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ARBORICULTURAL IMPACT ASSESSMENT AND ARBORICULTURAL METHOD STATEMENT

In relation to proposed development

Site
13A Linksway, Northwood, Middlesex

Client
Philip Goodman

Prepared by
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Date
13th February 2020

Project reference:
DS16110602

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1. INTRODUCTION

1.1 I am Patrick Stileman, Director of Patrick Stileman Ltd. I am acting on instruction of the client, Philip Goodman. I have qualifications and experience in arboricultural consultancy and I have given details of this in Appendix 3.

1.2 **Background:** Planning consent exists for the construction of a new detached dwelling to the side of 13 Linksway. Consent was originally granted in 2008 which was renewed in 2011, 2014 and 2017. The 2017 consent is due to expire this year and our client intends to renew the consent by re-submitting a planning application for an identical scheme.

1.3 **Brief:** Patrick Stileman Ltd is instructed by the client to update the 2017 AIA & AMS in relation to the layout for which approval has been granted. We are to appraise the likely impact to trees by development proposals against BS5837 2012: '*Trees in relation to design, demolition and construction - Recommendations*'. We are to specify tree retention and removal, provide an assessment of the effect of the development on the trees to be retained and an assessment of the likely impact of the retained trees on the proposed development.

1.4 **Legal status of trees:** I am aware that trees at this site are protected by an area Tree Preservation Order (TPO) called TPO392, Area A1, made in 1986. This TPO protects all trees that existed at the time that the TPO was made.

1.5 **Tree survey:** I previously surveyed trees at the site in 2006, 2011, and 2014. In order to update this report and the plans within it I re-surveyed trees on 12th February 2020. I have included the updated tree survey data as Appendix 1 to this document. The positions of trees referred to in the survey are shown on the Arboricultural Impact Plan.

1.6 **Plans:** This report should be read in conjunction with the following two plans:

- Arboricultural Impact Plan ref DS16110602.03-C dated 13th February 2020.
- Tree Protection Plan ref DS16110602.0-C dated 13th February 2020.

1.7 **Summary:** The proposed development is identical to the scheme for which consent was granted in 2017, and as a consequence there shall be no additional arboricultural impacts.

2. BRIEF SITE DESCRIPTION

2.1 The site is located on the outskirts of Northwood, within a residential area in which the houses are typically large, detached properties set back from the road, with substantial rear gardens. 13a Linksway is a new plot to be created from land currently part of 13 Linksway. The site allocated for 13a Linksway is relatively flat, rectangular in shape with a width of approximately 30 metres, and a length of approximately 75 metres. The road (Linksway) defines the western boundary of the site, and gardens of residential properties abut the site to the north, east and south.

2.2. The principal trees on the site are located around the property boundary, particularly to the east and south where there are mature trees comprising notably pedunculate oak, ash and Scots pine. On the southern boundary, adjacent to the proposed location of the new house, the trees comprise a group of western red cedar. On the road-side boundary, there is one mature pedunculate oak, and a medium sized purple plum.

3 PROPOSED DEVELOPMENT

It is proposed that a new detached house shall be constructed along the existing building line, set back from the road frontage by approximately 15 metres. The house shall have three floors above ground level and a basement. The existing driveway entrance to 13 Linksway shall be closed, and new access created to the north, with a new garage constructed for no. 13. For 13a Linksway, new access shall be created to the south of the existing, in the position of Tree 3, and a driveway leading to a new garage shall be constructed. . A new garage for 13a Linksway shall be constructed in a similar position to the existing garage. In the rear garden, there is an existing tennis court with a tarmac surface. It is proposed that this shall be lifted, and replaced by lawn.

4. THE TREES

4.1 **Condition:** In total 21 individual trees and 2 groups have been included in the survey. The condition of these trees has been classified in line with BS 5837. The grading system is as follows:

U = Trees unsuitable for retention. Trees 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. These trees are shown on the tree plans with dark red centres.

A = Trees of high quality. Trees of high quality with an estimated remaining life expectancy of at least 40 years. These trees are shown on the tree plans with green centres.

B = Trees of moderate quality. Trees of moderate quality with an estimated remaining life expectancy of at least 20 years. These trees are shown on the tree plans with blue centres.

C = Trees of low quality. Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm. These trees are shown on the tree plans with grey centres.

4.2 Category A and Category B trees are divided further into sub-categories. Sub-category 1 is allocated where it is assessed that the tree has significant arboricultural value. Sub-category 2 is allocated where it is assessed that the tree has significant landscaping or screening value. Sub-category 3 is allocated where it is assessed that the tree has significant cultural or conservation value.

4.3 Trees may be allocated more than one sub-category. All sub-categories carry equal weight, with for example an A3 tree being of the same importance and priority as an A1 tree.

4.4 I do not allocate sub-categories to Category C trees.

4.5 The number of trees or groups of trees falling under each classification is as follows:

Classification (BS5837)	Number
U	3
A	2
B	9
C	9

5. PRINCIPAL ARBORICULTURAL IMPACTS

In this section I discuss the significance of the trees, the constraints that they are likely to pose to the proposed development, and work requirements to trees for reasons of sound arboricultural management, and in order to facilitate the development.

5.1 **Root Protection Areas:** The Arboricultural Impact Plan shows the position of the Root Protection Area (RPA) for trees being retained. BS5837 2012 (section 3.7) defines the RPA as a '*layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority*'. The RPA is an area based on a circle with a radial distance of 12x the stem diameter at 1.5 metres in the case of single-stemmed trees, or 12x the combined stem diameter (calculated in accordance with a formula set out in BS5837) in the case of multi-stemmed trees. In situations where site conditions clearly prevent consistent rooting around the tree I modify the shape of the RPA to take this into account. At 13A Linksway I have adjusted the RPA shape for Trees 2, 5, 7 and G1.

The following section should be read in conjunction with the Arboricultural Impact Plan, drawing Number DS16110602.03-C.

5.2 There are two C grade trees (Tree 1 and Tree 3) which shall require removal to facilitate development. These are trees of low quality and value or of low significance which I consider should not be regarded as potential constraints to development. These trees are shown for removal in the currently extant scheme.

