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Tree Survey, Arboricultural Impact Assessment, Arboricultural method Statement

for

36 Kingsway, Aldwick

On behalf of

Mr and Mrs Olive-Jones

March 2018

Revised July 2018 following site meeting with Mark Warwick
LPA Tree Officer

Planning

Issue

The Landscape Partnership Ltd is a practice of Chartered Landscape Architects, Chartered Town Planners and Chartered Environmentalists, registered with the Landscape Institute and a member of the Institute of Environmental Management & Assessment & the Arboricultural Association.

The Landscape Partnership Limited
Registered Office:
Greenwood House
15a St Cuthberts Street
Bedford
MK40 3JG.

Registered in England No 2709001

Contents

1	Introduction
2	Site Description
3	Survey Methodology
4	Description of Trees and Hedgerows
5	Arboricultural Impact Assessment
6	Impact of Proposed Development on Retained Trees
7	Arboricultural Method Statement Methodology
8	Construction Close to Retained Trees and Hedges
9	Services
10	Tree Protection Barrier
11	Conclusion
12	Recommendations
13	Project Contact Details

Appendices

1	Table 1 from BS 5837 2012 Cascade Chart for tree quality assessment
2	Tree Survey Schedule

Accompanying Drawings

1	Tree Survey Drawing E16875 601
2	AIA AMS drawing E16875 602 Rev B
3	Architects Existing Section
4	Architects Proposed Section
5	Geosynthetics Cellweb Typical section

1 Introduction

- 1.1 The Landscape Partnership has been commissioned by Mr and Mrs Olive-Jones to carry out a tree survey at 36 Kingsway, Aldwick. The survey is limited to the trees likely to be affected by the proposed new vehicular access of Kingsway to the side of the property.
- 1.2 The scope of survey work includes a site visit and visual tree inspection, the collection of tree data, the production of a tree condition survey report and tree constraints drawing, together with an Arboricultural Implications Assessment (AIA) and Arboricultural Method Statement (AMS). The tree survey and arboricultural assessments will be carried out in accordance with British Standard 5837 2012.
- 1.3 The site survey was carried out by Michael Roseveare in November 2016; the weather was overcast and cool.

2 Site Description

- 2.1 The site is a domestic dwelling on the private estate of Kingsway in Aldwick.
- 2.2 The site is within the Craigweil Area and it would appear that a number of the surveyed trees are protected by Tree Preservation Orders numbered Bognor No.2, TPO/AW/1/02 and TPO/AW/5/16, the latter being served on 27th October 2016. This latest TPO is a provisional TPO which has a 6 month effective life during which time it must be confirmed if it is to remain in force beyond its 6 month provisional life. Objections may be made to this latest TPO within 28 days from its service.

3 Survey Methodology

- 3.1 The trees were inspected from ground level and measurements taken in accordance with the recommendations set out in the British Standard 5837 2012. Crown spreads have been measured and plotted to the 4 compass points (north, south, east and west).
- 3.2 The location of the surveyed trees is shown on the accompanying Tree Survey Plan number E16875-601. Where access was not possible measurements have been estimated. The surveyed trees are colour coded on the accompanying tree survey drawing according to their relevant BS category as follows:
 - A High quality and value (shown green)
 - B Moderate quality and value (shown blue)
 - C Low quality and value (shown grey)
 - U Remove category (shown red)
- 3.3 The trees are also placed into sub categories 1, 2 and 3 according to the criteria in Table 1 in BS5837 (see Appendix 1).
- 3.4 All on-site measurements were taken with a laser-measuring device. The location of trees not shown on the topographical survey should be confirmed on site by the survey company and, if necessary, their locations on the tree survey drawing amended. Trees which have been plotted by eye are annotated thus (T8) on the tree survey drawing.
- 3.5 The tree data collected is used to enable the current canopy spread of the surveyed trees and Root Protection Area (RPA) to be plotted on a drawing. The RPA is defined in accordance with the recommendations set out in section 4.6 of BS 5837 2012.
- 3.6 The calculated RPA should be capped at 707m², which is equivalent to a circle with a radius of 15m or a square with approximately 26m sides.
- 3.7 The RPA may be refined, by taking into account current on-site constraints to root activity such as buildings, earthworks and hard paving. This forms part of the design process for the proposed development.

- 3.8 The site survey also provides a schedule of recommendations for tree surgery works where appropriate.

4 Description of Trees and Hedgerows

- 4.1 The surveyed trees form a small mixed species group within the site and the gardens of adjacent properties. The trees can be divided into the following distinct character groups:

Character group one: includes the several substantial trees growing in the grass verge outside the site on the western and within the southern half of the rear garden of the site. These trees provide maturity and amenity to the site and help screen it from the residential properties around it and add to the general amenity of the state.

Character group two: includes the several small trees and extensive border of large informally managed shrubs which provide a screen around the rear garden of the house.

A number of trees at the end of the garden and within the shrub border were not included in the survey as they are unaffected by the proposed works.

