Ms Lin Zhao

Tree Survey Report (BS5837:2012)

Proposed Residential Development at 24 Kenilworth Close, Brighton

July 2020

Prepared by

Encon Associates Limited
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A4771

Date of Report:	22 July 2020
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Issued by:	MJB
Checked by:	GM

Contents

Summary

The trees in this report has been assessed in accordance with BS 5837:2012 "Trees in relation to design, demolition and construction - Recommendations" in connection with the planning application for the new residential development at 24 Kenilworth Close, Brighton.

The proposal is for the demolition of the existing property and construction of two new dwellings.

There are several trees, mainly around the perimeter of the site, 5 of which have been recorded in this survey within proximity to the proposed development, all sycamore (Acer pseudoplatanus) species. All trees are reasonable specimens, with no obvious defects and have been classified as category B2.

Based on the proposed layout for the dwellings, no trees will need to be removed and the Root Protection Area (RPA) of all trees does not encroach within the footprint of any building or areas of hard standing, including the closest tree T1 (located within the neighbours garden close to the boundary fence).

The only potential impact to the existing trees could be with the installation of a new boundary fence to separate the gardens of the new dwellings which is proposed to be located closely between T3 and T4. As long as this fence is installed carefully, without cause damage to the trees branches or trunk and the fence posts are installed as per the recommendations made within this report, the potential for damage will be mitigated.

No trees are being removed, however the proposal is to plant several new trees along the eastern and western boundaries which will further enhance the visual amenity of the site and increase the population of trees in the area which is a positive inclusion towards combating climate change.

As long as the recommendations proposed in this report are carried out, including erection of protective fencing during the construction works around the trees to be retained, no storage of materials close to or within the RPA of any trees and the installation of the garden fence in accordance with the recommendations, there are no arboricultural reasons why the development should not proceed and the Local Authority should rest assured that there will be no detrimental impact to the existing trees from the construction of the new dwellings.

1 Introduction

1.1 The advice contained within this tree survey report has been prepared for the applicant, Lin Zhao and JDRM Architects in respect of existing trees within the property at 24 Kenilworth Close, Brighton.

1.2 The report seeks to:

Assess the quality of the trees in proximity to the proposed construction works and calculate the root protection areas (RPAs)

Provide an Arboricultural Impact Assessment with regard to the proposals

Recommend measures which will suitably protect the tree during the construction process

1.3 Following the preparation of the tree survey data and discussion period with the designer, this arboricultural information is provided.

1.4 The report is based on the following drawing supplied by the client's agent:

Topographical Survey drawing reference 2264 by Enka Surveys, dated November 2019

Proposed Plans reference 2157(21)001 C by JDRM Architectural Design, dated 17.06.20

Limitations & Methodology

2.1 The survey is concerned with the arboricultural aspects of the site only. The trees around the proposed site for the new dwellings within the land to the north and south of the existing dwelling have been surveyed and classified in accordance with BS 5837:2012 "Trees in relation to design, demolition and construction - Recommendations".

2.2 Trees are large dynamic organisms whose health and condition can change rapidly, therefore due to their changing nature and other site considerations, this report and

any recommendations made are valid for the 12 month period following the date of this report. After a period of 5 years, the information in this survey should not be relied upon.

2.3 The survey has been conducted in accordance with the Terms and Definitions contained in Section 3 of BS 5837:2012 ie carried out by an arboriculturalist or a competent person.

Third Party Liability

2.4 The limit of Encon Associates Limited indemnity over any matter arising out of this report extends only to the instructing client. Encon Associates Limited cannot be held liable for any third party claim that arises following this report.

Subsistence Risk

2.5 This report is primarily concerned with the condition of existing trees and applying current guidance for their retention. Any discussion on soil characteristics is only presented where this may have a direct effect on tree growth. This report does not seek to address the specific area of subsidence risk assessment or damage to existing buildings or structures.

Survey Methodology

2.6 No aerial inspection nor invasive probing or drilling has been undertaken. No excavations were carried out nor soil or root samples taken.

