

Tree Survey Report (BS5837:2012)



Proposed Residential Development, Former Car Park off Woodlands Avenue, Hillingdon, London

June 2016

Revision A - February 2018

Prepared by



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Summary

The trees in this report have been assessed in accordance with BS 5837:2012 "Trees in relation to design, demolition and construction - Recommendations" in connection with an application for planning consent for a new residential development off Woodlands Avenue, Hillingdon. The proposal is for the construction of a new residential development consisting of 4 dwellings on land consisting of a former car park off Woodlands Avenue.

There are no existing trees within the site boundary, however there are a number of trees around the perimeter of the site which have been recorded in this survey, including 4 individual Ash and Oak trees (T1-T4) and a group of Leylandii (G1) along the northern boundary and a mature Poplar (T5) adjacent to the eastern boundary.

The trees are located within an area of Protected Trees, as indicated on Hillingdon Borough Council's interactive online "Protected Trees Map". The trees are legally protected and any impact from construction works which results in damage or threatens the survival of the trees may result in prosecution. No work can be carried out to the trees without prior consent from the local authority.

Construction of the development will not require the removal of any trees, however their location is such that the development could have an impact on them. All trees along the northern boundary have branches which overhang the site and would benefit from crown lifting and selective pruning to improve their shape and habit and also prevent future conflict with the dwellings.

The trees group of trees to the north (T1-T4 and G1) and the large Poplar (T5) to the east of the site are located beyond the boundary and whilst their RPA's extends within the application site, the footprint of the proposed dwellings is outside the Root Protection Areas and as such will have no detrimental impact on any tree roots.

There are no reasons in arboricultural terms, 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 residential development subject to compliance with the protection recommendations within this report.

1 Introduction

1.1 The advice contained within this tree survey report has been prepared for the applicant, Home Group in respect of existing trees on land off Woodlands Avenue, Hillingdon in proximity to the proposed residential development on an area currently consisting of a tarmac surfaced car park to the rear of the shops on Field End Road.

1.2 The report seeks to:

- Assess the quality of the trees in proximity to the proposed construction works and calculate the Root Protection Area (RPA)
- Determine if any trees are legally protected by Tree Preservation Order (TPO)
- Provide an *Arboricultural Impact Assessment* with regard to the proposals
- Recommend measures which will suitably protect any trees identified for retention during the construction process

1.3 Following the initial site visit, 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 drawings supplied by the client's designer:

- Topographical Survey reference 8200 dated 09.04.15 by Sumo Services Ltd
- Proposed Site Layout reference AA3143 2602 Rev- - Proposed Floor Plans

2 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 residential development have been surveyed and classified in accordance with BS 5837:2012 "Trees in relation to design, demolition and construction - Recommendations".

2.2 The survey was undertaken using the Visual Tree Assessment (VTA) methodology to conduct a preliminary assessment of the above ground portion of the tree.

2.3 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 site survey which was conducted on 2 June 2016. After a period of 5 years, the information in this survey should not be relied upon.

2.4 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

2.5 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

2.6 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

2.7 The survey was undertaken from ground level with the aid of binoculars where necessary.

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

2.9 The height of the tree was measured using digital Leica Disto surveying equipment.

2.10 The canopy spread of the trees were measured on four compass points using measuring tape.

2.11 The locations of the trees have been taken from the GPS positions as per the topographical survey and verified during the site visit.

2.12 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 A2902-01 and Tree Constraints Plan A2902-02A
- 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 m²

2.13 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

2.14 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 consists of an area of tarmac surfaced car park located to the rear of a row of shops on Field End Road with access from Woodlands Avenue.

Proposed Development

- 3.2 The proposed works entail the construction of a new residential development consisting of 4 units in a single block including a new access road, car parking areas and areas of soft landscaping.

Tree Removal

- 3.3 There are 5 individual trees and 1 group in proximity to the construction of the new residential development, the majority of which are located off site beyond the northern boundary with 1 other tree located just beyond the eastern boundary. No trees will require removal to facilitate the construction of the new development.

4 Baseline Factors

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

- 4.1 The site falls within the planning jurisdiction of the London Borough of Hillingdon and is located in the Eastcote area of London. The site is not located within a Conservation Area. An investigation into the existing trees has revealed that they are located within a Tree Protection Area as indicated on the interactive online Protected Trees Map on Hillingdon's website and as such are covered by a group Tree Preservation Order (a screen shot is appended to this report). The trees are therefore legally protected and any impact from construction works which results in damage or threatens the survival of the trees may result in prosecution. No work can be carried out to the trees without prior consent from the local authority.