5 Arboricultural Impact Assessment (AIA)

- 5.1 The AIA uses information provided in the tree survey to identify areas where the proposed development construction may be at odds with accepted standards in terms of a tree's requirements for space in which to maintain existing roots and shoots and space for future growth.
- 5.2 Details of the trees surveyed are given in the accompanying Tree Survey Schedule. Tree locations are shown on the accompanying Tree Survey Drawing E16875-601.
- 5.3 The quality and relative importance of each is shown as coloured polygons. The colour used relates to the British Standard categories as follows: A, green; B, blue; C, grey and U, red (see drawing E16875-601). Red trees are discounted as they are recommended for removal. In general, the design process will try to retain A and B category trees. Proposed construction will therefore normally be excluded from the root protection area of A and B category trees.
- 5.4 The root protection area (RPA) is shown as a circle on the Tree Survey Drawing E16875-601.
- 5.5 The AIA considers existing site conditions and the effect that they may have on the development of the surveyed trees root systems. Hard structures such as buildings and paved roads and paths can influence the root activity of trees by reducing the availability of both moisture and nutrients.

6 Impact of Proposed Development on Retained Trees

- 6.1 Refer to the accompanying AIA AMS drawing E16875-602 RevB for the relationship between the proposed development and the trees on the site.
- 6.2 The proposed redevelopment includes the retention of all the surveyed trees. No retained trees will be significantly adversely affected by the construction of the proposed development. Some minor pruning and crown lifting will be necessary to enable access to the site.
- 6.3 The following hedge will be removed to enable the development:

H4 Leylands Cypress	To enable the proposed access from Kingsway
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- 6.4 The following retained tree will be affected by the proposed development:

T5 Horse Chestnut	Construction of the proposed drive and access from Kingsway Construction of proposed gate pillar to east
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	of access drive
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7 Arboricultural Method Statement Methodology

- 7.1 The arboricultural method statement provides the means by which areas of construction, identified in the AIA as being within the RPA of retained trees, can be achieved whilst minimising the impact of that construction activity on the affected trees.
- 7.2 The excavation of foundations for buildings and hard surfaces on sites where trees are present may result in root damage and removal. Where root loss is likely to occur it is important that a method of construction that minimises the impact on tree roots is used.

8 Construction Close to Retained Trees and Hedges

- 8.1 Site vegetation clearance and hedge removal will be carried out prior to the erection of the tree protection barrier. Soil stripping should be restricted to the area of the site which is outside the areas protected by the tree protection barrier.
- 8.2 Two areas of construction within the root protection area have been identified as requiring special construction techniques in order to reduce the potential detrimental impact of the construction of the proposed drive on the tree T5. The areas identified are shown on the attached drawing AIA AMS drawing E16875 602 Rev B and will be constructed as follows:

The area of driveway adjacent to Kingsway will be excavated by hand to enable a dropped crossing to be constructed, the extent of the excavation will vary as it progresses towards the garden boundary where it will have reached the existing ground level. Any tree roots which are encountered within the excavation will be pruned in accordance with BS 3998 2010. The construction will then be carried out using the principles set out in the typical construction detail shown in the Geosynthetics drawing for Cellweb no dig construction as illustrated in the architects drawing. The wearing surface will be of porous construction.

The area of proposed driveway wholly within the garden will be carried out using the principles set out in the typical construction detail shown in the Geosynthetics drawing for Cellweb no dig construction as illustrated in the architects drawing. The wearing surface will be of porous construction. The edge of the construction along the eastern edge of the drive will be supported as shown in the Cellweb drawing by a timber edge. The area between the drive and the tree T5 will be retained as soft landscape.

The excavation for and construction of footings for the eastern pillar (driveway access) within the RPA of T5, will be undertaken with care so as to avoid unnecessary damage to tree roots. Only hand-digging is permitted, and of sufficient depth and width so far as is necessary. Leachate from curing concrete can be toxic to tree roots therefore all pits are to be lined with impervious membrane before pouring concrete.

- 8.3 Any questions which arise regarding activity within the tree protection barriers should be referred to the project arboriculturist, contact details are shown at the end of this document.

9 Services

- 9.1 All service runs are to be placed outside the RPA of trees on and adjacent to the site. Where it is not possible to achieve this, the section of service run which passes within the RPA of a tree will be hand dug in accordance with 'broken trenches' (NJUG 4 section 4, appendix 13.4). This will ensure that tree roots are not damaged during the installation of the service. All root pruning will be agreed beforehand with the named arboriculturist in consultation with the local authority arboricultural officer. All root pruning will be in accordance with BS 3998: 2010. All routes for overhead services will aim to avoid the trees. Where this is unavoidable any tree work will be agreed prior to commencement with the Council's Arboricultural Officer.