2.7 The height of the tree was taken from the topographical survey.

2.8 The canopy spread was taken from the topographical survey.

2.9 The locations of the trees have been taken from the GPS positions as per the topographical survey.

2.10 The information contained within the "Schedule of Trees" includes the following for each surveyed tree:

1 Tree reference number - cross referenced with the Tree Survey Plan drawing number A4771-01 and Tree Protection Plan AA4771-02
2 Species - have been given their common and botanical name where specifically known
3 Height - measured on site
4 Stem diameter - calculated by measuring the circumference at a height of 1.5m from ground level to determine the diameter
5 Branch spread - indicated on the tree survey plan to be representation of the overall spread of the crown in each compass direction
6 Height of crown clearance - given in metres above adjacent ground level
7 Age class - young (YNG) up to 10 years, semi-mature (SM) 1/3 life expectancy, early mature (EM) 2/3 life expectancy, mature (M) over 2/3 life expectancy, over mature (OM) declining/moribund, veteran (V) exceptionally old tree at the end of its life
8 Condition & Comments - good (G) sound tree needing little or no attention, fair (F) minor but rectifiable defects, poor (P) major structural and/or physiological defects that would be inappropriate to retain and/or expensive, dead (D) no longer alive or those dying and unlikely to recover. General observations on 'physiological/structural condition' and 'preliminary management' is also provided
9 Estimated remaining contribution - in years eg less than 10, 10-20, 20-40, over 40
10 Category grading - given a grade to classify the quality based on the Condition Classes and subcategories given overleaf
11 RPA - Protective measures as per BS 5837 which states that an area based on a radius equal to 12 times the stem diameter should be protected against damage to roots known as the "Root Protection Area" (RPA) given in m^2

2.11 Category grading for the assessment of tree quality (in accordance with Table 1 "Cascade chart for tree quality assessment" within BS 5837:2012) is described below:

U Trees unsuitable for retention - Those in such a condition that they cannot be realistically be retained as living trees in the context of the current land use for longer than 10 years

A Trees of high quality - With an estimated remaining life expectancy of at least 40+ years

B Trees of moderate quality - With an estimated remaining life expectancy of at least 20-40 years

C Trees of low quality - with an estimated remaining life expectancy of at least 10-20 years, or young trees with a stem diameter below 150mm

2.12 Subcategories grading for the assessment of tree quality (in accordance with Table 1 "Cascade chart for tree quality assessment" within BS 5837:2012) is described below:

1 Mainly arboricultural qualities - Trees that are a particularly good example of their species, especially if rare or unusual

2 Mainly landscape qualities - Trees, groups or woodlands of particular visual as arboricultural and/or landscape features

3 Mainly cultural values, including conservation - Trees, groups or woodlands of significant conservation, historical, commemorative or other value eg veteran trees or wood-pasture

For full description of subcategories, refer to Table 1, page 9 of BS 5837:2012

3 Project Requirements & Site Overview

The Site

3.1 The application site is within the land of the existing property currently consisting of a single dwelling with front and rear garden consisting of grass, trees and shrubs around the boundaries.

Proposed Development

3.2 The proposal is for the demolition of the existing property and construction of two new dwellings.

Tree Removal

3.3 Based on the proposed layout for the dwellings, no trees will need to be removed and the Root Protection Area (RPA) of all trees does not encroach within the footprint of any building or areas of hard standing, including the closest tree T1 (located within the neighbours garden close to the boundary fence).

4 Baseline Factors

Tree Preservation Orders (TPO) or Conservation Area (CA) Designation

4.1 The site falls within the planning jurisdiction of Brighton & Hove City Council and is located to the north east of the city, in Bevendean. There are no TPO trees on within proximity of the site, as confirmed by Brighton & Hove City Council. The site is also not located within a Conservation Area and therefore the trees are not protected by a group Preservation Order.

Existing Trees

4.2 There are several trees, mainly around the perimeter of the site, 5 of which have been recorded in this survey within proximity to the proposed development, all sycamore

(Acer pseudoplatanus) species. All trees are reasonable specimens, with no obvious defects and have been classified as category B2.

4.3 A tree schedule containing full details of the survey is attached in the appendix.

Root Protection Area (RPA)

4.4 The Root Protection Area (RPA) of a tree is defined in BS5837 as the area surrounding the trunk that contains sufficient rooting volume to ensure the survival of the tree and is calculated as an area based on the stem diameter of the tree.

4.5 The RPA has been calculated in accordance with BS5837 and detailed in the Tree Schedule. The roots of the some of the trees around the perimeter are likely to have been influenced by ground constraints due to their proximity to paved surfaces and structures, whilst others are freely growing in open ground away from any structural constraints or influence. The RPA is therefore likely to follow that of a circle, although may take a more ovate spread as the roots develop away from compacted ground beneath adjacent hard surfacing.

4.6 Detailed analysis of the ground conditions have not been carried out, however a visual assessment concluded that the trees appears to be growing in decent soils and growing medium, albeit some located in restricted areas adjacent boundary fencing and surfaces which is likely to have influenced the morphology and disposition of their root system.

4.7 Tree root systems are typically concentrated within the uppermost 600mm of the soil, although it may be deeper within the dense mass of roots and soil closer to the base of the tree. The development of the roots are influenced by the availability of water, nutrients, oxygen and soil penetrability ie how compacted the soil is and therefore the root spread does not generally show the symmetry seen in the branch system. The trees in this survey are early mature trees and are likely to have developed substantial root systems below ground and on the whole, have managed to establish into reasonable specimens.