The impact of the scheme on trees that I consider warrant further discussion is as follows:

5.3 T1: Lawson cypress

5.3.1 This is a small, young C grade tree of relatively low significance. The re-location of the driveway for 13 Linksway will require the new driveway edge to be positioned 1.5 metres from it, and consequently I have shown it for removal.

5.3.2 A new pedunculate oak tree is proposed as a replacement for this tree as shown on the Arboricultural Impact Plan, drawing no. DS16110602.03-C. I consider that this is an appropriate replacement, which in the long-term will provide a sustainable tree presence on the road frontage.

5.4 T2: Pedunculate oak

5.4.1 This is a mature tree located on the road frontage.

5.4.2 The tree is located approximately 14 metres from the proposed building, which is beyond its root protection area (RPA). The new garage to be constructed is positioned with its corner encroaching very slightly into the RPA (by approximately $3m^2$); however the new garage is essentially in the same location as the existing garage and consequently will not have any impact to it.

5.4.3 The tree has a large wound on its stem from past fire damage around 40% of its circumference. I consider it likely that the wound has reduced the tree's structural strength, and given its position close to the road frontage, I recommend that moderate crown reduction (by 2 metres in height and spread) be undertaken to the tree. In addition to this, large dead wood should be removed.

5.4.4 There is a slight incursion into the tree's RPA from the proposed driveway, by approximately $19m^2$ (approx 6.5% of the total RPA). I do not consider this to be a significant encroachment, particularly given the proposed crown reduction and I do not consider that the tree will be adversely affected by it.

5.4.5 The tree is located to the north-east of the proposed house, and I do not consider that it will have shading implications to it.

5.5 T3: Purple plum

5.5.1 This is a small, mid-aged tree located along the road frontage. It has a relatively poor form, being twin-stemmed from ground level with a tight union developing which is likely to become a structural weakness in the future. I have graded the tree C.

5.5.2 The tree shall be removed in order to re-position the new access drive. I consider that this is acceptable, given the tree's poor form and relatively low significance.

5.6 G1, T4, T5: Beech and pedunculate oak

5.6.1 These trees are located to the south of the site adjacent to the boundary (with G1 being located off-site within the adjacent property). The beech trees G1 and T4 are in a fair condition; they have previously been excessively pruned to the south, but have recovered somewhat since my last survey.

5.6.2 The proposed new driveway and house are located outside the RPA of these trees (though in the case of Tree 5, the corner of the proposed building is located to the edge of the RPA). Providing the arboricultural method statement is adhered to, I do not consider that the trees will be adversely affected by the proposed work.

5.7 G2: Western red cedar

5.7.1 This is a mid-aged tree group located along the southern boundary, between the adjacent property (15 Linksway) and the proposed building. The condition of individual trees within the group is varied, though I have graded the group B2 in recognition of its screening function.

5.7.2 In order to construct a dwelling within this position I do not consider that retention of this group is a viable option. The RPA for the trees places a major constraint on the site and, additionally to this, the trees cast a dense shade and construction close to them would create low light levels in the house. G2 has previously been shown for removal in all recent past planning consents.

5.7.3 The value of these trees is not as individual specimens, but primarily as a visual barrier along the boundary between the properties. This screen is replaceable, and with this site, it is proposed that a hornbeam screen is planted. The trees to be planted shall be pleached (ie trained along a lateral framework) with a minimum height at planting of 3.5 metres. It is proposed that the trees shall be maintained as a formal hedge by annual clipping in order to retain a narrow profile, and the height shall be permitted to grow to 7 metres, and maintained at that height.

5.8 T7: Pedunculate oak

5.8.1 This tree is located off-site in the adjacent property approximately 11 metres to the south-east of the proposed house. The corner of the proposed house is situated close to the tree's RPA. Providing the arboricultural method statement is adhered to I do not consider that the tree will be adversely affected by the proposed work.

5.9 Summary of shading implications from trees along the southern boundary

5.9.1 Shadow cast by trees to the proposed building will be from G1, Tree 4, Tree 5, Tree 7 and the hornbeam screen replacing G2. The trees are all deciduous, so shadow cast shall only be a potential issue during the summer months when the trees are in leaf.

5.9.2 In the morning, T7 will cast shade to the proposed house. As the sun passes T7, it will shine through the gap created by the maintained lower level hornbeam screen, and shall reach the house, probably from late morning to early afternoon. The sun will then pass behind G1, T4 and T5, and will cast shade to the house again, with the shade cast by T5 being heavier than T4 and G1 which have low vitality and sparse foliage.

5.9.3 The house has been designed to take account of shading from trees in that it has no windows on the southern elevation. At the front of the house, there is a box section, with the northern side only glazed, and this consequently will not be affected by shade cast by trees. The principal living accommodation has dual aspect glazing, with all windows facing front and back (east and west), and with no windows to the south towards this treed boundary.

5.9.4 On the ground floor level, there is an interior open-air courtyard space, with glazing above on the first floor. From the ground level, light will be received to this area directly from above, so will not therefore be affected by trees positioned to the side. The replacement hornbeam hedge is located opposite this courtyard section which is lower than the surrounding trees.

5.10 **Tress 8, 9, 11, 13, and 19: Various species**

5.10.1 Tree 19 is located close to the new northern site boundary; Tree 13 is located adjacent to the eastern site boundary, and Trees 8, 9 and 11 are close to the southern site boundary. The trees are sufficiently far from the proposed house that I do not consider they will be adversely affected by its construction, or that they will cause significant problems in terms of shading or over-dominance. .

5.10.2 The RPA of the trees extend into the existing tarmac tennis court which is to be removed. It is foreseeable that the tree roots extend beneath the tennis court, and that care shall therefore be needed during its replacement with turf.

5.10.3 It is proposed that the western section of the tennis court fencing only shall be removed initially, and the hard standing used as a site compound and area for material storage during construction. After all construction has been completed, the tarmac surface shall be removed with care, and in accordance with the arboricultural method statement.

