crown margins in this plan.
- 2.2.2 The tree losses total 14 individual trees, made up of 1 'U' grade tree, 6 'C' grade trees, and 7 'B' trees as defined by BS5837:2012. No 'A' grade trees are to be removed as a result of the proposed development.

2.3

- 2.3.1 This tree was a 'U' grade with regard to its quality assessment as defined in Table 1 of BS5837:2012. BS5837:2012 describes such trees as 'those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years'.
- 2.3.2 Such trees cannot be considered to be of high public amenity value, either individually or collectively, and they cannot form a significant material constraint on any proposed redevelopment of the site. Therefore, the required removal of such a low-grade tree cannot form a legitimate reason for the Local Planning Authority (LPA) to object to the proposed development.

2.4

- 2.4.1 These trees were all 'C' grade with regard to their quality assessment as defined in Table 1 of BS5837:2012. BS5837:2012 describes such trees as 'Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm'.

- 2.4.2 Such trees cannot be considered to be of high public amenity value as individuals, although they may collectively occur some public amenity value if they are present in sufficient numbers by forming a general verdant mass, and to a degree this is the case on this site. The required removal of 'C' grade trees is unlikely to form a substantive reason for the Local Planning Authority (LPA) to object to the proposed development. However, the LPA is likely to take note of the collective loss of verdant mass and to require the mitigation planting of new trees as part of the proposed development to compensate for this collective loss. Therefore, the required removal of these trees should not form a substantive reason for the LPA to object to the proposed development providing adequate mitigation planting of new trees is carried out as part of the proposed development.
- 2.4.3 An indicative tree and shrub planting scheme is illustrated in this plan, and this demonstrates that sufficient new tree planting locations have been incorporated into the proposed development layout to more than compensate for the loss of these 'C' grade trees. The LPA can ensure the adequacy of this new tree planting by granting planning permission for the proposed development subject to the pre-commencement submission and approval of a comprehensive soft landscaping proposal for the proposed development.

2.5

- 2.5.1 These trees were all 'B' grade with regard to their quality assessment as defined in Table 1 of BS5837:2012. BS5837:2012 describes such trees as 'Trees of moderate quality with an estimated remaining life expectancy of at least 20 years'.
- 2.5.2 The required removal of 'B' grade trees can form a substantive reason for the Local Planning Authority (LPA) to object to the proposed development if the trees are of high public amenity value and their removal would have a significant detrimental impact on the public amenities of the locality. These 'B' grade trees, whilst not being high value individual specimens, are publicly visible and have a sufficient anticipated future life expectancy to provide significant public amenity value. Therefore, in order for the removal of these trees to be acceptable to the LPA, it will be necessary to carry out the mitigation planting of a number of new trees of a size, type and location to be agreed with the LPA, as part of the proposed development to compensate for this loss of public amenity value. Therefore, the required removal of these 'B' grade trees should not form a substantive reason for the LPA to object to the proposed development providing adequate mitigation planting of new trees is carried out as part of the proposed development.

2.6

- 2.6.1 The proposed development requires the removal of tree nos. T11, T12, T13, T14, T15 and T18 in order to create adequate clearance between the crown edge and the proposed building, as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works.
- 2.6.2 Tree nos. T11, T12, T13, T14 and T15 are growing offsite and overhanging the site, and could therefore legitimately carry out these crown reduction works prior to applying for planning permission for the proposed development.

2.7

- 2.7.1 Tree no. T18 is growing onsite but is not protected by a Tree Preservation Order or Conservation Area. The site owner has the common law right to cut these crowns back as illustrated without the permission of the tree's owner, and could therefore legitimately carry out these crown reduction works prior to applying for planning permission for the proposed development.
- 2.7.2 The crown reduction works on all these trees will take place on the proposed development site, and the crown reduction works will not be carried out on crown faces that will not be reduced at all. Therefore, the crown reduction works will not significantly alter the public view of these trees, and the crown reduction works will not have a significant detrimental impact on the amenities of the area.

2.8

- 2.8.1 For the reasons detailed immediately above, the proposed reduction of these trees should not form a substantive reason for the LPA to object to the proposed development.

- 2.8.2 The proposed development requires the removal of tree nos. T11, T12, T13, T14, T15 and T18 in order to create adequate clearance between the crown edge and the proposed building, as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works.
- 2.8.3 The proposed development requires the removal of tree nos. T11, T12, T13, T14, T15 and T18 in order to create adequate clearance between the crown edge and the proposed building, as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works.

- 2.8.4 The proposed development requires the removal of tree nos. T11, T12, T13, T14, T15 and T18 in order to create adequate clearance between the crown edge and the proposed building, as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works.
- 2.8.5 The proposed development requires the removal of tree nos. T11, T12, T13, T14, T15 and T18 in order to create adequate clearance between the crown edge and the proposed building, as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works.

