Arboricultural impact analysis

Trees

at

29 Dartmouth Park Road,
London
NW5 1SU

for

Charles Tashima Architecture

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1. Introduction

1.1 This report contains a detailed appraisal of 3 trees standing within the property boundary of 29 Dartmouth Park Road, London NW5 1SU, in relation to the proposed construction of a single-storey timber outbuilding.

1.2 The report considers the health and safety of the trees under their current growing conditions and assesses the likely impact of the proposed development measured against the advice and guidance set out in *BS5837 2012: Trees in relation to design, demolition and construction – Recommendations.*

1.3 The site investigation on which this report is based took place on the late afternoon of Tuesday 19 September 2017 in dry, bright conditions.

1.4 The report was commissioned by Charles Tashima Architecture on behalf of the client.

1.5 I have been provided with the following drawings in digital format (pdf):
Charles Tashima Architecture Drawings

- Drawing No. 01 - Existing Plans and Section (March 2018)
- Drawing No. 02 – Existing Elevations (March 2018)
- Drawing No. 03 – Proposed Plans and Section (March 2018)
- Drawing No. 04 – Proposed Elevations (March 2018)

Data Sheets

- Easy Pad 1.5 System
- Guide to installing Easy Pads

1.6 The **Tree survey plan** in **Appendix a** is based on Charles Tashima Architecture Drawing No. 01 – Existing Plans and Section (March 2018) and additional on-site measurements. The **Tree constraints plan** in the same appendix is based on the **Tree survey plan** with the footprint of the proposed outbuilding taken from Charles Tashima Architecture Drawing No. 03 – Proposed Plans and Section (March 2018), overlaid.

2. Background information

2.1 Layout, boundaries and topography

2.1.1 29 Dartmouth Park Road is a substantial, semi-detached Victorian villa on 5 levels (lower ground, raised ground, first, second and attic floors), standing in a rectangular plot, the longer axis of which runs north west to south east.

2.1.2 To the rear of the dwelling there is a courtyard at lower ground floor level connected by a short flight of steps to a level rear garden approximately 500mm above lower ground floor level.

2.1.3 1500mm high brick walls run along the plot boundaries of the rear garden, the location of the proposed outbuilding.

2.1.4 The rear garden is approximately 1000mm above the level of Bellgate Mews, a private road running parallel to and abutting the rear plot boundary.

2.1.5 The **Tree survey plan** in **Appendix a** shows the existing site layout and the locations of the trees referred to in this analysis.

2.2 Geology and soils

2.2.1 According to British Geological Survey (BGS) data, the site is located on deep Palaeogene, London Clay bedrock.

2.2.2 Given the difference in levels between Bellgate Mews and the rear garden of 29 Dartmouth Park Road, it is probable that at least part of the proposed development area consists of Made Ground.

2.2.3 No soil sampling was carried out on site.

2.3 Planning constraints

2.3.1 The dwelling is within the London Borough of Camden Dartmouth Park Conservation Area.

2.3.2 None of the trees in this report are covered by a Tree Preservation Order (TPO).

2.4 The trees

2.4.1 The trees referred to in this analysis are described in detail in the **Tree survey schedule** in **Appendix a.** Their locations are shown on the **Tree survey plan** in the same appendix.

2.5 The proposed development

2.5.1 The development works to which this analysis refers include:

- The construction of a single storey outbuilding in the rear garden
- Associated minor external works

3. Analysis

3.1 General

3.1.1 The **Tree constraints plan** in **Appendix a** shows the recommended Root Protection Area (RPA) for each tree re-configured where appropriate to take into account partial or complete barriers to the lateral spread of roots.

3.1.2 In this respect I have assumed that the retaining wall containing the change in level between the rear garden of 29 Dartmouth Park Road and Bellgate Mews is a total barrier to lateral root spread and that the same is true of the retaining wall around the lower ground floor courtyard at the rear of the existing dwelling.

3.1.3 Each RPA highlights the primary potential area of conflict between proposed development and retention of existing trees, namely conflicting demands for space at and below ground level.