6. SUMMARY OF TREE WORK PROPOSED TO FACILITATE DEVELOPMENT

6.1 The following tree work is proposed

Tree No	Species	Work required
1	Lawson cypress	Remove
3	Purple plum	Remove
6	Laburnum	Remove
G2	Western red cedar	Remove

6.2 All work specified must be undertaken in accordance with BS3998 (2010).

6.3 Wildlife

6.3.1 Nesting birds, bats and bat roosts are protected by law. It is the duty of the contractors to satisfy themselves prior to commencement that neither these, nor any protected species shall be adversely affected by the proposed work. Work should be undertaken in accordance with BS8596:2015: *Surveying for bats in trees and woodland – Guide.*

7 STORAGE OF MATERIALS

7.1 There is scope for material storage to the front of the site within the proposed driveway area, and to the rear of the site on the existing tarmac tennis court.

8 RE-PLANTING

8.1 Re-planting is proposed. Details of this are provided on the Arboricultural Impact Plan, drawing no. DS16110602.03-C.

9 SERVICES

9.1 It is proposed that services shall be brought into the site from Linksway down the new driveway. The position of this has been shown on the Arboricultural Impact Plan, and is outside the RPA of retained trees.

9.2 It is not proposed that any trenching operations shall be carried out within the RPA of retained trees. If however trenching (unforeseeable at this stage) is required close to trees, this shall be carried out under the supervision of the project arboriculturist, and in accordance with guidelines set out in National Joint Utilities Group (NJUG) Volume 4 (2007). This can be downloaded at no charge from the following website: http://www.njug.org.uk/publication/51.

10 PROTECTION OF THE RETAINED TREES

10.1 With sufficient care, I consider that the retained trees can be adequately protected during the development process. Tree protection is to be strictly in accordance with the Arboricultural Method Statement which is included as Appendix 2 to this report.

Patrick Stileman

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APPENDIX 1

TREE SURVEY DATA AND KEY

For the schedule of tree work proposed, refer to Section 6 of this document

KEY TO TREE SURVEY DATA

Tree / Group reference: Tree numbers as shown on the Tree Survey Plan. Where trees form a coherent group, they have been assessed as a group, and are shown in the survey and on the plan prefixed with the letter G.

Species: These are listed in the schedule by their common name. The botanical names of the principal species present are as follows:

Lawson cypress: *Chamaecyparis lawsoniana*
Pedunculate oak: *Quercus robur*
Purple plum: *Prunus cerasifera* 'Pissardii'
Beech: *Fagus sylvatica*
Laburnum: *Laburnum anagyroides*
Scots pine: *Pinus sylvestris*
Norway spruce: *Picea abies*
Hazel: *Corylus avellana*
Holly: *Ilex aquifolium*
Yew: *Taxus baccata*
Incense cedar: *Calocedrus decurrens*
Western red cedar: *Thuja plicata*

Ht. (m): The height of the tree is measured or estimated to the nearest metre.

Crown spread – NSWE: Radial crown spread measured or estimated, rounded up to the nearest metre, for north, south, west and east.

Crown base: The height above ground level and orientation of the lowest permanent crown base (excluding basal, and small epicormic growth).

Stem count: For trees recorded as individuals, the number of stems recorded for the purpose of RPA calculation (where stem numbers exceed 5 an average diameter is assessed).

Stem dia: In the first column the stem diameter is recorded for trees with a single stem, or the first measured stem where there are fewer than five, or the average stem diameter for trees with more than 5 stems. The diameter of individual stems for trees with up to five stems is recorded in columns 2-5. Measurements are shown in mm, rounded to the nearest 10. In some situations it is not possible to measure the diameter of stems, and for these estimates are made. When stem diameters have been estimated they are written in *italics*. Measurements are taken in accordance with BS5837 Annex C. For tree groups, stem measurements are recorded for the largest tree in the group.

RPA Rad: This shows the radius of the notional RPA circle in metres to be centered on the tree, based on the calculation made using the stem diameter.

RPA Area: This shows the calculated RPA in m^2 for each tree (as individuals or within groups). If the notional RPA circle is adjusted (see 4.6) the area must be maintained. The RPA area is capped at 707 m^2, equivalent to a circle with a radius of 15m.

Life Stage: An assessment of the tree's stage of life, where: Y = young, SM = semi-mature, EM = early-mature, M = mature, and OM = over-mature.

Phys. Condition: The physiological condition of the tree, reflecting the condition of the vascular system as indicated by leaf and shoot vitality. The physiological condition is not a comment on the tree's structural condition. The physiological condition codes used are G = good; F = fair; P = poor; D = dead.

Condition and observations: Description of general tree condition, including structural integrity, the presence of hazards, pests and diseases which may affect the tree's retention span.

Preliminary management recommendations: Work recommended to trees for reasons of sound arboricultural management. This is not a list of work proposed to facilitate development – refer to Section 6.

Ret span: Estimated remaining likely retention span based on species, condition & context. The following longevity bands are used: <10; 10-20; 20-40; >40. The retention span assessment is based on trees in their current context.

Grade: Quality & Value classification according to BS 5837:2012 (see 4.1).