Existing Trees

- 3.4 There are 5 individual trees and a group in proximity to the proposed residential development. The report includes a record of the trees close to the site boundary, including 2 mature ash, 2 mature oak and a mature poplar tree beyond the eastern boundary within the garden of the neighbouring residential units.
- 3.5 All trees have been classified as either grade B2, ie trees of moderate quality or C2, ie trees of low quality, present in groups, conferring on them greater collective landscape value rather than individual arboricultural merit. Details of the Root Protection Area (RPA) is provided on the Tree Survey Plan appended to this report.
- 4.2 A tree schedule containing full details of the survey is also attached in the appendix.

Root Protection Area (RPA)

- 4.3 The Root Protection Area (RPA) of a tree is defined in BS 5837 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.
- 4.4 Detailed analysis of the ground conditions have not been carried out, however a visual assessment concluded that the trees appear to be growing in decent soils and growing medium, albeit in restricted areas in proximity to raised kerbs and paved surfacing which is likely to have influenced the morphology and disposition of the root system.
- 4.5 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, particularly in more mature trees. The development of the roots are influenced by the availability of water, nutrients, oxygen and soil penetrability ie how compacted the ground is and therefore the root spread does not generally show the symmetry seen in the branch system. The trees in this survey are likely to have been influenced by proximity to surrounding structures and compacted ground conditions and proximity to the adjacent roads and car park. The trees have

established into reasonable specimens and whilst they are in good to fair condition with some defects, they do offer valuable visual amenity to the area.

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 tree is safeguarded from damage.
- 5.2 The proposed new residential development is located in an area of existing tarmac surfaced car park and construction works will be close to the RPA of the oak and ash trees located beyond the northern boundary (T1-T4) and within the RPA of the large poplar tree beyond the eastern boundary. The trees should therefore be protected during the construction works to ensure they remain part of the overall site once the construction has been completed.
- 5.3 New kerbs and paved areas are proposed within the RPA of T5 which has the potential to cause damage to the existing roots if present. It is therefore recommended that a “no dig” specification is applied to the surfacing within the RPA in these areas to ensure that no roots are damaged by ground excavations. A cellular confinement system such as Terram Geocell should be used to protect the ground from excavations and compaction when constructed the new surfacing within the root protection areas of the adjacent trees.
- 5.4 The mature poplar (T5), although located beyond the application boundary, has an RPA which extends within the site, however the footprint of the new housing block lies outside of the Root Protection Area and will therefore have no detrimental impact to the trees roots
- 5.5 The canopies of the existing ash and oak trees on the northern boundary extend within the site. Crown lifting and removal of poor limbs should be carried out on these trees to improve their shape and habit and prevent future conflict with the

dwelling from overhanging branches and ensure their long term retention. Ownership must be established before any work takes place to the tree and an “application to carry out works to protected trees” must be submitted to and approved by the local authority before carrying out any tree works.

- 5.6 Any fencing to be erected close to the trees within the RPA has the potential to cause damage to the roots and should therefore be installed in accordance with the Arboricultural Method Statement appended to this report.

6 Tree Protection Measures

- 6.1 The distance from construction activity to the trees is such that the trees should be separated from the work by protective fencing. Heras fencing should be erected along the site boundary to prevent damage to the trees from the construction work on site. See Appendix D for details.

7 Mitigating Tree Loss

- 7.1 No trees require removal to facilitate the construction of this development, therefore no replacement tree planting is required mitigate any tree loss.

8 Post Development Pressure

- 8.1 The trees along the northern boundary have branches which overhang the boundary extending into the area to the side of the residential block. In order to prevent a nuisance from the branches drooping into this external space, the lower limbs of the trees should be pruned by a competent tree surgeon in order to lift the crowns to a minimum of 6m above ground. This will enable light to enter the external space and reduce the shading impact from these trees on the dwellings.

9 Conclusions

- 9.1 There are 5 individual trees and 1 group of trees in the form of an evergreen hedge in proximity to the proposed residential development which have been included in this report.
- 9.2 None of the trees require removal to enable the development to proceed, however new fencing is proposed within the RPA of the 4 existing trees (T1-T4) located beyond the northern boundary and new kerbs and hard surfacing is proposed within the RPA of the existing poplar tree on the eastern boundary and as such could be damaged by excavations to construct the development. A no dig specification should be used for any new surfacing and careful, hand digging should be used to install the new fencing to ensure the existing roots are not damaged to the detriment of the health of the existing trees.
- 9.3 The RPA of the poplar T5 extends within the site, however the footprint of the proposed residential block lies outside the Root Protection Area and therefore will have no detrimental impact to the trees roots.
- 9.4 There are no reasons in arboricultural terms, why the development should not proceed and the Local Authority should rest assured that there will be no detrimental impact to the vast majority of existing trees from the construction of the new residential development, as long as the protection measure presented in this report are adhered to.