3.1.4 Where appropriate, I have given consideration to above-ground conflicts in the analysis which follows, particularly headroom, lateral and overhead shading and perceived risk.

3.2 Trees to be removed

3.2.1 No trees or shrubs are to be removed for development purposes.

3.3 Trees to be retained

Likely impacts on retained trees at and below ground level

3.3.1 The footprint of the proposed development is completely within the RPAs of both Copper Beech 001 and Birch 002. Magnolia 003 is unaffected by the proposal.

3.3.2 In order to minimise disruption to the root systems of Trees 001 and 002, it is proposed to construct the floor assembly of the outbuilding above existing ground level and to support it on pad foundations using the Easy Pad system (see **Appendix c**).

3.3.3 The receiving excavation for each Easy Pad foundation is 400 x 400mm in plan and 400mm deep, backfilled to 200mm depth with inert MOT Type 1, fines to 40mm aggregate size crushed stone.

3.3.4 No concrete is required, and the location of individual pads can be adjusted to avoid damage to large diameter (25mm or greater) roots.

3.3.5 Approximately 8 pad foundations will be required.

3.3.6 Charles Tashima Architecture Drawing Nos. 03 and 04 in **Appendix b** of this report show the proposed outbuilding construction details.

Likely impacts on retained trees above ground

3.3.7 The footprint of the proposed outbuilding wraps around the stem of Copper Beech 001, creating an enclosure 1000mm long and 750mm wide. This will be adequate to accommodate the radial expansion of the tree's stem for at least 20 years.

3.3.8 The outbuilding's southern (Bellgate Mews) elevation will be 2200mm above existing ground level (within the plot of 29 Dartmouth Park Road) with a pitched green roof rising to 3050mm above existing ground level at its ridgeline.

3.3.9 There is adequate existing headroom to construct the outbuilding without the need for any branch removal. Correct positioning of the 1000 x 750 mm enclosure will be important.

3.3.10 There will be no need for any branch removal from Birch 002 as there is already adequate headroom above the footprint of the proposed outbuilding.

3.3.11 As the proposed development is an outbuilding for tool storage and occasional recreational use with windows facing to the north, away from Trees 001 and 002, lateral and overhead shading and the perception of risk in extreme weather conditions are unlikely to be significant issues with regard to either tree.

3.3.12 It will be important however, to ensure that the main stem of Copper Beech remains easily accessible for routine inspection purposes.

4. Conclusions

4.1 The proposed design is simple and as long as unnecessary disturbance is avoided, should cause no significant disruption to any of the trees referred to in this analysis.

4.2 It will be necessary to install the pad foundations with care and to adjust their locations where necessary to avoid damage to large diameter tree roots.

4.3 The design includes a removable section of wall in the enclosure round Copper Beech 001, to enable routine inspections of the lower main stem and root collar to be carried out.

4.4 The **Arboricultural Method Statement (AMS)** accompanying this analysis sets out tree protection measures and appropriate working practices to ensure successful tree retention, with particular reference to the installation of pad foundations.

Appendix a

Tree survey schedule
Tree survey plan
Tree constraints plan

Explanatory notes

For general information on any entry in the detailed survey text, refer to the notes below which are organised on a column by column basis.

Tree number

All trees have been numbered in the survey text to correspond to the location numbers shown on the accompanying Tree survey plan. No trees have been marked on site.

Species

Common English names have been used wherever possible and Latin names are listed (in brackets in *italics*) in all cases.

Dimensions

Height - are recorded in m.

Stem diameter – recorded in mm at breast height (1.5m) wherever possible. Where measurement at 1.5m is not possible, one of the alternative methods set out in *Annex C of BS5837:2012* has been used.
If the diameter has been measured at a different height, this has been recorded, e.g. 60 @ 1m = 60mm diameter at 1m height.
Other abbreviations used:

av - average	est/e - estimated	
ms - multi-stemmed	max – maximum	gl - ground level

Crown spread - radial crown spreads in metres have been recorded at four points on the circumference of the crown (north, east, south and west). The accompanying Tree survey plan shows approximate crown shapes based on these measurements

Crown height - the height of the first major branch and the height of the lowest point of the crown are recorded in metres eg 3/3

Explanatory notes

Age

Y	Young	SM	Semi-mature
EM	Early mature	M	Mature
OM	Over-mature		

Where the precise age of a tree is known, it has been recorded in brackets adjacent to the general classification i.e. M(7).