13A LINKSWAY: TREE SURVEY DATA

Tree / Group reference	Species	Ht. (m)	Crown Spread (m) N	S	W	E	Crown base (m)	Stem Count	Stem Dia. (mm) 1 / mean	2	3	4	5	RPA Rad. (m)	RPA Area (m2)	Life Stage Y-SM-EM-M-OM	Phys. Condition G-F-P-D	Condition and observations	Preliminary management recommendations	Ret. Span <10, 10+ 20+, >40	Grade U-A-B-C
1	Lawson cypress	9	2	2	2	2	0m E	1	240					2.88	26	SM	F	Slightly low vitality. Small tree of relatively low significance. Twin-stemmed with tight union from 4m likely to limit retention span. Small tree of relatively low significance	No action required at time of survey	20+	C
2	Pedunculate oak	22	7	8	8	7	5m S	1	790					9.48	282	M	F	Modertae and large-sized dead wood in crown. Bark loss around 40% circumference from ground level to 3m - exposed wood generally solid but visibly degraded at base. Large woundwood ribs around wound margins. Potential loss of strength associated with wound. Prominent road-side tree	Reduce crown height and spread by approximately 2 metres. Remove dead wood.	20+	B2
3	Purple Plum	7	5	4	5	3	3m W	4	110	150	190	210		4.07	52	EM	F	Twin-stemmed from ground level. Tight fork developing. Low vitality. Small tree of relatively low significance	No action required at time of survey	10+	C
4	Beech	24	7	4	3	3	3m N	1	*600*					7.20	163	EM	F	Continuation of group G1. Vitality improved since previous survey. No defects seen of apparent significant defects.	No action required at time of survey	20+	B1
5	Pedunculate oak	18	4	6	3	5	3m S	1	600					7.20	163	EM	F	Re-grown from heavy past pruning. Good vitality. Companion with Tree 4	No action required at time of survey	20+	B1
5A	Elder	7	0	3	0	7	3m E	1	*300*					3.60	41	M	P	Close to boundary. Pronounced lean and part-collapsing over garage of property adjacent	Remove for reasons of sound arboricultural management	<10	U
6	Laburnum	7	7	0	5	5	2m N	4	150	130	120			2.79	24	M	P	Low vitality. Heavy lean to north. Multi-stemmed from 1 metre - tight unions with decay. One stem has failed since previous survey	Remove for reasons of sound arboricultural management	<10	U

Tree / Group reference	Species	Ht. (m)	Crown Spread (m)				Crown base (m)	Stem Count	Stem Dia. (mm)					RPA Rad. (m)	RPA Area (m2)	Life Stage Y-SM-EM-M-OM	Phys. Condition G-F-P-D	Condition and observations	Preliminary management recommendations	Ret. Span <10, 10+ 20+, >40	Grade U-A-B-C
			N	S	W	E			1 / mean	2	3	4	5								
7	Pedunculate oak	20	5	7	8	6	6m N	1	*800*					9.60	289	M	F	Located in neighbouring property approximately 2 metres from boundary. View of tree highly restricted.	No action required at time of survey	>40	B1
8	Lawson cypress	21	3	3	3	3	2m E	3	390	410	180			7.13	160	M	G	Three stems from 1. 2 metres with tight union developing. Principal stem has failed at 12m to reveal decayed stem associated with past topping. Further hazard of stem failure foreseeable.	Reduce tree height to past topping point at 13 metres	10+	C
9	Pedunculate oak	25	7	8	8	8	3m N	1	*950*					11.40	408	M	G	Wounds on stem from low limb removal and epicormic re-growth to 10 metres. Some dead wood in crown, otherwise no defects seen of apparent structural significance. Prominent tree of high quality.	No action required at time of survey	>40	A1
10	Purple Plum	5	3	4	4	4	2m N	2	120	100				1.88	11	EM	D	Re-grown from old stump. Dead tree	Remove for reasons of sound arboricultural management	<10	U
11	Scots Pine	21	5	7	4	5	6m S	1	750					9.00	254	M	G	Prominent tree. No defects seen of apparent structural significance.	No action required at time of survey	>40	A1
12	Norway spruce	18	4	5	5	4	2m W	1	520					6.24	122	EM	P	Top lost at 9 metres and re-grown with multi-stemmed form which limits future retention span	No action required at time of survey	10+	C
13	Pedunculate oak	21	8	9	5	8	6m N	1	890					10.68	358	M	D	Tree had died since previous survey. Fragile crown is starting to break up.	**Either:** Remove to ground level, **or** (preferred) cut to leave 5m standing pole retained for ecological purposes	<10	U
14	Hazel	6	5	4	4	3	2m N	10	*80*					3.04	29	M	F	Suppressed by T15. Relatively low significance.	No action required at time of survey	20+	C
15	Incense cedar	18	4	4	4	4	2m W	1	670					8.04	203	M	G	Prominent tree. No defects seen of apparent structural significance.	No action required at time of survey	20+	B1

Tree / Group reference	Species	Ht. (m)	Crown Spread (m) N	S	W	E	Crown base (m)	Stem Count	Stem Dia. (mm) 1 / mean	2	3	4	5	RPA Rad. (m)	RPA Area (m2)	Life Stage Y-SM-EM-M-OM	Phys. Condition G-F-P-D	Condition and observations	Preliminary management recommendations	Ret. Span <10, 10+ 20+, >40	Grade U-A-B-C
16	Holly	9	2	2	2	1	0m	1	*200*					2.40	18	EM	F	Distorted from competition with T18. Relatively low significance.	No action required at time of survey	20+	C
17	Yew	8	3	3	2	3	2m N	1	*360*					4.32	59	SM	F	Growth slightly affected by T18. No defects seen of apparent structural significance.	No action required at time of survey	>40	B1
18	Incense cedar	19	1	3	3	3	1.5m W	1	670					8.04	203	M	F	One-sided crown from past stem failure. Prominent tree of moderate overall quality and value.	No action required at time of survey	20+	B1
19	Pedunculate oak	18	6	5	7	6	6m E	1	780					9.36	275	M	G	Some dead wood in crown. Prominent tree. No defects seen of apparent structural significance. Slight crown asymmetry from past branch loss on south side	No action required at time of survey	>40	B1
20	Lawson cypress	8	2	2	2	2	0m	1	*400*					4.80	72	MA	F	Relatively low significance. Clipped tree.	No action required at time of survey	20+	C
G1	Beech	24	9	6	7	6	3m N	1	*750*					9.00	254	EM	F	Located in neighbouring property adjacent to boundary. Proninent group close to road. One stem against fence has pronounced lean and asymmetry over site. Group comprises four trees of which three are twin-stemmed from ground level.	No action required at time of survey	10+	C
G2	Western red cedar	18	5	5	5	5	0m N	1	*500*					6.00	113	EM	G	Belt of trees with useful screening function . Some damage to individuals, most in good condition. 10 trees in group.	No action required at time of survey	20+	B2

APPENDIX 2

ARBORICULTURAL METHOD STATEMENT FOR TREE PROTECTION DURING DEVELOPMENT AT 13A LINKSWAY, NORTHWOOD

1 INTRODUCTION

1.1 **Brief:** Patrick Stileman Ltd is instructed by the client; Philip Goodman, to prepare an Arboricultural Method Statement (AMS) for the protection of trees during development at 13A Linksway, Northwood, Middlesex.