10 Tree Protection Barrier

- 10.1 The trees and hedges that are to be retained in close proximity to the construction area of the site will be protected by the use of a tree protection barrier erected in the location shown on the accompanying AIA AMS Plan Number E16875-602 Rev B. The fence will consist of "Heras" type panels or similar braced at appropriate intervals and secured to keep in place. The tree protection barrier will be erected prior to the demolition phase of the development and remain in situ for the duration of the development and will only be removed once the construction phase is complete.
- 10.2 The tree protection barrier should be erected as soon as the site clearance has been completed.

11 Conclusion

- 11.1 The site has a number of trees growing within its boundary which form part of the general treed character of the area. None of the surveyed trees pose a significant constraint on the development of the site and no trees are proposed for removal to enable the proposed development. The relatively poor quality hedge H4 will be removed and replaced with a new hedge, leaving a gap to enable the proposed new access point.

12 Recommendations

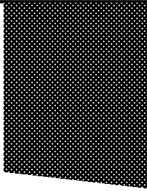
- 12.1 This report should be read in conjunction with the accompanying tree survey schedule and drawing. If the layout changes the Arboricultural Implications Assessment and Arboricultural Method Statement should be revisited.
- 12.2 A post development tree survey should be carried out and, where appropriate, remedial tree surgery works completed. Works to trees that are subject to a condition of the planning approval or are subject to the protection of a Tree Preservation Order will require the approval of the Local Planning Authority.

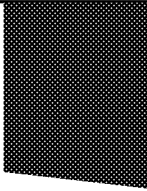
13 Project Contact Details

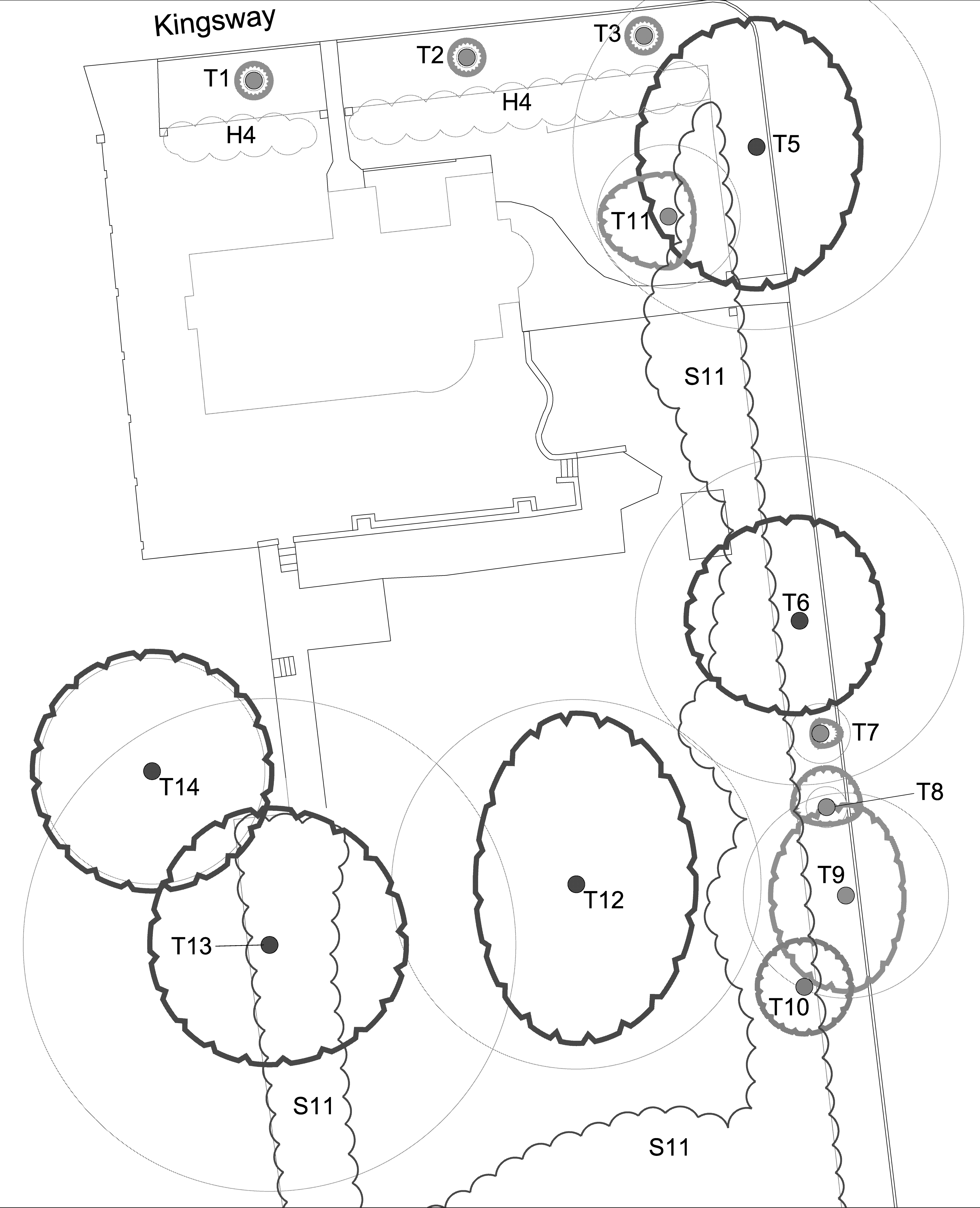
Client:	Mr and Mrs Olive-Jones
Arboriculturist:	Michael Roseveare, The Landscape Partnership [REDACTED]
Local Planning Authority:	Arun District Council