5 Arboricultural Implications Assessment

5.1 This section considers the implications that the proposed development will have upon the existing trees, in order to provide advice and solutions to any implications to ensure the trees are safeguarded from damage as far as possible.

5.2 The proposed new dwellings are located mainly in the footprint of the existing property.

5.3 Based on the proposed layout for the dwellings, no trees will need to be removed and the Root Protection Area (RPA) of all trees does not encroach within the footprint of any building or areas of hard standing, including the closest tree T1 (located within the neighbours garden close to the boundary fence).

6 Tree Protection Measures

Protective Fencing

6.1 The distance from construction activity to the existing trees is such that the trees to be retained should be separated from the work by protective fencing to avoid inadvertent damage. Heras fencing should be erected around the site perimeter to prevent damage to the trees from the construction work on site. See Appendix D for details.

Installation of New Fencing

6.2 To ensure the existing trees to be retained are not damaged during the installation of the new boundary fencing, the following procedures are to be strictly adhered to:

The dashed line around each tree indicates the Root Protection Area (RPA) as calculated within the Tree Survey Report and shown on the Tree Constraints plan.

Prior to commencing any work on site, Heras type fencing is to be installed as per the detail appended to this report and in the position indicated on the Tree Constraints Plan

No excavations using machinery is permitted

Holes for fence posts are to be carefully dug by hand avoiding damage any roots which may be encountered

No storage of materials or mixing of cement is to take place within RPA around each tree and should be done well away from the trees

No machinery or vehicles to travel within the RPA around each tree

Holes excavated for fence posts to be lined with polythene prior to pouring concrete to prevent cement coming into contact with any tree roots which may be present

Extreme care to be taken when installing fence posts and panels to prevent damage to trunk or branches of the trees

7 Mitigating Tree Loss

7.1 Despite no trees being removed as part of the development, the planting of several new trees is proposed.

7.2 A row of trees on the eastern and western boundaries are suggested which will further enhance the visual amenity of the site and increase the population of trees in the area which is a positive inclusion towards combating climate change.

8 Conclusions

8.1 The proposal is for the demolition of the existing property and construction of two new dwellings.

8.2 There are several trees, mainly around the perimeter of the site, 5 of which have been recorded in this survey within proximity to the proposed development, all sycamore

(Acer pseudoplatanus) species. All trees are reasonable specimens, with no obvious defects and have been classified as category B2.

8.3 Based on the proposed layout for the dwellings, no trees will need to be removed and the Root Protection Area (RPA) of all trees does not encroach within the footprint of any building or areas of hard standing, including the closest tree T1 (located within the neighbours garden close to the boundary fence).

8.4 The only potential impact to the existing trees could be with the installation of a new boundary fence to separate the gardens of the new dwellings which is proposed to be located closely between T3 and T4. As long as this fence is installed carefully, without cause damage to the trees branches or trunk and the fence posts are installed as per the recommendations made within this report, the potential for damage will be mitigated.

8.5 No trees are being removed, however the proposal is to plant several new trees along the eastern and western boundaries which will further enhance the visual amenity of the site and increase the population of trees in the area which is a positive inclusion towards combating climate change.