1.2 This Method Statement is to be made available to all operatives on site during the development process so that they understand the scope and importance of the measures set out for tree protection.

1.3 This Method Statement is to be read in conjunction with the Tree Protection Plan (TPP) dated 13th February 2019, drawing number DS16110602.04-C.

1.4 This Method Statement has been written taking into account requirements set out in British Standard 5837:2012 '*Trees in relation to design, demolition and construction – Recommendations*' (hereafter referred to as BS5837).

2 TIMING OF OPERATIONS

2.1 The timing of operations is essential if trees are to be effectively protected. Figure 1 in BS 5837 provides guidance for the sequential order of events on development sites. At this site, operations are to occur in the following sequence:

1. Carry out the tree work operations as specified in the Arboricultural Impact Assessment, Section 6.

2. **Hold pre-commencement site meeting** between the project arboricultural consultant and building contractors (and LPA arboricultural officer if required) prior to the commencement of **any** development work commencing on site. The purpose of this meeting is to ensure that the contractors are fully briefed and understand the requirements of this method statement.

3. Erect Tree Protection Fencing (TPF) in the positions shown on the Tree Protection Plan (TPP) by thick blue lines. (See Section 3 for details).

4. Install temporary ground protection in the area shown on the TPP by blue hatching. (See Section 4 for details).

5. Carry out the construction work of the buildings and install services (see Section 5 for details).

6. After construction on the site is complete, carefully remove the tarmac covering the existing tennis court and replace it to lawn.

7. After construction on the site is complete, re-instate former driveway opposite new house to landscaped area.

8. Remove all TPF and temporary ground protection within the site.

9 Carry out tree planting and other landscaping works after construction work is completed.

3 TREE PROTECTION FENCING (TPF)

3.1 TPF is to be erected to protect the trees being retained in the positions shown on the TPP by the solid blue lines.

3.2 The position of the TPF has been calculated by taking into account recommendations set out in BS5837. The Tree Protection Plan contained within this report shows the Root Protection Areas (RPAs) by the dashed purple lines.

3.3 Durable, all-weather signs are to be attached to the fencing. A suggested sign to be used has been included at the end of this arboricultural method statement. This shall be printed out, laminated and attached to every third fence panel.

3.4 Once erected, the protective fencing is to be regarded as sacrosanct. There is to be no access by pedestrians into the area protected by the TPF and no works carried out whatsoever in this zone including: the storage of materials, any form of excavation, or changes in levels. The protective fencing is to be maintained in good order so that it is fit for purpose throughout the construction process. The fencing will not be altered in any way, or prematurely removed without prior consent of the project arboriculturalist and if necessary the Local Planning Authority.

3.5 **Specification of Tree Protection Fencing**.

3.5.1 TPF is to be constructed of 2.2 metre height weldmesh (Herras type) panels, as set out on the insert on the TPP. The panels are to be fixed to a scaffold framework either with wire ties or with scaffold clamps. The scaffolding shall comprise a vertical and horizontal framework, well braced to resist impacts, with vertical tubes spaced at a maximum of 3 metres or alternatively at panel width, and driven into the ground by 0.6 metres. It is not sufficient to place the panels in rubber or concrete 'boots' alone.

Photograph 1: showing example of TPF erected to the correct specification

4. TEMPORARY GROUND PROTECTION

4.1 Where temporary ground protection is required between the southern end of the proposed house, and the TPF (as shown on the Tree Protection Plan), this shall be to the following specification: It shall comprise a geotextile membrane (eg *Terram*), topped with a **minimum** depth of 100mm compressible fill (such as wood chip). The wearing surface shall be a proprietary ground protection system such as Eve *Trackway*, or Greentek *Ground Guards*.

4.2 The temporary ground protection shall be installed **prior to any machinery passing over this ground.**

5 SERVICES

5.1 It is proposed that services shall be brought down the new driveway to the proposed house. The position of this has been shown on the Arboricultural Impact Plan, and is outside the RPA of retained trees.

5.2 It is not proposed that any trenching operations shall be carried out within the RPA of retained trees. If however trenching (unforeseeable at this stage) is required close to trees, this shall be carried out under the supervision of the project arboriculturist, and in accordance with guidelines set out in National Joint Utilities Group (NJUG) Volume 4 (2007). This can be downloaded at no charge from the following website: http://www.njug.org.uk/publication/51.

6 REMOVAL OF TARMAC OVER EXISTING TENNIS COURT

6.1 Only after construction of the house has been completed can the tarmac tennis court be replaced with soil and grass.

6.2 The chain link fencing shall be removed initially. Where the fencing has been set into the ground on concrete posts, these shall be removed by hand excavation only. **During the entire operation, at no time shall vehicular access be permitted between the edge of the tennis court and the retained trees. There will be no storage of equipment or spoil within this area. Work must be carried out entirely from within the tennis court, starting at the back and working forward.**

6.3 The majority of the tennis court is not within the RPA of trees. After the fencing has been removed, the project arboriculturist shall mark out with spray paint the position of the RPA on the tennis court surface for each tree.

6.4 It is known that tree roots frequently proliferate immediately below tarmac and other hard surfaces. For this reason, the hard surface must be removed with care, with exposed roots being protected from damage. The new surface, in this case topsoil, **must be replaced concurrently with removal of the old**.

6.5 Within the RPA, the existing tarmac surface shall be cut into 2m x 2m sections, using a stone cutter or jackhammer. Each section of existing tarmac or concrete shall be broken out separately either by hand or by mini-digger. The operative shall stand either outside the RPA (as identified by the high visibility painted line) or on unbroken hard surfacing. As the surface of each section is broken up, the debris shall be carefully lifted clear; scraping it clear by back-actor or other heavy plant is **not** acceptable. Arisings from the surface shall be continuously exported outside the RPA (as identified by the high visibility painted line).

6.6 Good quality screened topsoil to BS3882:1994 'Specification for Topsoil' shall be imported to form the new surface. It shall be stored in convenient piles adjacent to the location of intended use, and applied by hand to the RPA's.