Condition

Physiological condition

Gives a measure of biological vigour and of the presence or absence of disease, insect attack or other debilitating factors.

G	Good
F	Fair
P	Poor

Structural condition

Gives a measure of each tree's physical form and mechanical stability.

G	Good
F	Fair
P	Poor

Comments

Descriptive notes on the tree's shape, local environment and condition.

Recommendations

Management recommendations under existing conditions.

Separation distance (existing and proposed)

The distance between centre stem and the nearest point of existing or proposed built structures

Explanatory notes

RPA radius

The radius of each tree's Root Protection Area (RPA) as defined in *BS5837:2012 – Trees in relation to design, demolition and construction - Recommendations*

Life expectancy

An approximate estimate for each tree's anticipated future safe life in the following ranges:

- <10 years
- 10-20 years
- 20-40 years
- 40+ years

Retention category

This grading is based on the recommendations set out in BS 5837:2012 *Trees in relation to design, demolition and construction - Recommendations.* The categories are summarised in the standard as follows:

- A Trees of high quality with an estimated remaining safe life of at least 40 years
- B Trees of moderate quality with an estimated remaining safe life of at least 20 years
- C Trees of low quality with an estimated remaining safe life of at least 10 years, or young trees with a stem diameter below 150mm
- U 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

In addition the British Standard requires one or more subcategories to be applied to the main Retention Category. In summary these are as follows:

1. Mainly arboricultural qualities (that is individual aesthetic characteristics)
2. Mainly landscape qualities
3. Mainly cultural values, including conservation