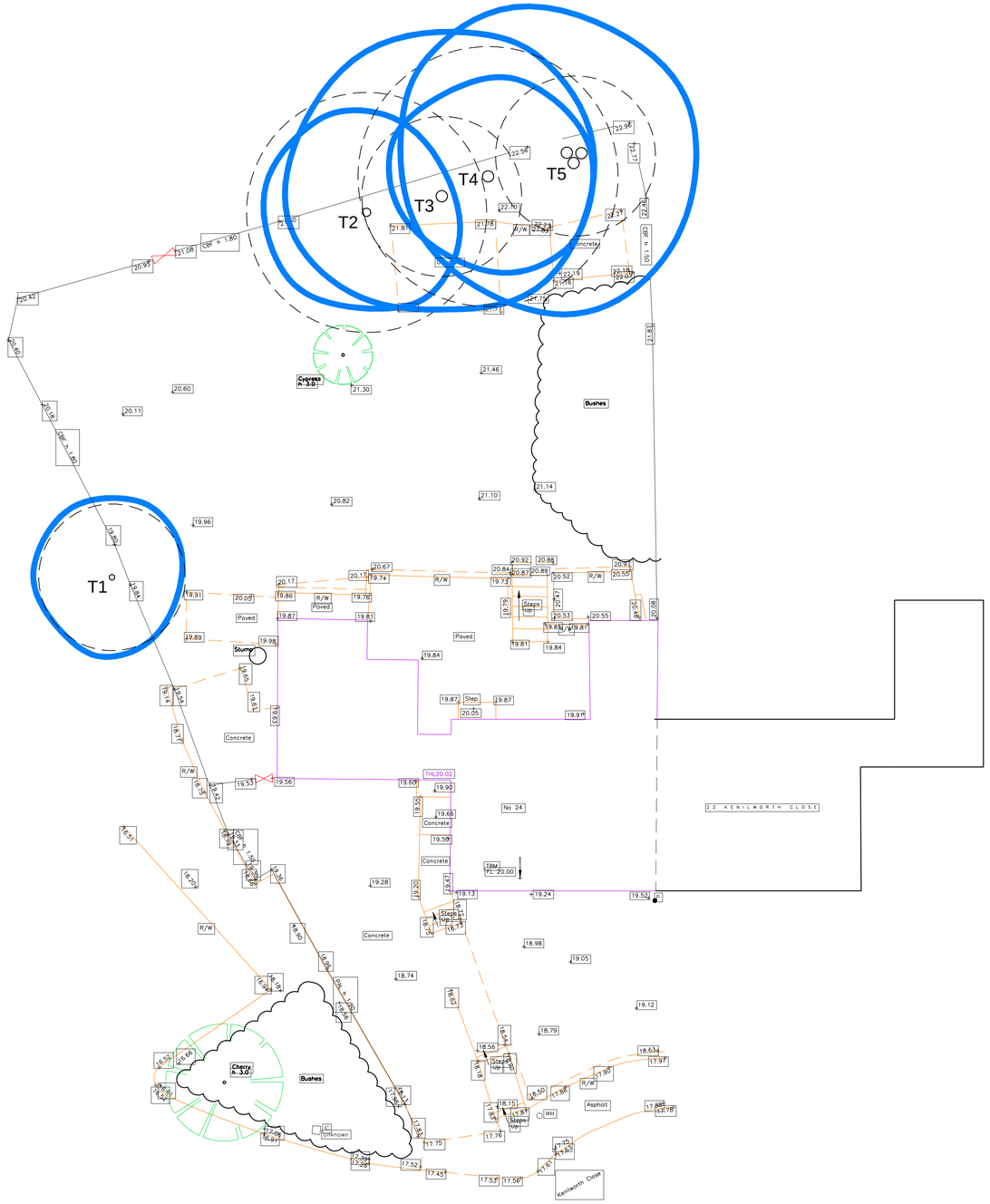
8.6 As long as the recommendations proposed in this report are carried out, including erection of protective fencing during the construction works around the trees to be retained, no storage of materials close to or within the RPA of any trees and the installation of the garden fence in accordance with the recommendations, there are no arboricultural reasons why the development should not proceed and the Local Authority should rest assured that there will be no detrimental impact to the existing trees from the construction of the new dwellings.

Appendix A - Schedule of Trees

Site: Kenilworth Close, Brighton Date: 20-Jul-20 Weather: Clear and dry

Ref	Species	Height (m)	Stem Diameter (mm)	Branch spread (m) N	E	S	W	Height crown clearance (m)	Age class	Condition & Comments	Years left	Category grading	RPA (m²)	RPA radius
T1	Acer pseudoplatanus (Sycamore)	8	220	3	3	3	3	1.5	EM	Good. Located off site beyond the boundary fence within neighbours garden	20+	B2	22	2.64
T2	Acer pseudoplatanus (Sycamore)	13	360	4	4	4	4	1	EM	Good. Located within the site close to the boundary fence.	20+	B2	59	4.32
T3	Acer pseudoplatanus (Sycamore)	14	240	6	6	6	6	2.5	EM	Good. Located within the site close to the boundary fence.	20+	B2	26	2.88
T4	Acer pseudoplatanus (Sycamore)	14	390	3	3	3	3	2	EM	Good. Located within the site close to the boundary fence.	20+	B2	69	4.68
T5	Acer pseudoplatanus (Sycamore)	14	multi stem	3	3	3	3	4	M	Good. Forks into 3 trunks. 1 x 190mm, 1 x 240mm and 1 x 270mm	20+	B2	75	4.90

Appendix B - Tree Survey Plans



1 TOPOGRAPHICAL SURVEY 1:100
EXISTING

0 0.5 1.0 2.0 3.0 4.0 5.0 10.0
Scale in metres

Notes:

Key to Tree Survey Plan

The RPA (Root Protection Area) ie the zone in which the root system is believed to be concentrated, has been calculated for each tree within the site boundary. This drawing is based on:

- Topographical Survey drawing reference 2264 by Enka Surveys, dated November 2019