6.7 If, during tarmac removal any roots are exposed, these shall be wrapped in hessian to prevent desiccation. The hessian shall be removed prior to the application of topsoil.

6.8 The removal of tarmac shall be overseen by the project arboriculturist.

6.9 **The same procedure shall be followed for the re-instatement of the previous driveway to soft landscaping.**

7 GENERAL PRECAUTIONS

7.1 **Storage of materials:** No materials or spoil are to be stored within the area protected by the TPF and ground protection. It is strictly prohibited to use protected ground for any form of material or spoil storage.

7.2 **Levels:** There is to be no alteration of ground levels within the area protected by TPF and ground protection, unless previously specified and agreed upon.

7.3 **Fires:** No fires are to be lit within 20 metres of the stems of trees to be retained.

7.4 **Above ground damage to trees:** Care must be taken in planning the location and operation of machinery to avoid above ground damage to trees. BS5837 (2012) Section 6.2.4.1 states '*Planning of site operations should take sufficient account of wide loads, tall loads and plant with booms, jibs and counterweights(including drilling rigs) in order that they can operate without coming into contact with retained trees. Such contact can result in serious damage to trees and might make their safe retention impossible. Consequently, any transit or traverse of plant in proximity to trees should be conducted under the supervision of a banksman, to ensure that adequate clearance of trees is maintained at all times. Access facilitation pruning should be undertaken where necessary to maintain this clearance.*

8 ARBORICULTURAL SUPERVISION

8.1 A qualified arboriculturalist will be required to provide on-going supervision during works at this site. The critical times when supervision is required are:

- Prior to any development work starting, attend a pre-commencement meeting with the site managers and contractors to discuss exactly what is required in order to ensure that the retained trees receive full protection in accordance with this method statement. During the initial meeting a site supervisor will be appointed to take responsibility for tree protection and to be given the duty of reporting any damage to trees or deviation from the arboricultural method statement to the project arboriculturalist.

- After erection of the TPF and installation of temporary ground protection.

- During removal of the tennis court surface.

- During the construction process as required and in any event no less frequently than once every two months.

8.2 The project arboriculturist shall prepare a written site monitoring report following each site visit made with details provided stating the condition of tree protection features and actions required where necessary in the event of any digressions. The site monitoring reports shall be made available to the council's arboricultural department on request.

Patrick Stileman

PATRICK STILEMAN BSc(Hons), MICFor, Dip.Arb(RFS), M.Arbor.A
Chartered Arboriculturist. Arboricultural Association Registered Consultant

NOTICE TO BE ATTACHED TO TREE PROTECTION FENCING

TREE PROTECTION FENCING

KEEP OUT

This fencing must not be removed or altered in any way without prior consultation with the project arboriculturist. There is to be no access, changes to ground levels, excavation, or material storage within the fenced area.

APPENDIX 3

Qualifications and experience of Patrick Stileman BSc(Hons), MICFor, Dip.Arb(RFS), M.Arbor.A

I am Patrick Stileman, director of Patrick Stileman Ltd Arboriculltural Consultancy.

My qualifications in arboriculture are as follows:

National Certificate in Arboriculture *Nch(arb)*

The Arboricultural Associations Technicians Certificate *Tech.Cert (Arbor.A)*

The Royal Forestry Society's Professional Diploma in Arboriculture *Dip.Arb(RFS)*

In addition to the qualifications listed above which are specific to the field of arboriculture, I also hold an honours degree in Environmental Science *BSc(Hons).*

I hold chartered status, being a Chartered Arboriculturist and professional member of the Institute of Chartered Foresters *MICFor*. I am a professional member of the Royal Institution of Chartered Surveyors *MRICS*.

I am a registered consultant with the Arboricultural Association.

I am a trained expert witness, and hold the Cardiff University Bond Solon Expert Witness Certificate.

I am a member of the Royal Forestry Society.

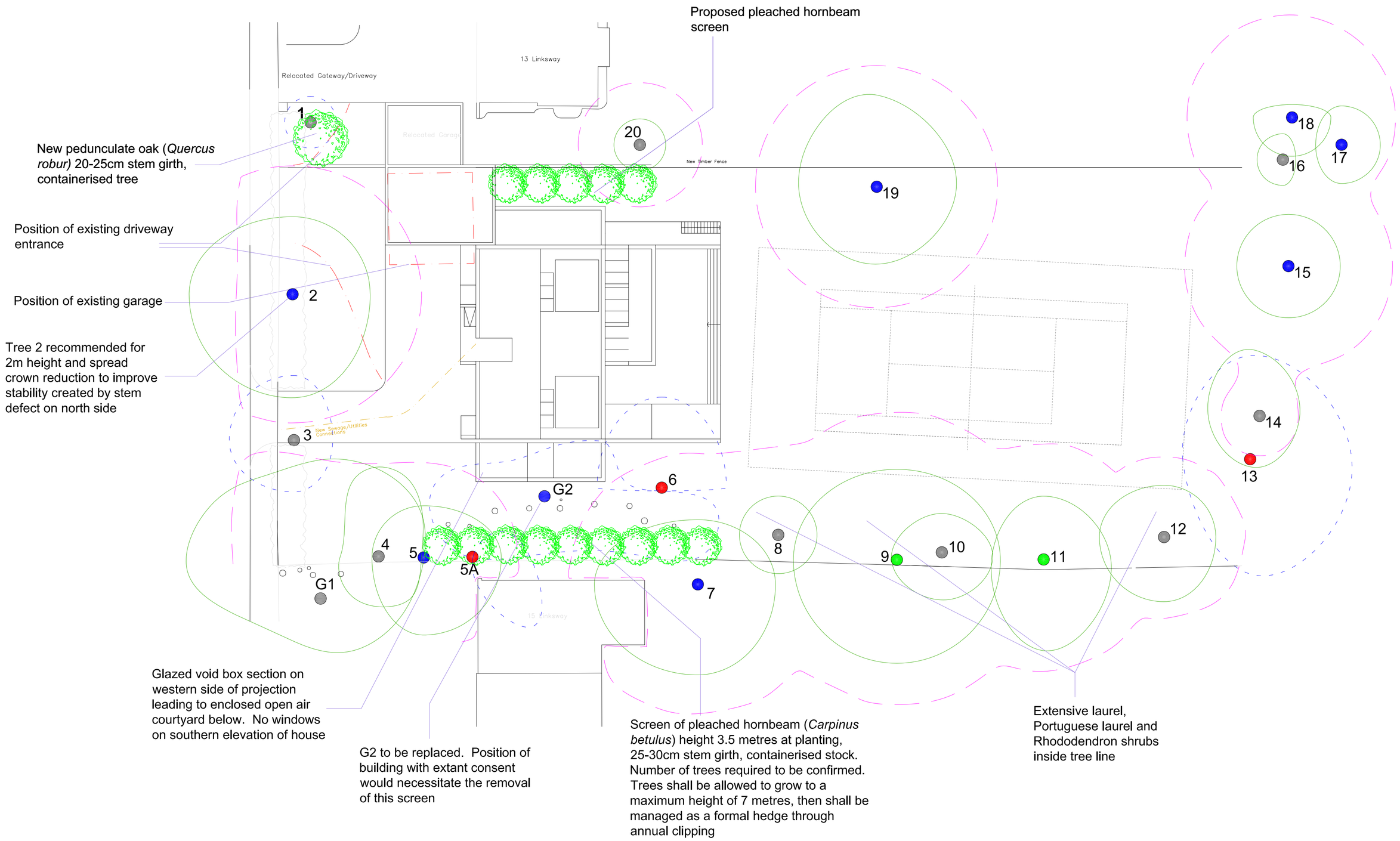
I have been working within the arboricultural industry since 1994 and have been working as a consultant since 2001. I am frequently instructed by professionals to provide advice and assistance relating to trees within the planning process; I have a wide client base in this field including developers, architects, planning consultants, and Local Planning Authorities. I am experienced with providing arboricultural input in planning appeals as written representation, informal hearing and public local inquiry.