Table 1 Cascade chart for tree quality assessment

Category and definition	Criteria (including subcategories where appropriate)	Identification on plan
Trees unsuitable for retention (see Note)		
Category U 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	- Trees that have a serious, irreparable, structural defect, such that their early loss is expected due to collapse, including those that will become unstable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) - Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline - Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7.	See Table 2
Trees to be considered for retention		
Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years	1 Mainly arboricultural qualities Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue) 2 Mainly landscape qualities Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features 3 Mainly cultural values, including conservation Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	See Table 2
Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	See Table 2
Category C 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	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	See Table 2

Project:	36 Kingsway, Aldwick							BS 5837 2012 Trees in relation to construction-recommendations			Surveyed by	MLR		 the landscape partnership landscape architecture urban design environmental planning	
Ref:	E16875										Weather	Cool and overcast			
Date:	November 2016 Revised July 2018										Tagged	No			
Client:	Mr and Mrs Olive-Jones														
				Canopy Spread											
Tree No.	Common Name	Height (m)	DBH (mm)	N	E	S	W	Height of branch clearance N,S,E,W	Height of crown clearance	Age class	Physiological/Structural condition problems/comments	Preliminary management	Estimated remaining contribution years	BS category U, A, B, C	
T1	Acer platanoides (Norway Maple)	5	50	1	1	1	1	2	2	Y	Good	None	40+	C1	
T2	Acer platanoides (Norway Maple)	5	50	1	1	1	1	2	2	Y	Good	None	40+	C1	
T3	Acer platanoides (Norway Maple)	5	50	1	1	1	1	2	2	Y	Good	None	40+	C1	
H4	X Cupressocyparis leylandii (Leyland Cypress)	5	150	1	1	1	1	0	0	M	Good	None	10+	C2	
T5	Aesculus hippocastanum (Horse Chestnut)	16.5	895	7.5	6.1	8.3	7	2.5	2.5	M	Fair, die back in crown, verge eroded, tree roots exposed and damaged by mowing	Reinstate verge levels	20+	B2	
T6	Cupressus macrocarpa (Monterey Cypress)	19	800	6	5	5.5	6.5	3	3	M	Good	None	20+	B2	
T7	Quercus ilex (Holm Oak)	3.5	100,75, 75	0.75	1.2	0.75	0.5	0	3.5	Y	Good	None	20+	C1	
T8	Sorbus aucuparia (Rowan)	4.5	100	2.3	2	1	2	1	1	SM	Good, leans to north	None	10+	C1	
T9	Aesculus hippocastanum (Horse Chestnut)	14.5	500	5.3	3.4	5.6	4.4	4	4	M	Fair, Fungi brackets on stem, lightning damaged, previously crown reduced, verge eroded, tree roots exposed and damaged by mowing	Remove major deadwood, carry out climbing inspection, reinstate verge	10+	C2	

Project:	36 Kingsway, Aldwick							BS 5837 2012 Trees in relation to construction-recommendations			Surveyed by	MLR		 the landscape partnership landscape architecture urban design environmental planning	
Ref:	E16875										Weather	Cool and overcast			
Date:	November 2016 Revised July 2018										Tagged	No			
Client:	Mr and Mrs Olive-Jones														
				Canopy Spread											
Tree No.	Common Name	Height (m)	DBH (mm)	N	E	S	W	Height of branch clearance N,S,E,W	Height of crown clearance	Age class	Physiological/Structural condition problems/comments	Preliminary management	Estimated remaining contribution years	BS category U A, B, C	
T10	Fagus sylvatica (Beech)	7	450	2.75	2.75	2.75	2.75	4	4	M	Fair, ivy, previously heavily reduced.	None	<10	U	
T11	Cupressus glabra (Smooth Arizona Cypress)	6.5	350	2.5	1.5	3	4	0	0	M	Fair, leansto west, dieback in crown	Remove tree and root.	<10	C3	
T12	Cedrus libani atlantica 'Glauca' (Atlant	19	900	10	7	9.3	5.9	3	3	M	Fair, woodpecker hole at 5m, crow sparse	None	20+	B3	
T13	Quercus robur (Common Oak)	17	1200	8	8	7	7	5	5	M	Fair, ivy, major deadwood	Remove Ivy. Remove major deadwood.	40+	B2	
T14	Quercus robur (Common Oak)	13	550	7	7	7	7	5	5	M	Fair	None	20+	B3	
S16	Ilex aquifolium (Holly),Rhododendr on Spp.,Laurus nobilis (Bay),Prunus laurocerasus (Cherry Laurel),Euonymus europaeus (Spindle)	5	100	1	1	1	1	0	0	M	Good	None	20+	B3	



Key

Extent of Canopy - line colour indicates BS category

Root protection area (RPA)

Tree number as recorded on Survey Schedule

Coloured symbol indicating BS category as shown right

Category A tree

Category C tree

Category B tree

Category U tree

The above BS5837: 2012 categories are judgements of quality and value based on the contribution each tree would be expected to make over a given period of time, categories A, B and C being high, moderate and low respectively. Category U represents trees that, in their current context, should be removed for sound arboricultural reasons. For exact definition of BS5837: 2012 categories refer to notes accompanying schedule.