Tree survey schedule

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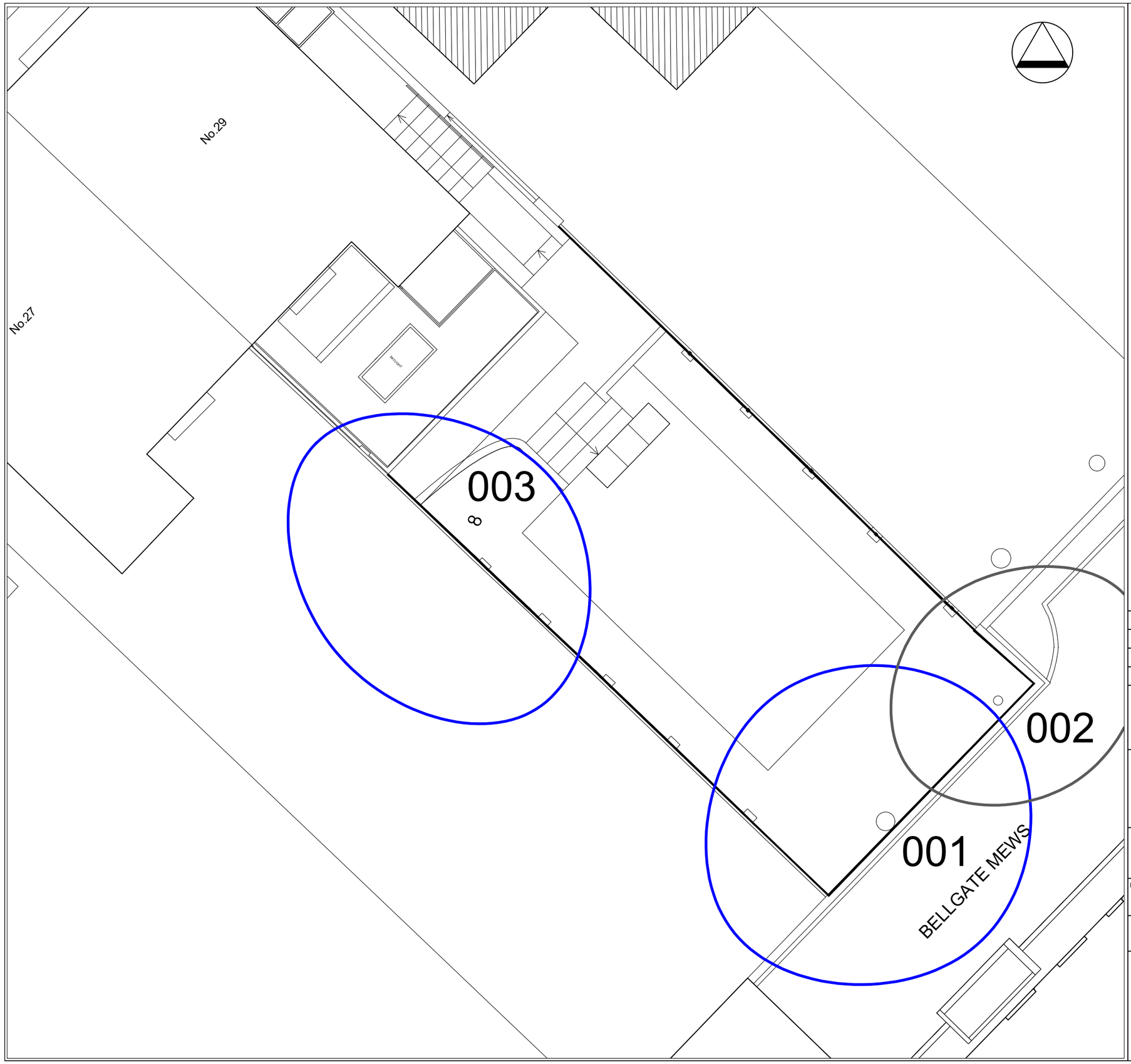
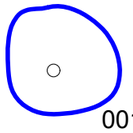
Tree No.	Species	Height (m)	Diam (mm)	Crown Spread (m)				Crown Height (m)	Age	Physiological Condition	Structural Condition	Comments	Separation distance (m)		RPA Radius (m)	Recommendations	Life Expectancy	Retention Category	Retention Sub-category
				N	E	S	W						Existing	Proposed					
001	Copper Beech (*Fagus sylvatica* 'Purpurea')	13	500	4.5	4	4	5	2/2	M	G	G	Single upright stem forks into 2 at 2m and again immediately above: quite well balanced crown has been reduced in height and spread in the recent past: main stem is close to the rear garden boundary wall	>10.00	0.50	6.00	No immediate action required	20-40	B	1
002	Silver Birch (*Betula pendula*)	9	250	3	4.5	3	3	3/3	EM	F	G	Single ivy covered stem growing close to the rear garden boundary wall: suppressed (competition from adjacent trees) rather narrow, one sided crown	>10.00	0.50	3.00	No immediate action required	20-40	C	1
003	Magnolia (*Magnolia species*)	5	170/ 190	4.5	4.5	5	3	2/2	SM	G	G	2 leaning stems: attractive spreading rather one sided crown (away from W)	>10.00	>10.00	3.06	No immediate action required	40+	B	1

Client: Mark Lutyens Associates
Location: 29 Dartmouth Park Road, London NW5 1SU
Date: 19.09.17
Job No.: 593



KEY



EXISTING TREE

001

Trees are coloured on plan to correspond with the Retention Categories specified in BS5837:2012 Trees in relation to design, demoltion and construction - Recommendations as follows:

Category A - GREEN
Category B - BLUE
Category C - GREY
Category U - RED

REVISION		CHCK'D	APP'D	DATE

Client:

CHARLES TASHIMA ARCHITECTURE

Job Title:

29 DARTMOUTH PARK ROAD
LONDON
NW5 1SU

Drawing Title:

TREE SURVEY PLAN

Drawing Number:	Scale:
593.01.00 Rev A	1:100 (A3)
Date: 01.03.18	Drawn by: RS

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arboricultural advice

33 GREENWOOD PLACE, LONDON NW5 1LB
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KEY

EXISTING TREE

001

Trees are coloured on plan to correspond with the Retention Categories specified in BS5837:2012 Trees in relation to design, demoltion and construction - Recommendations as follows:

Category A - GREEN
Category B - BLUE
Category C - GREY
Category U - RED

ROOT PROTECTION AREA as defined in *BS5837:2012 Trees in relation to design, demolition and construction - Recommendations*

003

FOOTPRINT OF PROPOSED OUTBUILDING

REVISION		CHCK'D	APP'D	DATE

Client:

CHARLES TASHIMA ARCHITECTURE

Job Title:

29 DARTMOUTH PARK ROAD
LONDON
NW5 1SU

Drawing Title:

TREE CONSTRAINTS PLAN

Drawing Number:	Scale:
593.02.00 Rev A	1:100 (A3)
Date: 01.03.18	Drawn by: RS

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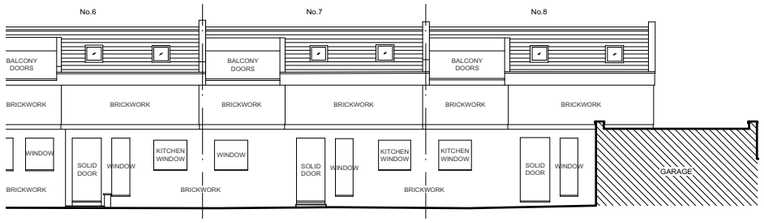
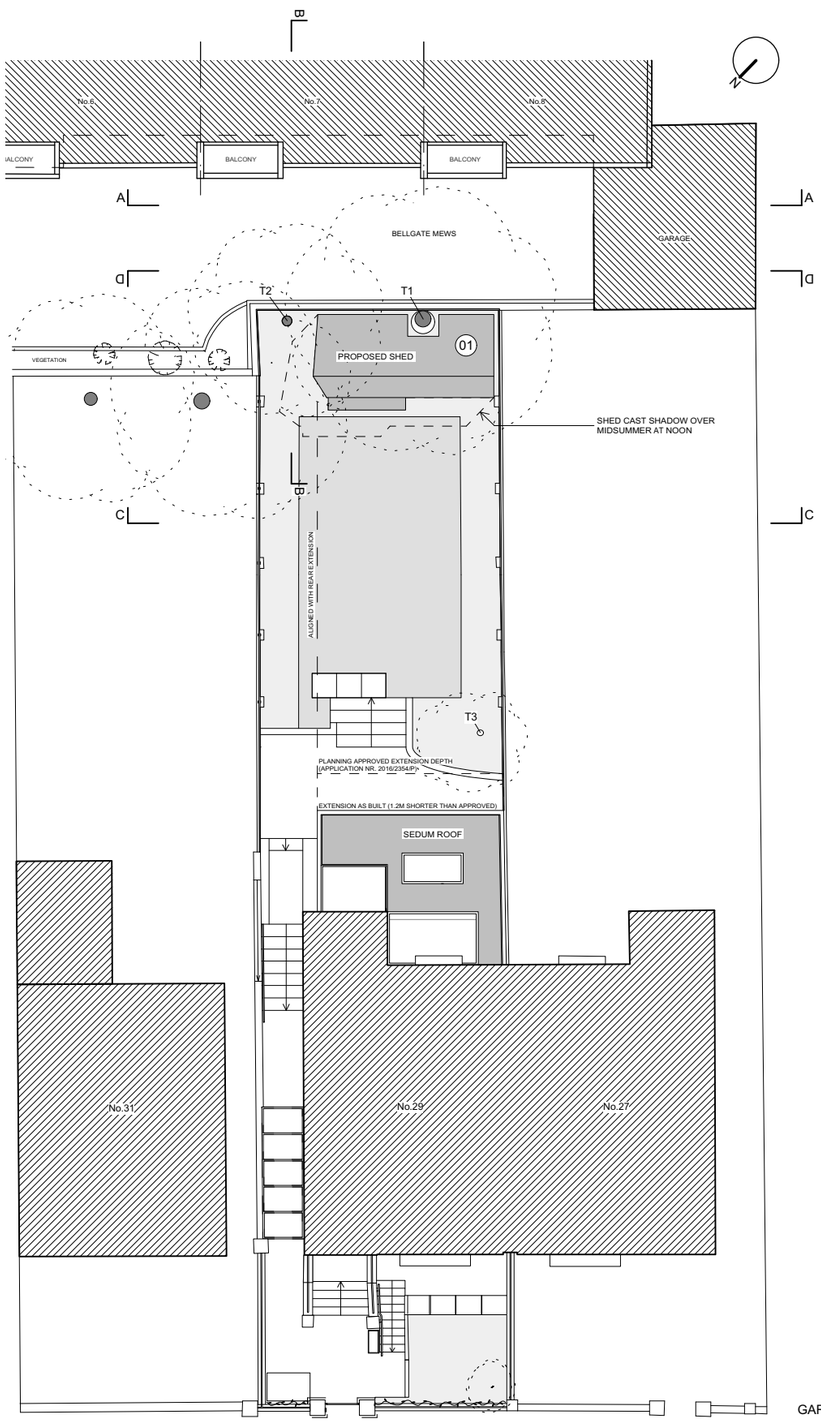
Appendix b