I am regularly instructed to assist with tree risk assessments, and to provide guidance relating to tree safety. Past clients for this work include Local Authorities, schools, residents associations, large organisations including zoos and estates, and private individuals.

I provide advice in relation to alleged tree-related damage to buildings. Clients for this work are typically domestic homeowners, but have also included local authorities. Other work that I undertake involves the provision of tree planting schemes; and advice relating to the general management of trees.

I have worked as an arboricultural expert witness for public and private sector clients.

Prior to running my current consulting practice, I was a partner in an arboricultural contracting business in which I was involved with the practical aspect of organising, and execution of contract tree work.



NOTE: This drawing shows indicative structural tree planting proposed. It must not be substituted for a full landscape plan, which can be provided as a condition to planning

ARBORICULTURAL IMPACT PLAN

SITE ADDRESS
13A Linksway, Northwood

CLIENT
Philip Goodman

JOB REF
DS16110602

DRAWING NO
DS16110602.03-C

DATE
13/02/2020

N

Patrick Stileman Ltd
9 Chestnut Drive, Berkhamsted, Herts,
HP4 2JL 01442 866112

TREE RETENTION KEY

- Tree / tree group to be retained
- Tree / tree group to be removed
- Root Protection Area (RPA) for tree / tree group to be retained
- Indicative position of proposed tree planting (details to be provided at a later stage)

BS 5837 category key

- Category U tree
- Category A tree
- Category B tree
- Category C tree

SCALE
1:200 @ A1

0 5m 10m

NOTE:

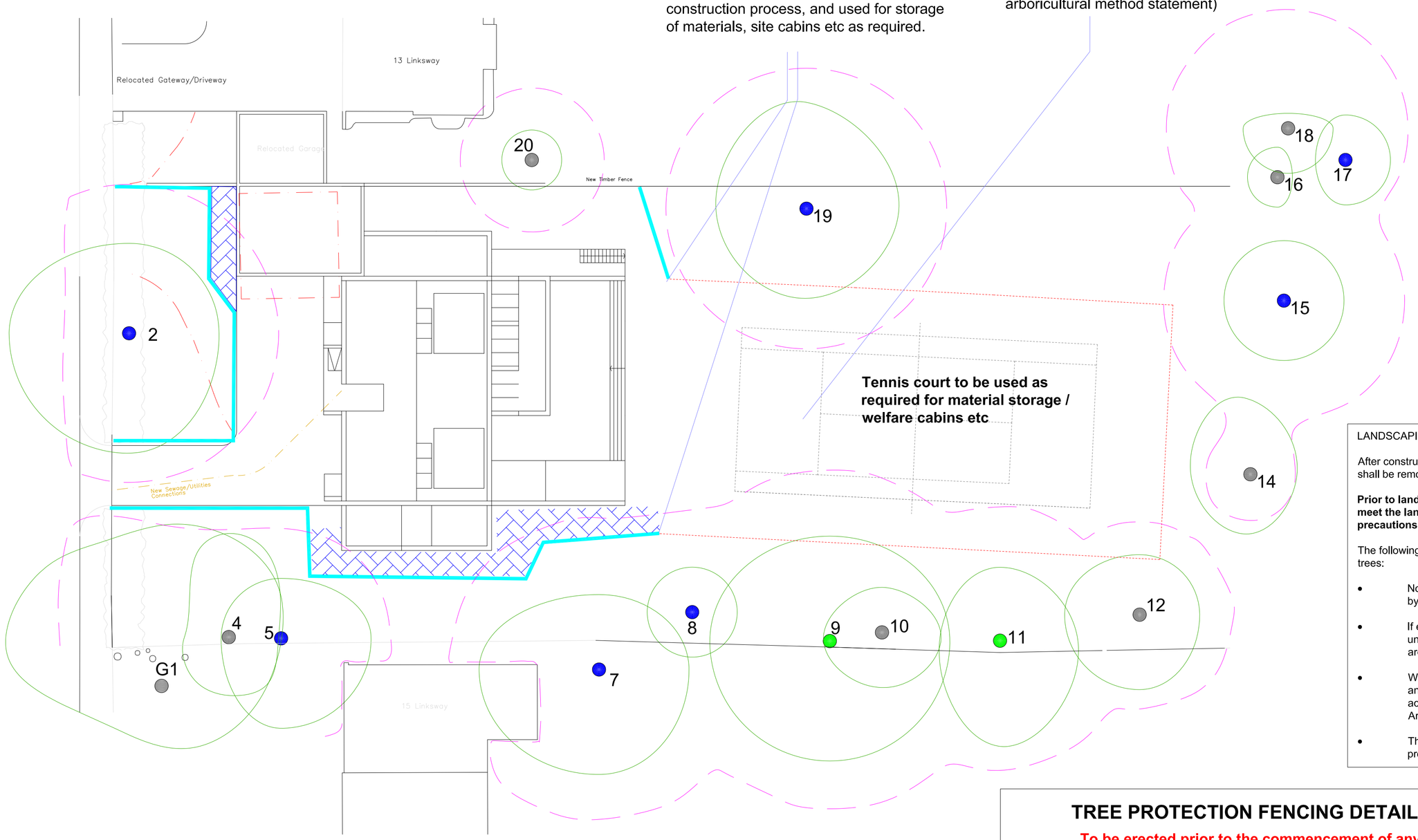
Stem diameters are not drawn to scale. See schedule for dimensions.