T1 **Class A**

T1 **Class B**

T1 **Class C**

T1 **Class U**

T1 RPA shown as a dashed circle around each tree with reference number given

Other trees on site beyond influence from the development not included in the Tree Survey

Rev	Date	Description	Drawn	Checked

Client
Ms Lin Zhao

Project
24 Kenilworth Close
Brighton

Title
Tree Survey Plan

Drawing Status
FOR PLANNING APPROVAL

Drawn	MJB	Checked	GM
Date	20.07.20	Scale (A1)	1:100

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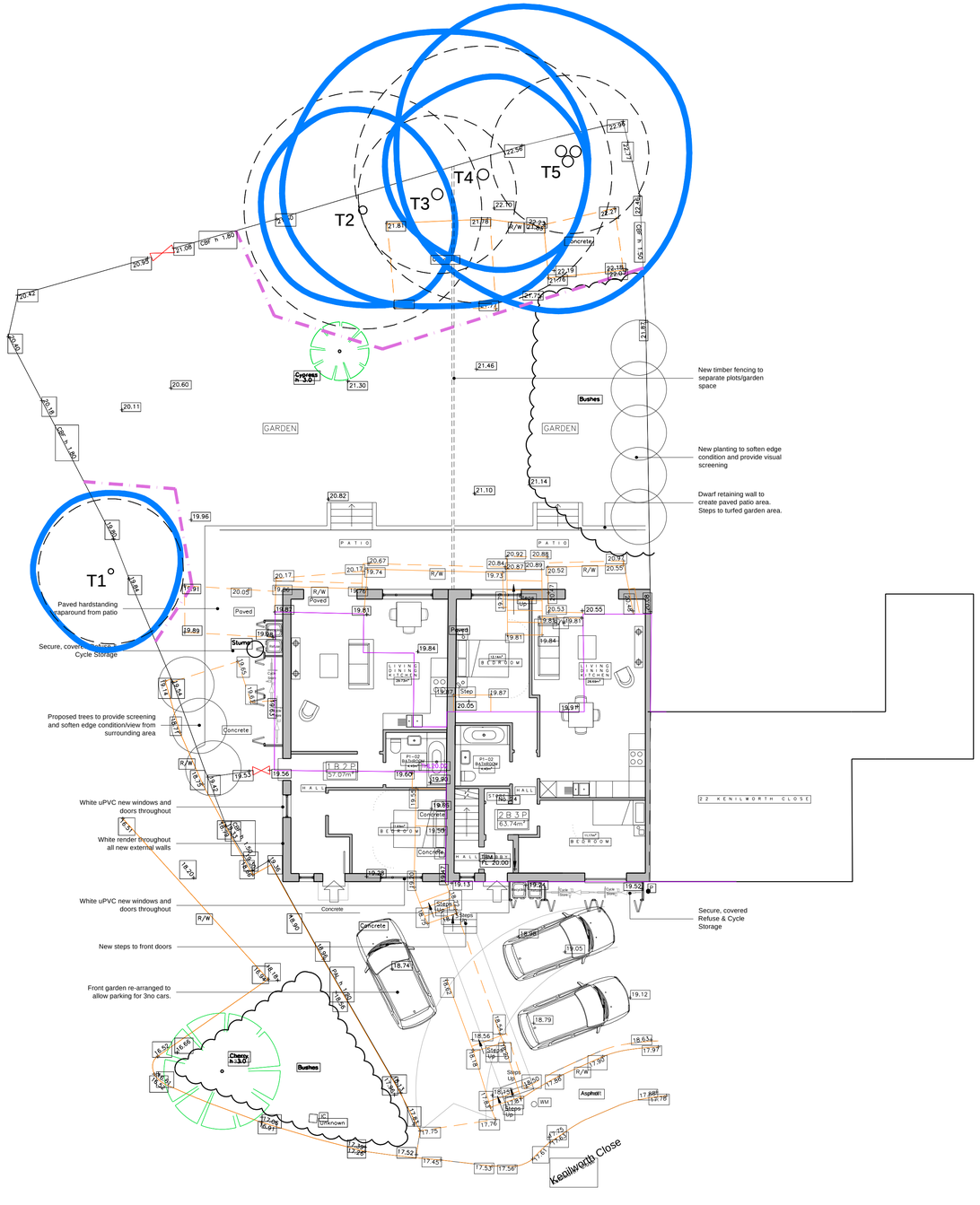
Job Number	Drawing Number	Rev
A4771	01	



1 GROUND FLOOR 1:100
PROPOSED

0 0.5 1.0 2.0 3.0 4.0 5.0 10.0
Scale in metres

Notes:

Key to Tree Survey Plan

The RPA (Root Protection Area) ie the zone in which the root system is believed to be concentrated, has been calculated for each tree within the site boundary. This drawing is based on:

- Topographical Survey drawing reference 2264 by Enka Surveys, dated November 2019
- Proposed Plans reference 2157(21)001 C by JDRM Architectural Design, dated 17.06.20

T1 **Class A**

T1 **Class B**

T1 **Class C**

T1 **Class U**

T1 RPA shown as a dashed circle around each tree with reference number given

Other trees on site beyond influence from the development not included in the Tree Survey

Location of Protective Fencing

Rev	Date	Description	Drawn	Checked

Client
Ms Lin Zhao

Project
24 Kenilworth Close
Brighton

Title
Tree Protection Plan

Drawing Status
FOR PLANNING APPROVAL

Drawn	MJB	Checked	GM
Date	20.07.20	Scale (A1)	1:100

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Job Number	Drawing Number	Rev
A4771	02	

Appendix C - Photographic Record

Photo 1 – View T1 located beyond the boundary fence within the neighbours' garden.

Photo 2 – View of T2 within the rear garden

Photo 3 – View of T3 within the rear garden

Photo 4 - View of T4 within the rear garden

Photo 5 - View of T5 multi-stem within the rear garden.

Appendix D - Arboricultural Method Statement & Tree Protection Details

Arboricultural Method Statement & Tree Protection Details

The following Arboricultural Method Statement to be read in conjunction with the Tree Survey Plan & Protection Plan

1.1 Root Protection Area (RPA)

The Root Protection Area (RPA) required by the current edition of BS 5837:2012 relates to the stem diameter of each tree when measured at a height of 1.5m from ground level, adjusted where necessary to account for actual rooting patterns on site. The RPAs are to be afforded protection at all times and will be protected by fencing barriers. No works will be undertaken within any RPA that causes compaction to the soil or severance of tree roots.

1.2 There is no planned construction of building foundations within any RPA around the existing trees to be retained.

2.0 Protective Fencing

A protective fence should be erected prior to the commencement of any site works e.g. before any materials or machinery are brought on site, any construction work starts or any stripping of soil commences. The barrier needs to have signs attached stating that this is a Tree Protection Area and that no works are permitted within the barrier. The barrier may only be removed following completion of all construction works.

2.1 The fence is required to be sited in accordance with the TPC. The fence must ideally be constructed as per figure 2 in BS 5837:2012 (see detail at the end of this section) and be fit for the purpose of excluding any construction activity. The construction on site should be excluded from the RPA with 'Heras' type Fencing construction, along with a formal briefing of any work person by the site manager with regards to the contents of this method statement.

3.0 Precautions in respect of Temporary Works

If temporary access is required to an RPA then access may only be gained following placement of materials such as concrete slabs or geo-textile fabrics that will spread the weight of any vehicular load and prevent compaction to the soil. For pedestrian movements within any RPA then a single thickness scaffold board on top of a compressible layer laid onto a geotextile fabric may be acceptable.

4.0 Access Details

There is no requirement for any special measures related to the retained trees if access for all construction vehicles is kept away from the trees to be retained and stay outside of the RPA.

5.0 Contractors Car Parking

This is likely to be within an existing hard standing area onsite. The area designated for parking needs to be away from the area around the trees to be retained.

6.0 Site Huts and Toilets

The area designated for site accommodation needs to be away from the area around the trees to be retained.

7.0 Storage Space

The storage of materials should ideally be on existing hard standing away from existing trees. The contractor should not store any materials on site within the RPA of an existing tree.

8.0 Additional Precautions

No storage of materials or lighting of fires should take place within the RPA. No mixing or storage of materials should take place up a slope where they may leak into a RPA.

8.1 No fires to be lit within 20 metres of any tree stem and the fire size and wind direction should be taken into account so that, no flames come within 5.0m of any foliage.

8.2 No high-sided vehicles or cranes should access the site close to any trees to be retained and should not come into contact with any branches or travel within the RPA

8.3 No notice boards, cables or other services to be attached to any tree.

8.4 Materials which may contaminate the soil should not be discharged within 10m of any tree stem. When undertaking the mixing of materials It Is essential that any slope of the ground does not allow contaminates to run towards a tree root area.

9.0 Site Gradients

No alterations of soil levels to take place within the RPA of the protected trees

10.0 Demolition Works

No demolition works to take place with the RPA of the protected trees

11.0 Hard Surfaces

Where new hard paved surfaces are required within the RPA, these should be done so with a 'no dig' specification and should utilise a cellular-confinement system such as Terram Geocell, supplied by Fiberweb Geosythetics Ltd, Blackwater Trading Estate, The Causeway, Maldon, Essex, CM9 4GG, telephone 01621 874200.