G

OR

G

H

Group (Group of similar trees recorded together in schedule). Colours same as BS5837 2012 categories for trees (left)

Hedge Colours same as BS5837 2012 categories for trees (left)

Note:

REVISÉD-RPA-TS

Number By Date

REVA MLR 01-07-201

Project

Queens Lawn, 36 Kingsway, Aldwick

Drawing

Tree survey

Status

-

the landscape partnership
planning and designing environments for life

Stafford 01234 281315
Woodbridge 01394 382000
London 020 3052 4141
Hove 016 5253 5777

Job No. E16875

Dwg. No. 601

Scale 1:100@A1

Drawn LB

Checked MLR

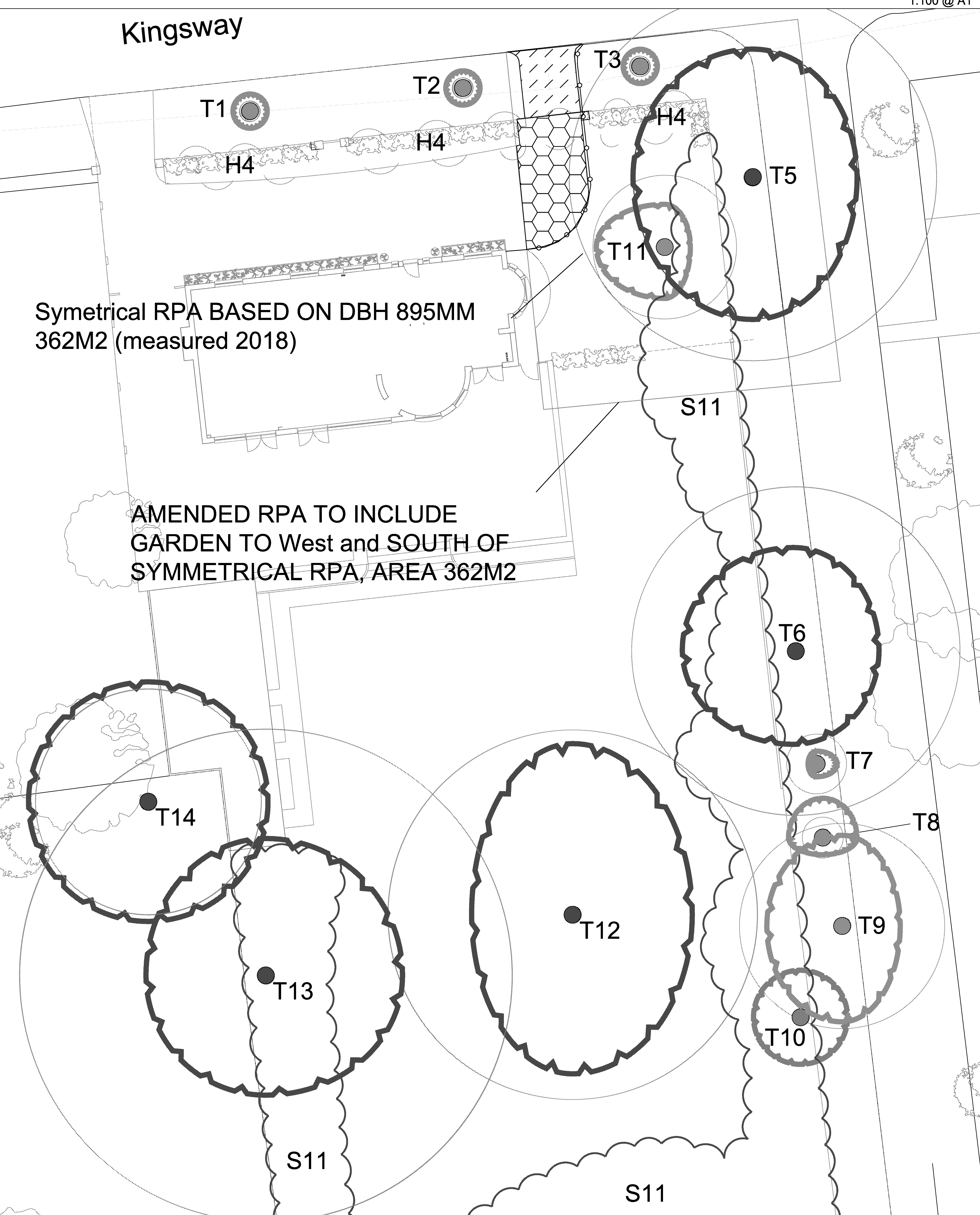
Date 04/11/2016

North

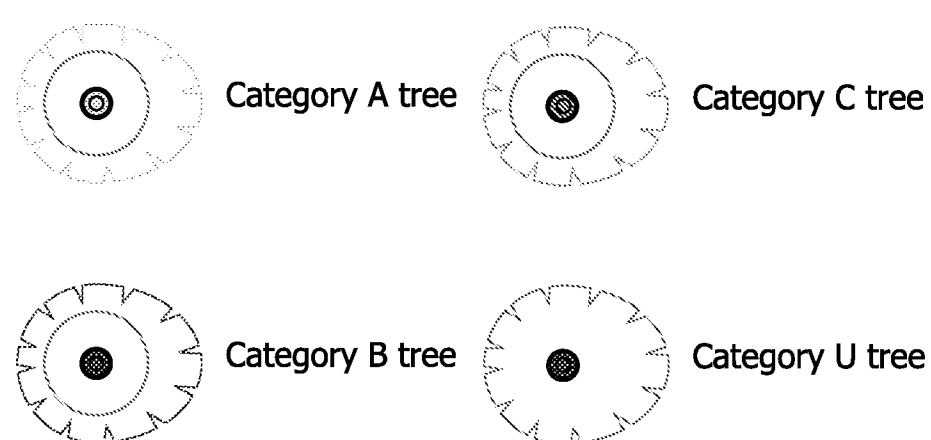
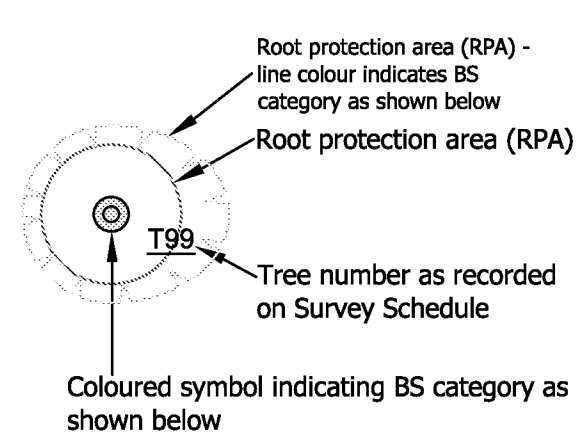
Kingsway

Symetrical RPA BASED ON DBH 895MM
362M2 (measured 2018)

AMENDED RPA TO INCLUDE
GARDEN TO West and SOUTH OF
SYMMETRICAL RPA, AREA 362M2

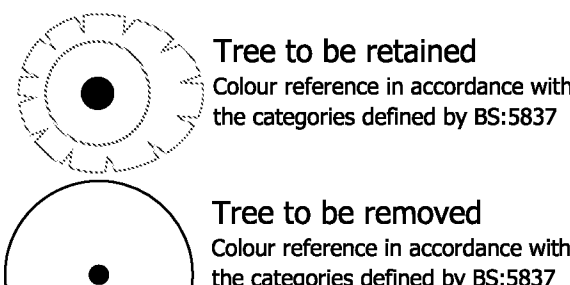


Key

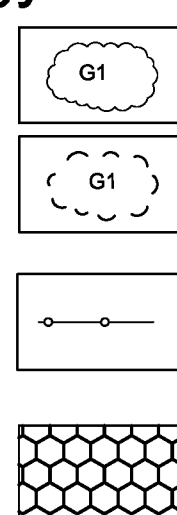


The above BS5837: 2012 categories are judgements of quality and value based on the contribution each tree would be expected to make over a given period of time, categories A, B and C being high, moderate and low respectively. Category U represents trees that, in their current context, should be removed for sound arboricultural reasons. For exact definition of BS5837: 2012 categories refer to notes accompanying schedule.

Arboricultural Strategy



Area of proposed hard surface to be hand dug. Refer to accompanying AIA/AMS report for details



Tree group to be retained
Colour reference in accordance with the categories defined above

Tree group/Part of tree group to be removed
Colour reference in accordance with the categories defined above

Line along which Tree Protection Barrier should be installed. Refer to accompanying AIA/AMS report for specification.