This drawing is based on the topographic survey supplied to us by the client. The following trees were excluded from the topo survey and their positions shown are indicative only: 5A, 10

AFTER all construction has been completed, the existing driveway surface shall be removed with care where it extends over the RPA of Tree 2 (see arboricultural method statement)

Western end of existing chain link fence for tennis court shall be removed. TPF shall be erected up to remaining chain link fence sections which shall be retained. Tennis court surface shall be retained during the construction process, and used for storage of materials, site cabins etc as required.

AFTER all construction has been completed, tennis court surface shall be removed with care where it extends over the RPA of retained trees (see arboricultural method statement)



NOTE:

No work shall commence on site until an arboricultural pre-commencement meeting has taken place

TREE PROTECTION PLAN

SITE ADDRESS
13A Linksway, Northwood

CLIENT
Philip Goodman

JOB REF
DS16110602

DRAWING NO
DS16110602.04-C

DATE
13/02/2020

N

Patrick Stileman Ltd
9 Chestnut Drive, Berkhamsted, Herts,
HP4 2JL 01442 866112

KEY

Tree to be retained

Root Protection Area (RPA) for tree to be retained

Position of tree protection fencing (TPF)

Area for temporary ground protection

BS 5837 category key

- Category U tree
- Category A tree
- Category B tree
- Category C tree

SCALE
1:200 @ A1

0 5m 10m

NOTE:

Stem diameters are not drawn to scale. See schedule for dimensions.

This drawing is based on the topographic survey supplied to us by the client. The following trees were excluded from the topo survey and their positions shown are indicative only: 10

LANDSCAPING WITHIN RPAs

After construction has been completed the Tree Protection Fencing shall be removed to allow landscaping to take place.

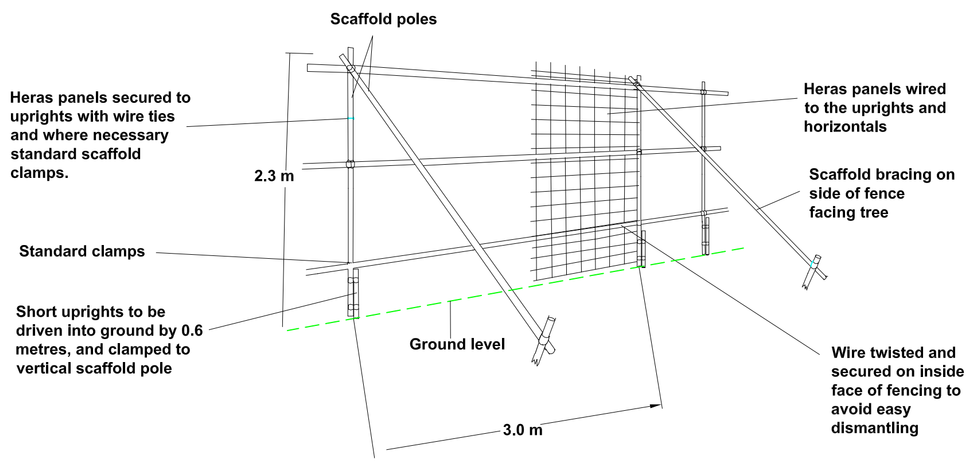
Prior to landscaping commencing the project arboriculturist shall meet the landscape contractors to discuss what is proposed and precautions required.

The following principles shall be followed within the RPA of retained trees:

- No machinery shall pass over the ground unless protected by temporary ground protection sheets
- If excavation is required, this shall be localised and undertaken carefully by hand tools only ensuring that roots are preserved
- Within RPAs where existing hard surfacing is to be removed and replaced with open ground, work shall be undertaken in accordance with the specification detailed in the written Arboricultural Method Statement
- There shall be no changes in levels, unless agreed by the project arboriculturist

TREE PROTECTION FENCING DETAIL

To be erected prior to the commencement of any demolition or construction work



NOT TO SCALE

NOTE:

The construction exclusion zone (CEZ) is the area protected by tree protection fencing, and temporary ground protection. Within the CEZ the following exclusions shall apply:

- **No excavation**
- **No storage of materials or equipment**
- **No vehicular or plant access**
- **No access within area protected by tree protection fencing**

The fencing and ground protection shall be maintained in a condition fit for purpose throughout the construction process.

Any amendment to the agreed scheme shall only be implemented following prior consultation with the project arboriculturalist and Local Authority Tree Officer

TEMPORARY GROUND PROTECTION SPECIFICATION (Based on BS5837:2005 Figure 3)

Temporary ground protection shall comprise:

- A geotextile membrane (eg *Terram)* laid on the ground
- A minimum depth of 100mm compressible fill such as woodchip laid on the membrane
- Proprietary ground protection such as Eve *trackway* or Greentek *ground guards* shall be laid on top of the compressible fill

The ground protection shall be maintained in good order, and the copressible fill topped up if necessary