- 2.8.6 The proposed development requires the removal of tree nos. T11, T12, T13, T14, T15 and T18 in order to create adequate clearance between the crown edge and the proposed building, as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works.
- 2.8.7 The proposed development requires the removal of tree nos. T11, T12, T13, T14, T15 and T18 in order to create adequate clearance between the crown edge and the proposed building, as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works.

- 2.8.8 The proposed development requires the removal of tree nos. T11, T12, T13, T14, T15 and T18 in order to create adequate clearance between the crown edge and the proposed building, as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works.
- 2.8.9 The proposed development requires the removal of tree nos. T11, T12, T13, T14, T15 and T18 in order to create adequate clearance between the crown edge and the proposed building, as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works.

- 2.8.10 The proposed development requires the removal of tree nos. T11, T12, T13, T14, T15 and T18 in order to create adequate clearance between the crown edge and the proposed building, as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works.
- 2.8.11 The proposed development requires the removal of tree nos. T11, T12, T13, T14, T15 and T18 in order to create adequate clearance between the crown edge and the proposed building, as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works.

- 2.8.12 The proposed development requires the removal of tree nos. T11, T12, T13, T14, T15 and T18 in order to create adequate clearance between the crown edge and the proposed building, as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works.
- 2.8.13 The proposed development requires the removal of tree nos. T11, T12, T13, T14, T15 and T18 in order to create adequate clearance between the crown edge and the proposed building, as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works.

- 2.8.14 The proposed development requires the removal of tree nos. T11, T12, T13, T14, T15 and T18 in order to create adequate clearance between the crown edge and the proposed building, as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works.
- 2.8.15 The proposed development requires the removal of tree nos. T11, T12, T13, T14, T15 and T18 in order to create adequate clearance between the crown edge and the proposed building, as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works.

- 2.8.16 The proposed development requires the removal of tree nos. T11, T12, T13, T14, T15 and T18 in order to create adequate clearance between the crown edge and the proposed building, as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works.
- 2.8.17 The proposed development requires the removal of tree nos. T11, T12, T13, T14, T15 and T18 in order to create adequate clearance between the crown edge and the proposed building, as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works.

- 2.8.18 The proposed development requires the removal of tree nos. T11, T12, T13, T14, T15 and T18 in order to create adequate clearance between the crown edge and the proposed building, as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works.
- 2.8.19 The proposed development requires the removal of tree nos. T11, T12, T13, T14, T15 and T18 in order to create adequate clearance between the crown edge and the proposed building, as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works.

- 2.8.20 The proposed development requires the removal of tree nos. T11, T12, T13, T14, T15 and T18 in order to create adequate clearance between the crown edge and the proposed building, as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works.
- 2.8.21 The proposed development requires the removal of tree nos. T11, T12, T13, T14, T15 and T18 in order to create adequate clearance between the crown edge and the proposed building, as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works.

- 2.8.22 The proposed development requires the removal of tree nos. T11, T12, T13, T14, T15 and T18 in order to create adequate clearance between the crown edge and the proposed building, as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works.
- 2.8.23 The proposed development requires the removal of tree nos. T11, T12, T13, T14, T15 and T18 in order to create adequate clearance between the crown edge and the proposed building, as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works.

- 2.8.24 The proposed development requires the removal of tree nos. T11, T12, T13, T14, T15 and T18 in order to create adequate clearance between the crown edge and the proposed building, as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works.
- 2.8.25 The proposed development requires the removal of tree nos. T11, T12, T13, T14, T15 and T18 in order to create adequate clearance between the crown edge and the proposed building, as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works.

- 2.8.26 The proposed development requires the removal of tree nos. T11, T12, T13, T14, T15 and T18 in order to create adequate clearance between the crown edge and the proposed building, as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works.
- 2.8.27 The proposed development requires the removal of tree nos. T11, T12, T13, T14, T15 and T18 in order to create adequate clearance between the crown edge and the proposed building, as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works.

- 2.8.28 The proposed development requires the removal of tree nos. T11, T12, T13, T14, T15 and T18 in order to create adequate clearance between the crown edge and the proposed building, as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works.
- 2.8.29 The proposed development requires the removal of tree nos. T11, T12, T13, T14, T15 and T18 in order to create adequate clearance between the crown edge and the proposed building, as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works.

- 2.8.30 The proposed development requires the removal of tree nos. T11, T12, T13, T14, T15 and T18 in order to create adequate clearance between the crown edge and the proposed building, as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works.
- 2.8.31 The proposed development requires the removal of tree nos. T11, T12, T13, T14, T15 and T18 in order to create adequate clearance between the crown edge and the proposed building, as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works.