12.0 Soft landscaping

Any new planting scheduled to be carried out within any RPA needs to be done so with consideration of the existing trees roots. Planting pits need to be hand dug, and extreme caution exercised to ensure no roots are severed during digging.

12.1 The planting scheme should select suitable species to enhance the area and consider the available rooting space, soil type, hydrology and availability of sunlight.

13.0 Use of Herbicides

No herbicide use is predicted, however if used, it should be done so in strict accordance with the manufacturer's instructions and contact with any tree foliage should be avoided.

14.0 On Site Monitoring Regime

All operations to be monitored by the main contractor. The site manager shall contact the appointed specialist if there is a breach of the RPA and tree protection measures. The appointed specialist shall recommend an action plan to incorporate mitigation measures where necessary.

15.0 Use of Sub-Contractors

The main-contractor will be responsible for ensuring sub-contractors do not carry out any process or operation that is likely to adversely impact upon any tree on site.

16.0 Contingency Plan

Water should be readily available on site to be used to flush split materials through the soil and avoid contamination to tree roots. At the time of any spillage the main contractor needs to contact an appointed specialist for advice.

17.0 Responsibilities

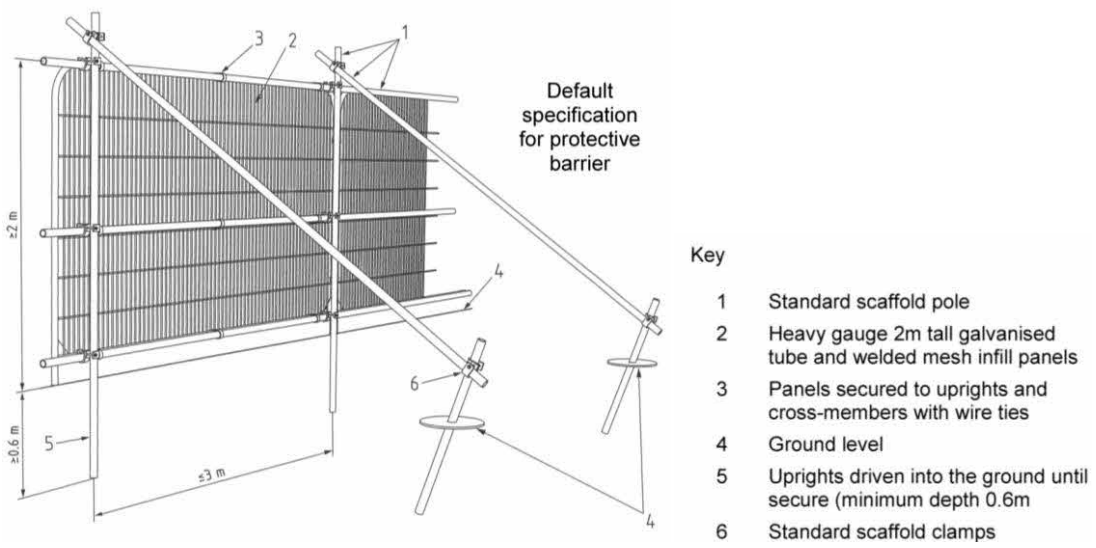
It will be the responsibility of the main contractor to ensure that the planning conditions are adhered to at all times and that a monitoring regime in regards to tree protection is adopted on site.

17.1 The main contractor will be responsible for contacting the Local Planning Authority at any time issues are raised related to the trees on site.

17.2 If at any time pruning works are required permission must be sought from the Local Planning Authority first and then carried out In accordance with BS 3998.

17.3 The main contractor will ensure the build sequence is appropriate to ensure that no damage occurs to the trees during the construction processes. Protective fences will remain in position until completion of ALL construction works on the site.

17.4 Protective fencing should be erected around all trees to be retained as per the following:



17.5 Signs, in accordance with the following example, should be displayed to inform all personnel where the tree protection zones are and to warn them not to enter, as per this example:

TREE PROTECTION ZONE

KEEP OUT!

No digging or trenching
No storage of plant or materials
No vehicular access
No fire lighting
No chemical handling
Avoid plant contact with tree canopy

Report any tree or fence damage to the Site Manager immediately

Appendix E - Tree Preservation Orders

[redacted]

From: [redacted]
Sent: 22 July 2020 15:02
To: [redacted]
Subject: RE: Tree Preservation Order - 24 Kenilworth Close, Brighton

[redacted]

There are no preservation covenants at 24 Kenilworth Close, nor is it located within a designated Conservation Area.