Area of hard surface to be installed following a 'no dig' method of construction in accordance with APN12 See architects details for specification

Note:

AMENDED-RPA
NO-DIG

Number	By	Date
REVA	MLR	18-06-201
REVB	MLR	04-07-201

Project
Queens Lawn, 36 Kingsway,

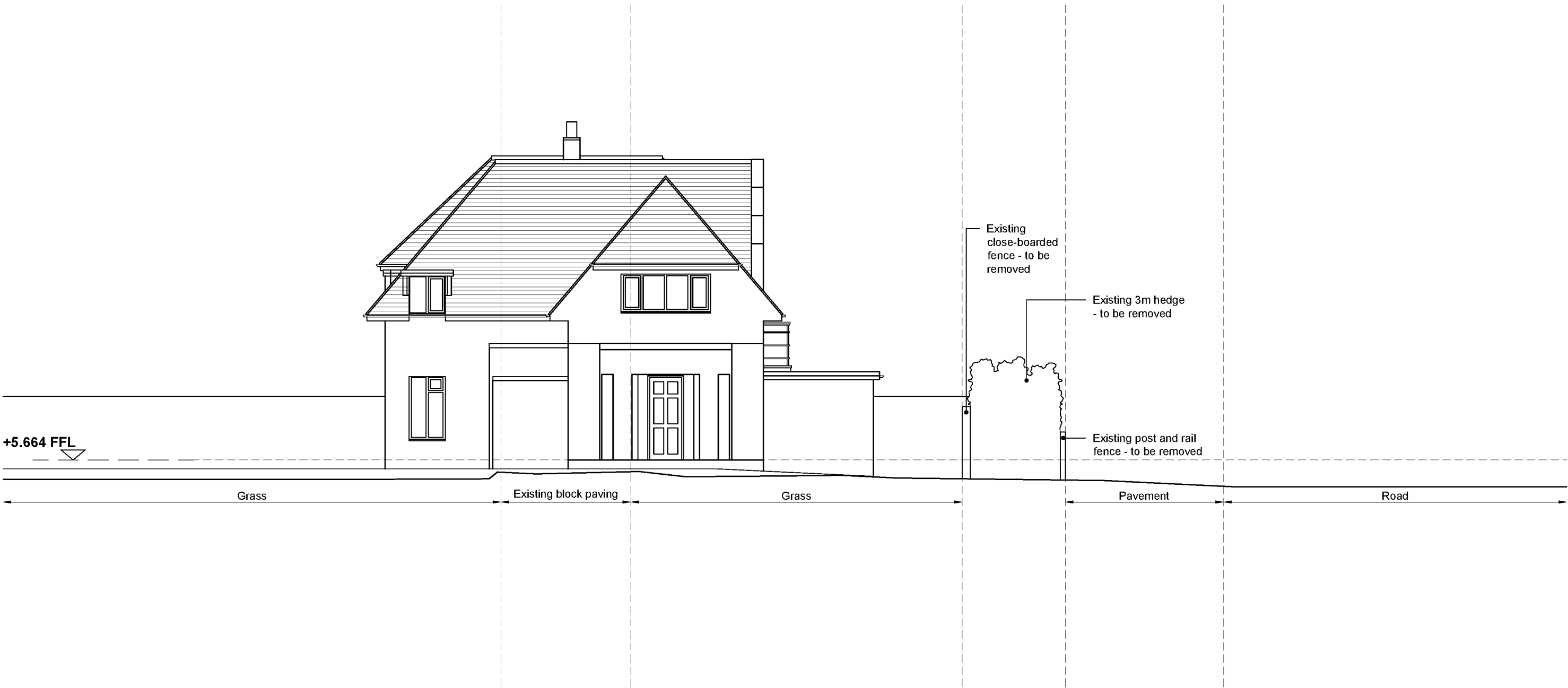
Drawing
Arboricultural Impact Assessment,
Arboricultural Method Statement