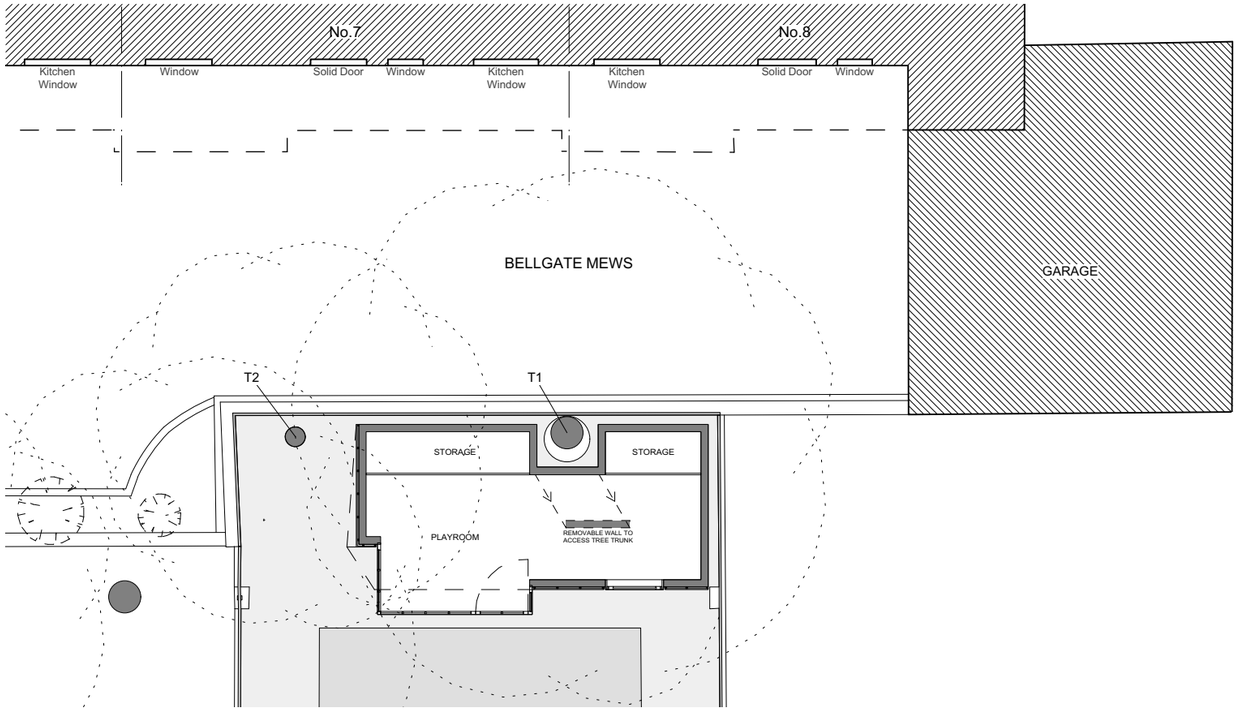
Charles Tashima Architecture Drawing Nos.
03 – Proposed Plans and Section (March 2018)
04 – Proposed Elevations (March 2018)