- 2.8.32 The proposed development requires the removal of tree nos. T11, T12, T13, T14, T15 and T18 in order to create adequate clearance between the crown edge and the proposed building, as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works.
- 2.8.33 The proposed development requires the removal of tree nos. T11, T12, T13, T14, T15 and T18 in order to create adequate clearance between the crown edge and the proposed building, as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works.

- 2.8.34 The proposed development requires the removal of tree nos. T11, T12, T13, T14, T15 and T18 in order to create adequate clearance between the crown edge and the proposed building, as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works.
- 2.8.35 The proposed development requires the removal of tree nos. T11, T12, T13, T14, T15 and T18 in order to create adequate clearance between the crown edge and the proposed building, as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works.

- 2.8.36 The proposed development requires the removal of tree nos. T11, T12, T13, T14, T15 and T18 in order to create adequate clearance between the crown edge and the proposed building, as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works.
- 2.8.37 The proposed development requires the removal of tree nos. T11, T12, T13, T14, T15 and T18 in order to create adequate clearance between the crown edge and the proposed building, as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works.

- 2.8.38 The proposed development requires the removal of tree nos. T11, T12, T13, T14, T15 and T18 in order to create adequate clearance between the crown edge and the proposed building, as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works.
- 2.8.39 The proposed development requires the removal of tree nos. T11, T12, T13, T14, T15 and T18 in order to create adequate clearance between the crown edge and the proposed building, as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works.

- 2.8.40 The proposed development requires the removal of tree nos. T11, T12, T13, T14, T15 and T18 in order to create adequate clearance between the crown edge and the proposed building, as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works.
- 2.8.41 The proposed development requires the removal of tree nos. T11, T12, T13, T14, T15 and T18 in order to create adequate clearance between the crown edge and the proposed building, as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works.

- 2.8.42 The proposed development requires the removal of tree nos. T11, T12, T13, T14, T15 and T18 in order to create adequate clearance between the crown edge and the proposed building, as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works.
- 2.8.43 The proposed development requires the removal of tree nos. T11, T12, T13, T14, T15 and T18 in order to create adequate clearance between the crown edge and the proposed building, as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works.

- 2.8.44 The proposed development requires the removal of tree nos. T11, T12, T13, T14, T15 and T18 in order to create adequate clearance between the crown edge and the proposed building, as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works.
- 2.8.45 The proposed development requires the removal of tree nos. T11, T12, T13, T14, T15 and T18 in order to create adequate clearance between the crown edge and the proposed building, as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works.

- 2.8.46 The proposed development requires the removal of tree nos. T11, T12, T13, T14, T15 and T18 in order to create adequate clearance between the crown edge and the proposed building, as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works.
- 2.8.47 The proposed development requires the removal of tree nos. T11, T12, T13, T14, T15 and T18 in order to create adequate clearance between the crown edge and the proposed building, as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works.

- 2.8.48 The proposed development requires the removal of tree nos. T11, T12, T13, T14, T15 and T18 in order to create adequate clearance between the crown edge and the proposed building, as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works.
- 2.8.49 The proposed development requires the removal of tree nos. T11, T12, T13, T14, T15 and T18 in order to create adequate clearance between the crown edge and the proposed building, as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works.

- 2.8.50 The proposed development requires the removal of tree nos. T11, T12, T13, T14, T15 and T18 in order to create adequate clearance between the crown edge and the proposed building, as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works.
- 2.8.51 The proposed development requires the removal of tree nos. T11, T12, T13, T14, T15 and T18 in order to create adequate clearance between the crown edge and the proposed building, as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works.

- 2.8.52 The proposed development requires the removal of tree nos. T11, T12, T13, T14, T15 and T18 in order to create adequate clearance between the crown edge and the proposed building, as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works.
- 2.8.53 The proposed development requires the removal of tree nos. T11, T12, T13, T14, T15 and T18 in order to create adequate clearance between the crown edge and the proposed building, as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works.

- 2.8.54 The proposed development requires the removal of tree nos. T11, T12, T13, T14, T15 and T18 in order to create adequate clearance between the crown edge and the proposed building, as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works.
- 2.8.55 The proposed development requires the removal of tree nos. T11, T12, T13, T14, T15 and T18 in order to create adequate clearance between the crown edge and the proposed building, as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works.

- 2.8.56 The proposed development requires the removal of tree nos. T11, T12, T13, T14, T15 and T18 in order to create adequate clearance between the crown edge and the proposed building, as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works.
- 2.8.57 The proposed development requires the removal of tree nos. T11, T12, T13, T14, T15 and T18 in order to create adequate clearance between the crown edge and the proposed building, as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works.