Status
PLANNING

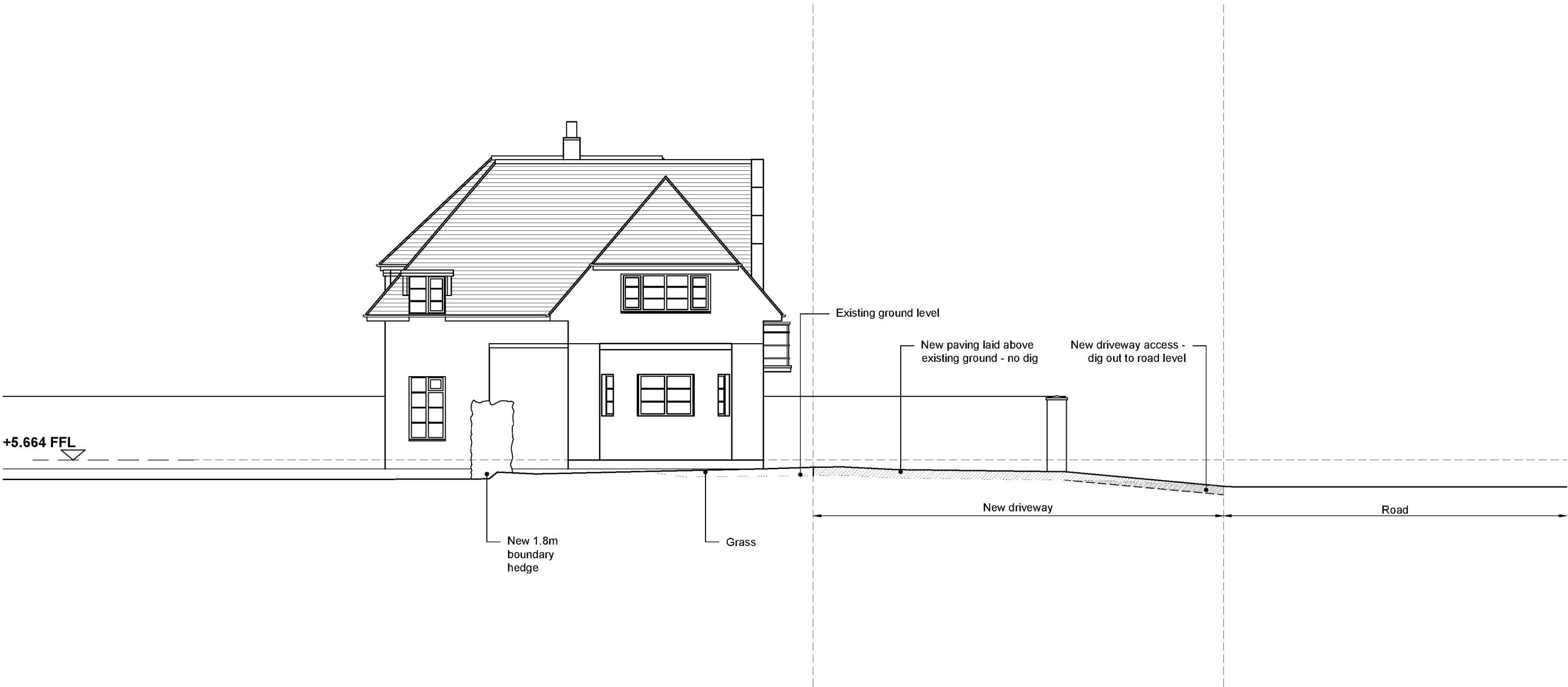
Do not scale off drawing. All dimensions & Levels are to be checked on site. Any discrepancies must be reported to the landscape architect immediately.
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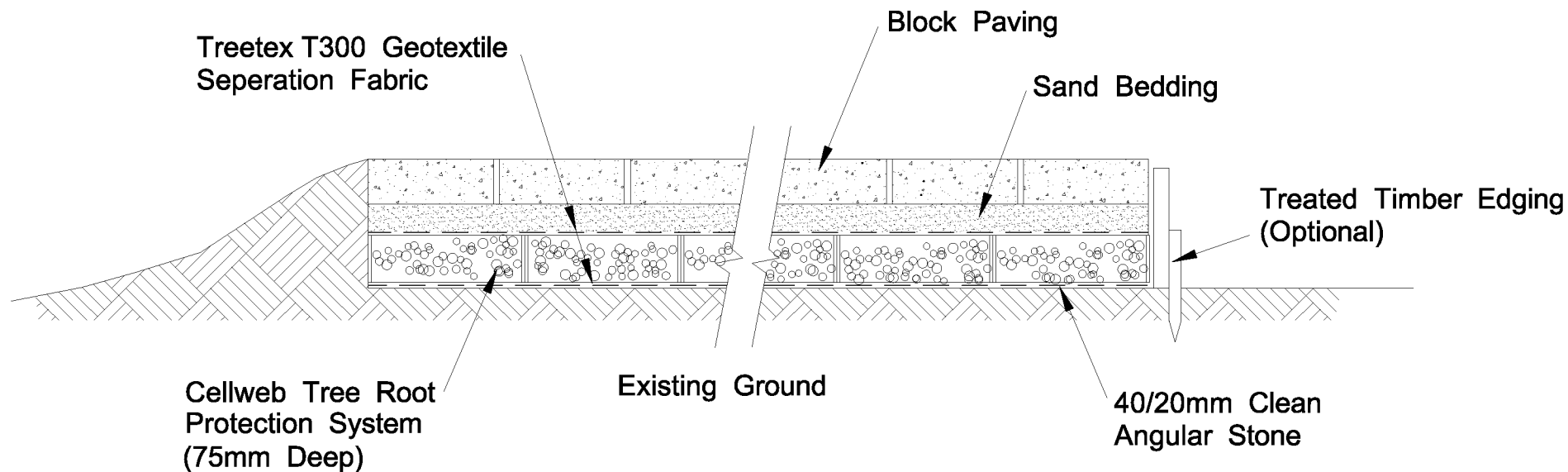
Job No.	E16875
Drawn	LB
Checked	MLR
Date	27/02/2016
North	

Existing section



Proposed section through new driveway





Geosynthetics Ltd
 Fleming Road, Harrowbrook Industrial Estate,
 Hinckley, Leicestershire. LE10 3DU
 Tel: 01455 617139 Fax: 01455 617140 www.geosyn.co.uk

TITLE

**Cellweb Section - Tree Root Protection
 c/w Block Paving Surface**

DRAWN BY

SCALE
 1:10

DATE
 04/09

CHECKED BY

DRAWING NO
 GS-CW-BP-75

REVISION

APPROVED