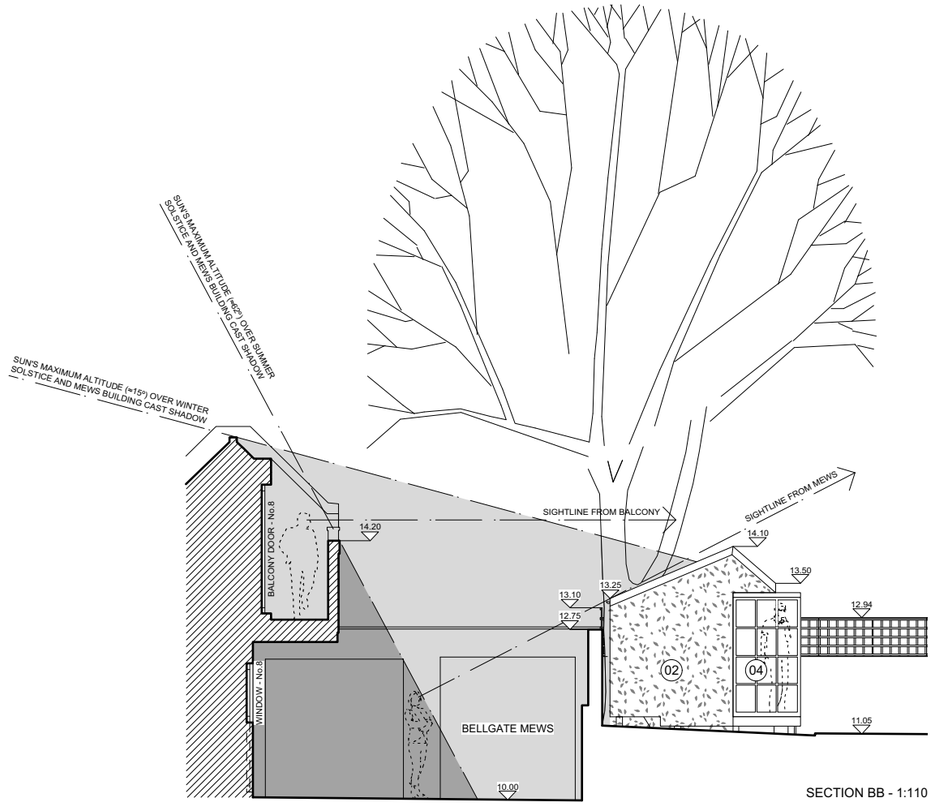
SECTION AA - BELLGATE MEWS SOUTHEAST ELEVATION - 1:200
(AS EXISTING - NO CHANGES PROPOSED)



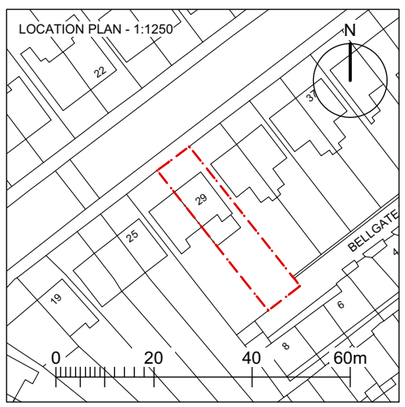
GARDEN ROOF PLAN - 1:200



PLAN - 1:100



SECTION BB - 1:110



KEY:

01 PITCHED SEDUM ROOF
02 TRELLIS AND IVY WALL
03 TIMBER CLADDING
04 TRADITIONAL TIMBER DOORS AND WINDOWS

T1 COPPER BEECH TREE
T2 SILVER BIRCH TREE
T3 MAGNOLIA TREE

CHARLES TASHIMA ARCHITECTURE

29 DARTMOUTH PARK ROAD
PROPOSED PLANS AND SECTION

DATE: MARCH 2018
DRAWING NO.: 03
SCALE: 1:1250, 1:200, 1:100 @A3

SECTION CC - No.29 GARDEN ELEVATION - 1:100

SECTION DD - BELLGATE MEWS NORTHWEST ELEVATION - 1:100

01 PITCHED SEDUM ROOF IMAGE PRECEDENT

02 IVY WALL IMAGE PRECEDENT

KEY:
01 PITCHED SEDUM ROOF
02 TRELLIS AND IVY WALL
03 TIMBER CLADDING
04 TRADITIONAL TIMBER DOORS AND WINDOWS

CHARLES TASHIMA ARCHITECTURE

29 DARTMOUTH PARK ROAD
PROPOSED ELEVATIONS

DATE: MARCH 2018
DRAWING NO.: 04
SCALE: 1:100 @A3

Appendix c

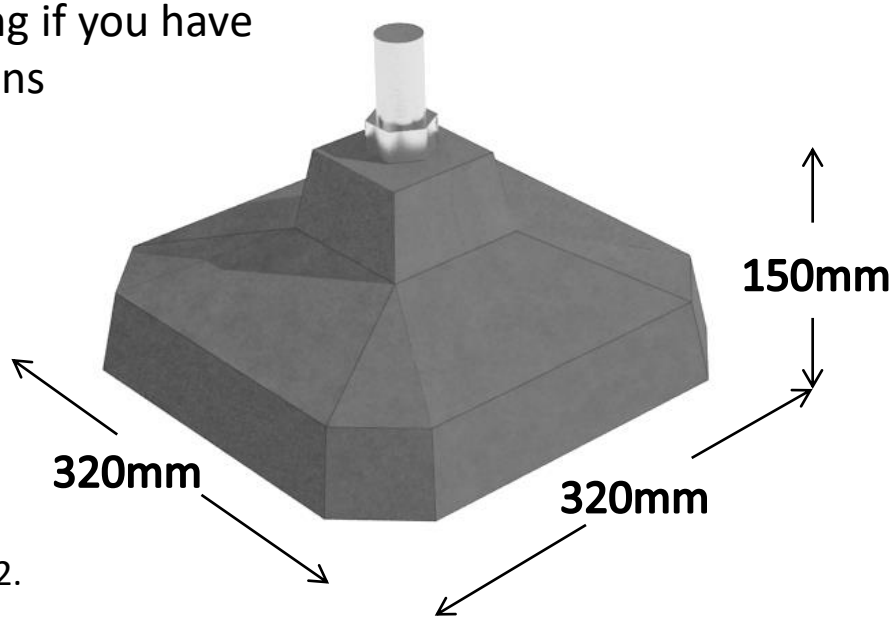
Easy Pad Data Sheets

QBS

EasyPAD 1.5

The EasyPad 1.5t system comes with a range of brackets suitable for 2 inch wide timbers. Reducing the timber sizes from say an 8 x 2 to a 4 x 2 in your floor frame allows you to achieve more internal height inside your building if you have planning height restrictions of 2.5m to the eaves.

EasyPad Data:
Max vertical load 1.5 tonnes
Self Weight 15 kgs
Max spacing 1.75m
Brackets accept 2inch wide timbers



Ideal for buildings under 30 m2.

- Log Cabins
- Garden Rooms
- Timber Buildings
- Timber Sheds

QBS
Quick Base Solutions Ltd

Guide to installing EasyPads

EasyPAD

1 Dig out holes to desired depth

2 Create a footing in each hole with compacted stone, hard core or concrete

3 Place the pads

4 Attach your frame and level

5 Position floor joists and insulation

6 Construct your building

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