- 2.8.58 The proposed development requires the removal of tree nos. T11, T12, T13, T14, T15 and T18 in order to create adequate clearance between the crown edge and the proposed building, as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works.
- 2.8.59 The proposed development requires the removal of tree nos. T11, T12, T13, T14, T15 and T18 in order to create adequate clearance between the crown edge and the proposed building, as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works.

- 3.3.3.2.8 In order to provide support to the sub base, timber side boards with retaining timber pegs or kerbs will be used. Examples of such designs are illustrated by the three-dimensional cellular confinement system design with no dig kerbs and reinforced edges. These designs are illustrative only and are not to be used as a substitute for sub base and kerb designs supplied by a competent engineer or the sub base manufacturer.

- 3.3.3.2.9 All vehicular and machinery access to the area of work will either be via the new hard surface i.e. a 'roll out' method of construction, or the existing hard surface will be retained by another route that does not cross the 'Precautory area 2' or the RPA of any retained tree.

- 3.3.3.2.10 The increase in fine surface levels created by the use of a three-dimensional cellular confinement sub base has been discussed within the design team and I have been assured that these levels have been accommodated in the proposed development.

- 3.3.3.2.11 The increase in fine surface levels created by the use of a three-dimensional cellular confinement sub base has been discussed within the design team and I have been assured that these levels have been accommodated in the proposed development.
- 3.4 No underground service or drainage plan has been supplied at the time of writing this report. All underground services will be carefully routed so as to avoid crossing the RPA of any retained tree where ever possible. Where it is not possible to avoid the RPA, the underground services will be installed before any new hard surfaces are installed over the 'Precautory area 2', and as follows:

- 3.4.1 Any temporary ground protection covering the route of the underground services or drains will be removed at the last possible moment and by the minimum amount necessary to carry out the work.
- 3.4.2 If the route of the trench is covered by an existing hard surface, the existing hard surface and its sub base will be broken up carefully, either by hand using hand tools, or mechanically.

- 3.4.2.1 If the surface is to be broken up mechanically, a hand-held breaker operator and/or the mini digger will always stand/be located on the intact hard surface or outside the RPA facing the tree. The operator/digger will move backwards away from the tree as the surface is broken up making sure they/it remain either on the existing hard surface or outside the RPA at all times. Great care must be taken to ensure that there is no penetration into the underlying soil.

- 3.4.2.2 The broken-up surface and sub base will be carefully removed by hand. Great care will be taken to ensure that any roots present below the hard surface and sub base are not grazed, cut or otherwise damaged by these works.

- 3.4.3 The broken-up surface and sub base will be carefully removed by hand. Great care will be taken to ensure that any roots present below the hard surface and sub base are not grazed, cut or otherwise damaged by these works.
- 3.4.4 No vehicular or machinery access onto the ground exposed by this removal will be permitted. All vehicular and machinery access will be restricted to either the retained hard surface or another route that avoids the RPA.

- 3.4.5 Excavation and reinstatement of the trench below the existing hard surface and sub base will proceed as follows:
- 3.4.5.1 The service trench will be excavated to the required depth using an excavator or similar compressed air soil excavation tool.

- 3.4.5.2 Any woody roots encountered will be carefully excavated round and left in place and undamaged.
- 3.4.5.3 When they are fully exposed, any woody roots retained will be covered by three layers of Hessian or similar material to avoid desiccation or frost damage.

- 3.4.5.4 The underground services (or at least their ducts) will be installed under and around the roots as necessary.
- 3.4.5.5 The trench will be backfilled using either the excavated soil or a properly structural soil designed to bear loads without compacting. The soil will be put down in thin layers that are each lightly tamped in turn.

- 3.4.5.5.1 As the backfill is placed, any roots retained, the Hessian or similar covering will be removed.
- 3.4.5.5.2 Once the trench has been backfilled and the roots covered with soil, the previous hard surface may be replaced in a conventional manner.

- 3.5 The above tree protection measures will restrict the arboricultural impact of the proposed development works to an acceptable level, and when combined with the tree protection measures detailed in the following Tree Protection Plan, they will restrict the arboricultural impact of the overall development to an acceptable level. The LPA can ensure that these tree protection measures are carried out by granting planning permission for the proposed development subject to planning conditions requiring compliance with the following Tree Protection Plan, and the pre-commencement drawing up and approval of an Arboricultural Method Statement.

- 4.0 Future Pressures to Unreasonably Prune or Fell Retained Trees
- 4.1 The inappropriate retention of trees within a new development can lead to future conflicts between the residents of the new development and the trees, thereby creating future pressures to unreasonably prune or fell trees that had been retained in the design and development process. Section 5.3.4 of BS5837:2012 requires this issue to be considered and avoided at the design stage of a proposed development. In order to comply with this requirement, the following considerations have been made:

- 4.2.1 The proposed development layout has maintained a minimum clearance between the proposed buildings and the crown edge of retained trees of 2 metres. This is considered sufficient to avoid the crowns coming into contact with the fabric of the buildings, even when the trees are swaying in a storm event. Therefore, the proposed development has avoided placing buildings so close to the existing crown spreads of retained trees that legitimate feelings of overbearing and dominance will be created in the minds of future residents of the buildings, and crown proximity should not create any legitimate pressures to unreasonably prune or fell the retained trees in the future.