Kind regards

[redacted]

For more information about our policies and procedures:
www.brighton-hove.gov.uk/content/leisure-and-libraries/parks-and-green-spaces/arboricultural-information

For information and guidance relating to Tree Preservation Orders and Conservation Areas:
www.brighton-hove.gov.uk/content/leisure-and-libraries/parks-and-green-spaces/tree-preservation-orders

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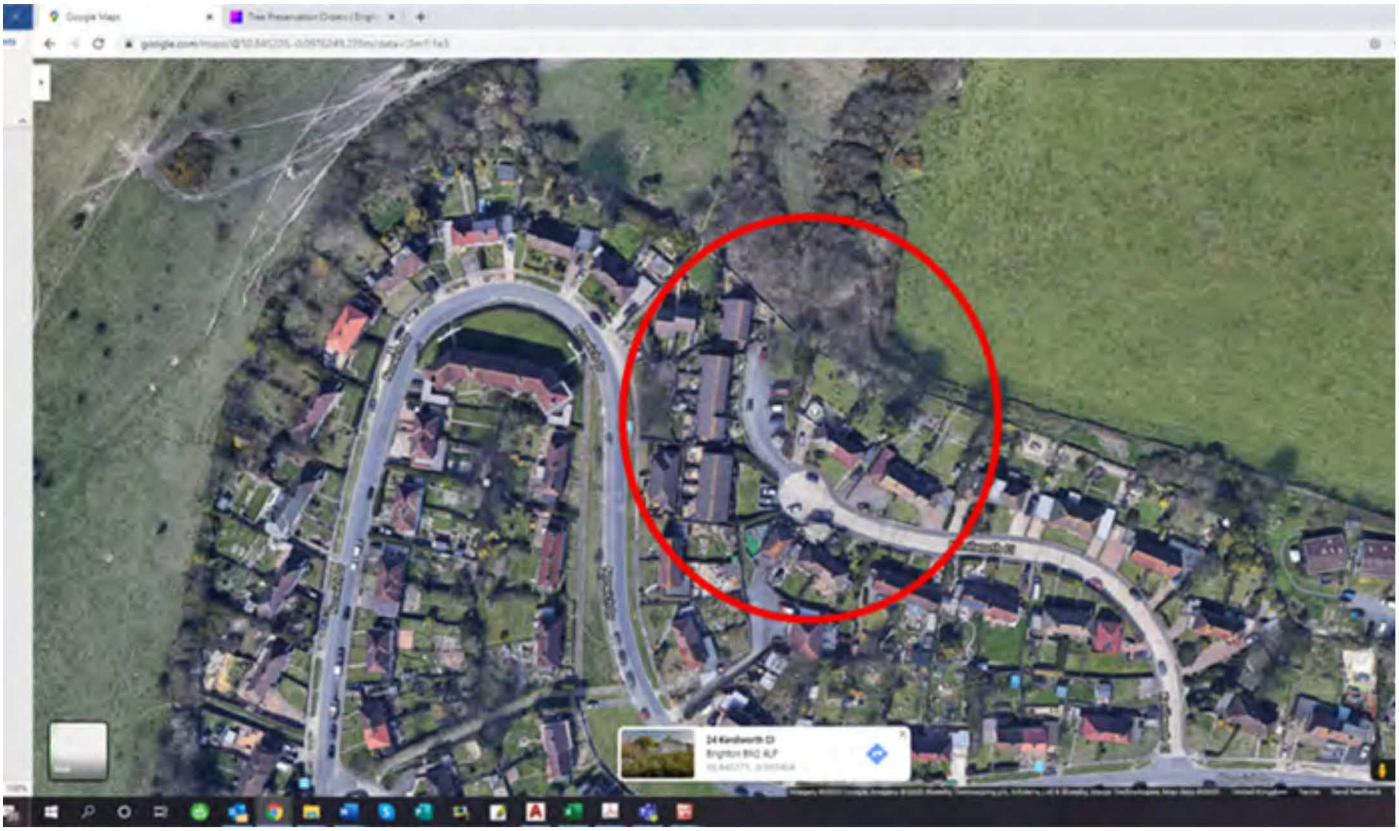
[redacted]
Sent: 22 July 2020 14:20
[redacted]
Subject: Tree Preservation Order - 24 Kenilworth Close, Brighton

Good afternoon

I wonder if you can help please?

We are preparing a tree report for a property at 24 Kenilworth Close and I wondered if you could confirm if there are any TPO's on or close to the property of whether the site is located within a Conservation Area?

The site is shown in the centre of the red circle below:



Your help would be very much appreciated.

Regards

[redacted]

encon associates

Sustainable Buildings Consultancy

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Click HERE for our offices

Click HERE for our company brochure

Please note under the current coronavirus situation, all members of staff at Encon Associates are now working from home.
Rest assured, we have the resources in place to continue to work as usual and to the outside world there will be no difference to our normal operation.
For more information please see our News page.