- 4.2.2 In order to maintain this 2 metre crown clearance it will be necessary to carry out periodic crown reductions in the future, however this is a common practice where trees co-exist with built structures in urban locations and this requirement should not be regarded as an overly onerous task that will result in the creation of legitimate future pressures to fell or unreasonably prune the retained trees.

- 4.3 Tree shade
- 4.3.1 At the layout design stage, the indicative shade segment suggested at section 5.2.2 Note 1 of BS5837:2012 was used to assess the impact of shade on the proposed gardens and dwellings.

- 4.3.2 This assessment indicated that the south eastern quarter of the proposed site would experience high levels of direct sunlight as they are normally well lit by artificial means. Therefore, the impact of this shade on the living/working conditions within the proposed building was not unacceptable.

- 4.3.3 It is worth noting that trees casting this shade are deciduous and will shed their leaves in autumn, thereby allowing more light to pass through their crowns during the winter months when the sun is at its lowest in the sky. This fact will increase the direct light levels reaching the building during the darker winter months.

- 4.3.3.1 The Building Research Establishment (BRE) have published figures on the transparency of different species of trees to light. How much sunlight light passes through them). As an extreme example, i.e. the species that cast the most-dense shade, the BRE states that a Common Oak (with its full leaf) will still allow 20% of the sunlight through its crown, and when bare branched (winter) this rises to 80%. Therefore, even in the areas shaded by the trees, at least 20% of the sunlight will reach the ground in summer and 80% will reach the ground in the winter, and invariably these figures will be higher as all trees are not Common Oaks.

- 4.3.3.2 The BRE's assertion regarding the transparency of tree crowns is supported by BS8206 part 2: 2008 'Lighting for Buildings' which states: 'Although shading by trees is an attractive alternative to the use of blinds, exclusive reliance on shade fenestration is unlikely to be satisfactory for working interiors. Furthermore, a tree in leaf will diminish the light available from the sky obscured to between 0.1 and 0.3 of the unobstructed value. In winter the bare branches of a deciduous tree are likely to reduce the skylight to between 0.5 and 0.8 of the unobstructed value from the part of the sky enclosed within the tree's outline. These values are approximate only. They vary with the species and with different members of the same species. They vary also with the path length of the light through the foliage and therefore, in multiple planting, with the depth and composition of the stand.'

- 4.3.4 It is also important to avoid over stating the impact of tree shade on natural light levels reaching the building. The shade cast by trees impacts only on direct sunlight. Considering only direct sunlight when assessing the natural light levels makes no allowance for diffused natural light. Diffused natural light will still be reaching the ground in the areas shaded by trees as it is derived equally from all parts of the sky, and this source makes up 50% of the natural light reaching the ground in southern England.

- 4.3.5 The BRE's assertion regarding the transparency of tree crowns is supported by BS8206 part 2: 2008 'Lighting for Buildings' which states: 'Although shading by trees is an attractive alternative to the use of blinds, exclusive reliance on shade fenestration is unlikely to be satisfactory for working interiors. Furthermore, a tree in leaf will diminish the light available from the sky obscured to between 0.1 and 0.3 of the unobstructed value. In winter the bare branches of a deciduous tree are likely to reduce the skylight to between 0.5 and 0.8 of the unobstructed value from the part of the sky enclosed within the tree's outline. These values are approximate only. They vary with the species and with different members of the same species. They vary also with the path length of the light through the foliage and therefore, in multiple planting, with the depth and composition of the stand.'

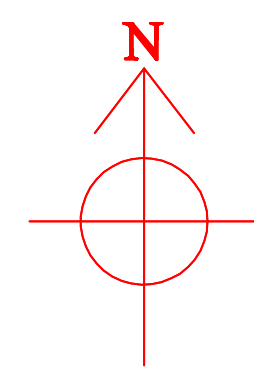
- 4.3.6 It is also important to avoid over stating the impact of tree shade on natural light levels reaching the building. The shade cast by trees impacts only on direct sunlight. Considering only direct sunlight when assessing the natural light levels makes no allowance for diffused natural light. Diffused natural light will still be reaching the ground in the areas shaded by trees as it is derived equally from all parts of the sky, and this source makes up 50% of the natural light reaching the ground in southern England.

- 4.3.7 The BRE's assertion regarding the transparency of tree crowns is supported by BS8206 part 2: 2008 'Lighting for Buildings' which states: 'Although shading by trees is an attractive alternative to the use of blinds, exclusive reliance on shade fenestration is unlikely to be satisfactory for working interiors. Furthermore, a tree in leaf will diminish the light available from the sky obscured to between 0.1 and 0.3 of the unobstructed value. In winter the bare branches of a deciduous tree are likely to reduce the skylight to between 0.5 and 0.8 of the unobstructed value from the part of the sky enclosed within the tree's outline. These values are approximate only. They vary with the species and with different members of the same species. They vary also with the path length of the light through the foliage and therefore, in multiple planting, with the depth and composition of the stand.'

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- 4.3.10 It is also important to avoid over stating the impact of tree shade on natural light levels reaching the building. The shade cast by trees impacts only on direct sunlight. Considering only direct sunlight when assessing the natural light levels makes no allowance for diffused natural light. Diffused natural light will still be reaching the

8.0 Tree Protection Plan & Heads of Terms for the Arboricultural Method Statement



Tree Protection Plan

1.0 Introduction.

1.1 The proposed demolition and construction works will be carried out in strict accordance with the following tree protection measures, and an Arboricultural Method Statement to be drawn up and approved after planning permission has been granted. This method statement should not be drawn up at this stage of the development process in order to comply with the recommended flow chart provided in Figure 1 of BS5837:2012, which makes it clear that the arboricultural methodologies, i.e. the method statement, should be drawn up AFTER statutory planning permission has been granted, and not before.

2.0 Tree Works.

2.1 Before any demolition or construction works commence, and before any demolition and construction vehicles, equipment and materials are delivered to site, the following tree works will be carried out.

2.1.1 Fell tree no's. T2, T3, T4, T5, T6, T7, T8, T9, T16, T17, T19, T20, T21 and T22, one insignificant Cabbage Palm, and several domestic type hedges and shrub masses. These trees, hedges and shrubs are illustrated with red crown margins in this plan.

- 2.1.2 Crown reduce tree no's. T11, T12, T13, T14, T15 and T18 as illustrated in this plan i.e. the red crown margins indicate the crowns to be reduced, and the green crown margins indicate the crown to be retained after the crown reduction works
- 2.2 All tree works will be carried out in accordance with the following stipulations.
- 2.2.1 All tree works will be carried out in accordance with BS3998:2010 wherever that Standard is applicable.
- 2.2.2 All works will be carried out in accordance with all applicable health and safety and environmental protection legislation.
- 2.2.3 All tree works will be carried out in such a way that no collateral harm is caused to trees to be retained.
- 2.2.4 All arisings will be disposed of in an approved manner and off site unless otherwise instructed by the client or site manager.
- 2.2.5 The stumps of tree nos. T16 and T17 will be ground out to 300mm below ground level with either a pedestrian or tracked stump grinder.
- 2.2.6 The stumps of all remaining trees may be mechanically grubbed out, but this grubbing out may only take place after the tree protection hoardings have been erected and the temporary ground protection has been installed.

3.0 Tree Protection Measures

3.1 After the tree works are completed, but before any stumps are grubbed out, and before any demolition or construction works commence, and before any demolition and construction vehicles, equipment and materials are delivered to site, the trunks of tree nos. T11, T12, T13, T14, T15 and T18 will be encased in tree protection hoarding as follows.

- 3.1.1 This hoarding will comply with the illustration in this plan.
- 3.1.2 The hoarding will extend to either the height of the first significant side branch or 2 metres above ground level, whichever is lesser, and at least out to edge of the root buttresses or the existing square of bare earth around the base of the tree, whichever is greater.
- 3.1.3 The hoarding will be custom fitted to each tree so that it does not abrade the bark yet it fits closely with no gaps and covers all the root buttresses and trunk to the full height of the hoarding.
- 3.1.4 The hoarding will not be attached to the tree by nails, screws or any similar fixings. It will be supported by itself as a rigid structure sitting on the ground and its close fit to the trunk.
- 3.1.5 The hoarding will be retained in place until all construction works are completed and all construction vehicles, equipment, materials and spoil are removed from the site.

3.2 After the tree works are completed, but before any stumps are grubbed out, and before any demolition or construction works commence, and before any demolition and construction vehicles, equipment and materials are delivered to site, the 'Precautionary area 1' and the 'Precautionary area 2' areas illustrated in this plan will be covered by temporary ground protection. The type of ground protection to be used will be dependant on the anticipated loads it will need to carry as follows.

- 3.2.1 For pedestrian movements only, a single thickness of scaffold boards placed either on top of a driven scaffold frame, so as to form a suspended walkway, or on top of a compression-resistant layer (e.g. 100 mm depth of woodchip), laid onto a geotextile membrane.
- 3.2.2 For pedestrian-operated plant up to a gross weight of 2 t, proprietary, inter-linked ground protection boards placed on top of a compression-resistant layer (e.g. 150 mm depth of woodchip), laid onto a geotextile membrane.
- 3.2.3 For wheeled or tracked construction traffic exceeding 2 t gross weight, an alternative system (e.g. proprietary systems or pre-cast reinforced concrete slabs) to an engineering specification designed in conjunction with arboricultural advice, to accommodate the likely loading to which it will be subjected.
- 3.2.4 In all cases, the objective should be to avoid compaction of the soil, which can arise from the single passage of a heavy vehicle, especially in wet conditions, so that tree root functions remain unimpaired.
- 3.2.5 The temporary ground protection will be retained in place and intact until all demolition and construction activities have been completed and all demolition and construction materials, equipment and vehicles have been removed from the site, unless the Arboricultural Method Statement dictates its prior removal.

3.3 When any large and/or tall and/or jibbed vehicles/equipment are operating or manoeuvring close to the crowns of trees to be retained, a specific banksperson will be appointed to supervise the movement and ensure that no damage is caused to the crowns of these trees through impact.

3.4 All activities usually carried out in the compound area, e.g. the storage of materials and equipment, the mixing of concrete and mortar, the siting of rest cabins and the site office etc., will take place outside and down slope from the 'Precautionary area 1' and 'Precautionary area 2' areas.

3.5 Any facilities for the storage of oils, fuels or chemicals shall be located outside and down slope from 'Precautionary area 1' and 'Precautionary area 2' areas, in tanks on impervious bases and surrounded by impervious bund walls. The volume of the bund compound shall be at least equivalent to the capacity of the tank plus 10%. If there is a multiple tankage, the compound shall be at least equivalent to the capacity of the largest tank, or the combined capacity of interconnected tanks, plus 10%. All filling points, vents, gauges and sight glasses shall be located within the bund. The drainage system of the bund shall be sealed with no discharge to any watercourse, land or underground strata. Associated pipe-work shall be located above ground and protected from accidental damage. All filling points and tank overflow pipe outlets shall be detailed to discharge downwards into the bund.

3.6 All underground services will be carefully routed so as to avoid crossing the RPA of all the retained trees where ever possible. Where it is not possible to avoid the RPA, the underground services will be installed in accordance with the Arboricultural Method Statement.

3.7 No fires will be permitted within 30 metres of the crown edge of any and all retained trees.

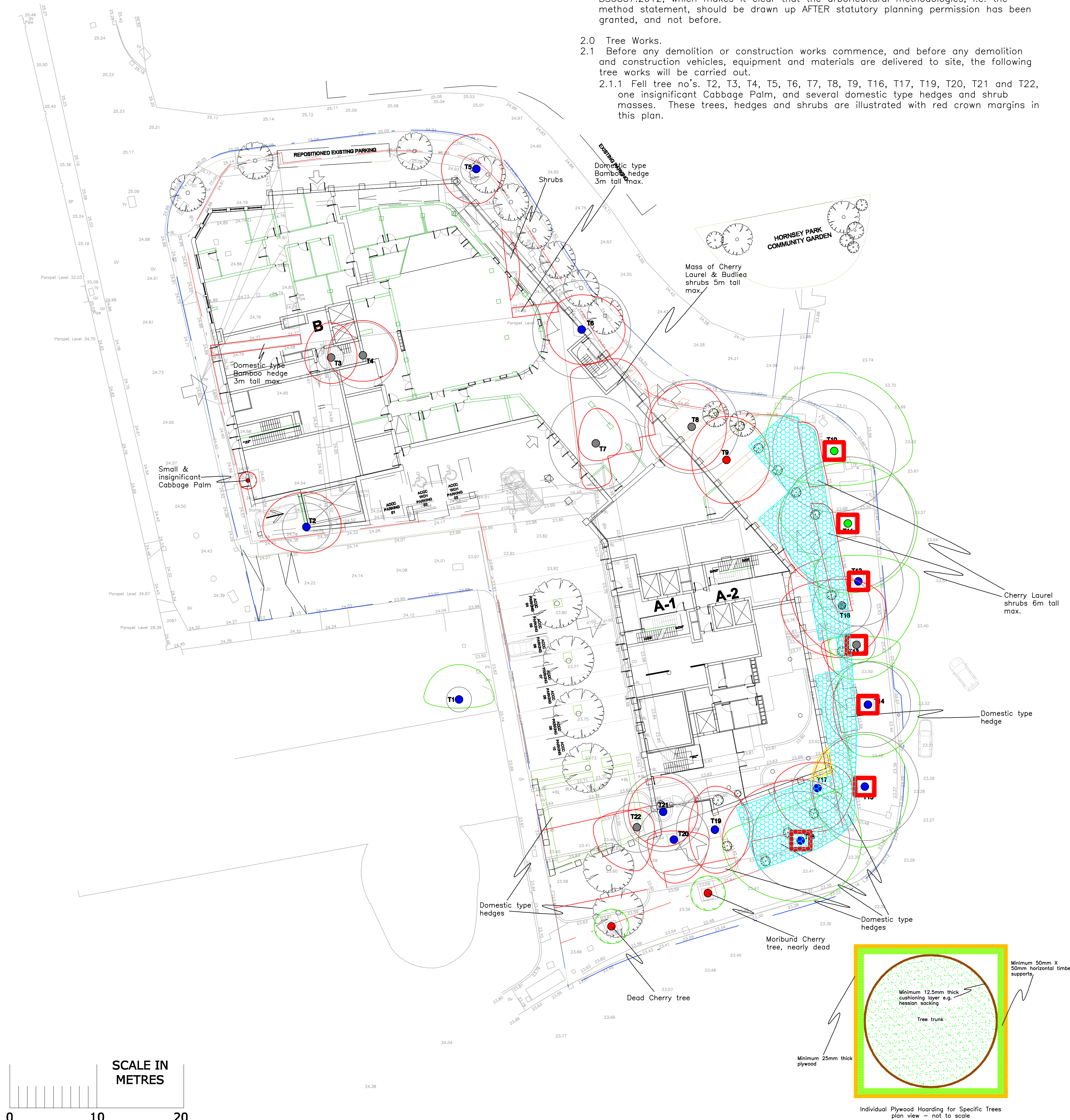
3.8 All demolition and construction activities will be carried out in accordance with the Arboricultural Method Statement to be drawn up and approved after planning permission has been granted.

3.9 The Arboricultural Method Statement will need to cover the following heads of terms.

4.0 Heads of Terms for the Arboricultural Method Statement

4.1 The method statement will need to cover the following elements:

- 4.1.1 Responsibility for implementation of the Tree Protection Plan and Arboricultural Method Statement:
- 4.1.2 Arboricultural monitoring timetable:
- 4.1.3 Phasing of works:
- 4.1.4 Distribution of Tree Protection Plan and Arboricultural Method Statement:
- 4.1.5 General measures, including access, storage of materials etc.:
- 4.1.6 Tree works:
- 4.1.7 Tree hoarding erection:
- 4.1.8 Temporary ground protection installation:
- 4.1.9 Stump grubbing out:
- 4.1.10 Demolition works:
- 4.1.11 Construction works:
- 4.1.11.1 Building foundations in the 'Precautionary area 1':
- 4.1.11.2 Hard surface construction in the 'Precautionary area 2':
- 4.1.11.3 Underground service installations:
- 4.1.12 Fencing and above ground timber structure works in the RPA of retained trees.
- 4.1.13 Soft landscaping in the RPA of retained trees.



MJC TREE SERVICES LIMITED

Site:
9 Clarendon Road, Haringey,
NB 00J.

TREE PROTECTION PLAN & HEADS OF TERMS FOR THE ARBORICULTURAL METHOD STATEMENT

Plan no. MJC-20-0119-03
rev:2

This is based on the Laser
Surveys' topographical survey
plan no. 9761/1 rev:0, and
the Stockwood layout plan
no. 3510-PL(20)00,
amended by MJC on
26/11/2020.

This plan was produced in
colour. A monochrome
version must not be relied
upon.

KEY

- Existing site layout in grey
- Proposed site layout in black and green
- Application boundary
- Site boundary
- Category U tree and ref' no'
- Category A tree and ref' no'
- Category B tree and ref' no'
- Category C tree and ref' no'
- Crown spread of surveyed trees to be retained
- Extents of noted shrubs and hedges to be retained
- Moribund or insignificant trees not individually surveyed and recorded and to be retained
- Crown spread of surveyed trees to be removed
- Extents of noted shrubs and hedges to be removed
- Moribund or insignificant trees not individually surveyed and recorded and to be removed
- Crown spread of surveyed trees to be grubbed back i.e. red margin indicates crown to be removed, green margin indicates crown retained after pruning
- Indicative root protection area (RPA)
- Indicative new tree and shrub planting
- Precautionary area 1
- Precautionary area 2
- Individual tree protection hoarding

SCALE
1:250 @ A1

9.0 References

- Lonsdale 1999 = Lonsdale, D. (1999) *Principles of Tree Hazard Assessment and Management*. In: Forestry Commission, Department of Transport Local Government Regions; Research for Amenity Trees. TSO, England. pp32-33.
- BS5837:2012 = British Standard 5837:2012 'Trees in relation to design, demolition and construction – Recommendations'.
- BS3998:2010 = British Standard 3998:2010 'Tree work – Recommendations'.