Appendix A - Schedule of Trees

Site: Woodlands Avenue Hillingdon

Date: 2nd June 2016

Weather: Dry, overcast

Ref	Species	Height (m)	Stem Diameter (mm)	Branch spread (m)				Height crown clearance (m)	Age class	Condition & Comments	Years left	Category grading	RPA (m ²)	RPA radius
				N	E	S	W							
1	Fraxinus excelsior (Ash)	12	260	5	3	6	4	2	EM	Fair. Leaning to the south over the boundary fence	20+	C2	31	3.12
2	Quercus robur (English Oak)	12	340	7	4	6	5	2	M	Good	20+	B2	52	4.08
3	Quercus robur (English Oak)	12	700	7	5	7	5	2	M	Good. Old specimen approximately 100 years old	20+	B2	222	8.40
4	Fraxinus excelsior (Ash)	14	500	5	3	4	1	5	M	Fair. Some deadwood in upper crown	20+	C2	113	6.00
G1	Leylandii x Cupressocyparis (Leyland Cypress)	12	300	2	2	2	2	1	M	Fair. Planted as a hedge at 1.0m centres. Little or no maintenance, allowed to grow as individual trees not a hedge	20+	C2	41	3.60
5	Populus nigra 'Italica' (Lombardy-poplar)	8	900	3	3	3	3	1	OM	Fair. Old, large, narrow specimen approximately 100 years old	20+	C2	366	10.80

Appendix B - Tree Survey Plan & Tree Constraints Plan

187580N

187560N

187540N

187520N

187500N

300211.5

300211.5

300211.5

300211.5

300211.5

300211.5



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Notes:

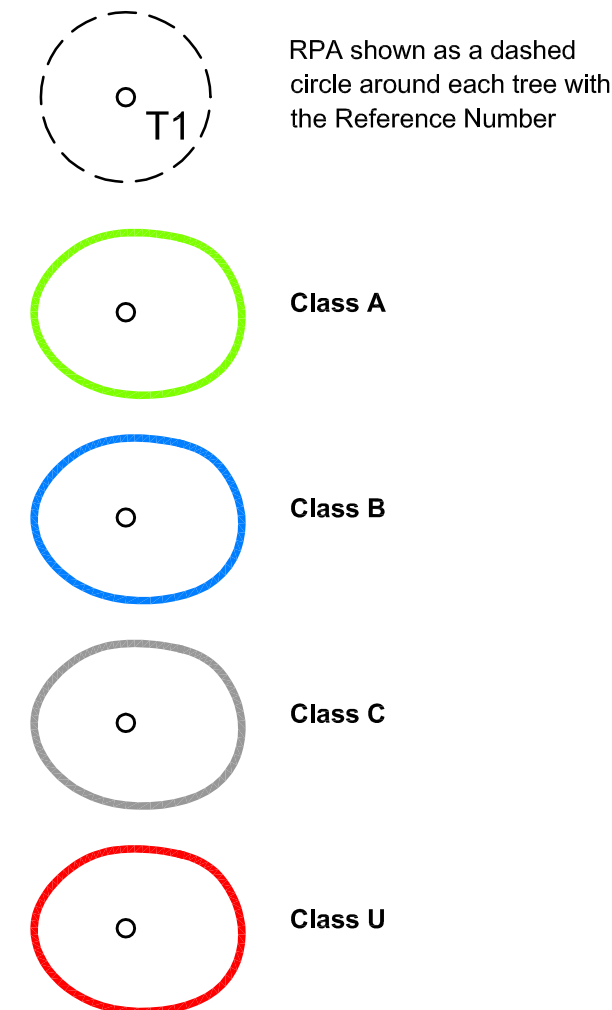
Key to Tree Survey Plan

The RPA (Root Protection Area) is the zone in which the root system is believed to be concentrated, has been calculated for each tree within the site boundary. The results can be found with the Tree Report.

The branch spread of each tree is indicated by the size of the circle representing the tree.

This drawing is based on:

- Topographical Survey reference 8200 dated 09.04.15 by Sumo Services Ltd



For full details of the tree classifications, refer to the Tree Report.

Rev	Date	Description	Drawn	Checked
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Client
Home Group

Project
Residential Development
Woodlands Avenue
Hillingdon

Title
Tree Location Plan

Drawing Status
FOR PLANNING APPROVAL

Drawn	MJB	Checked	GM
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Date	08.06.16	Scale (A1)	1:200
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Job Number	Drawing Number	Rev
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A2902

01

Rev

187580N

187560N

187540N

187520N

187500N

300211.5

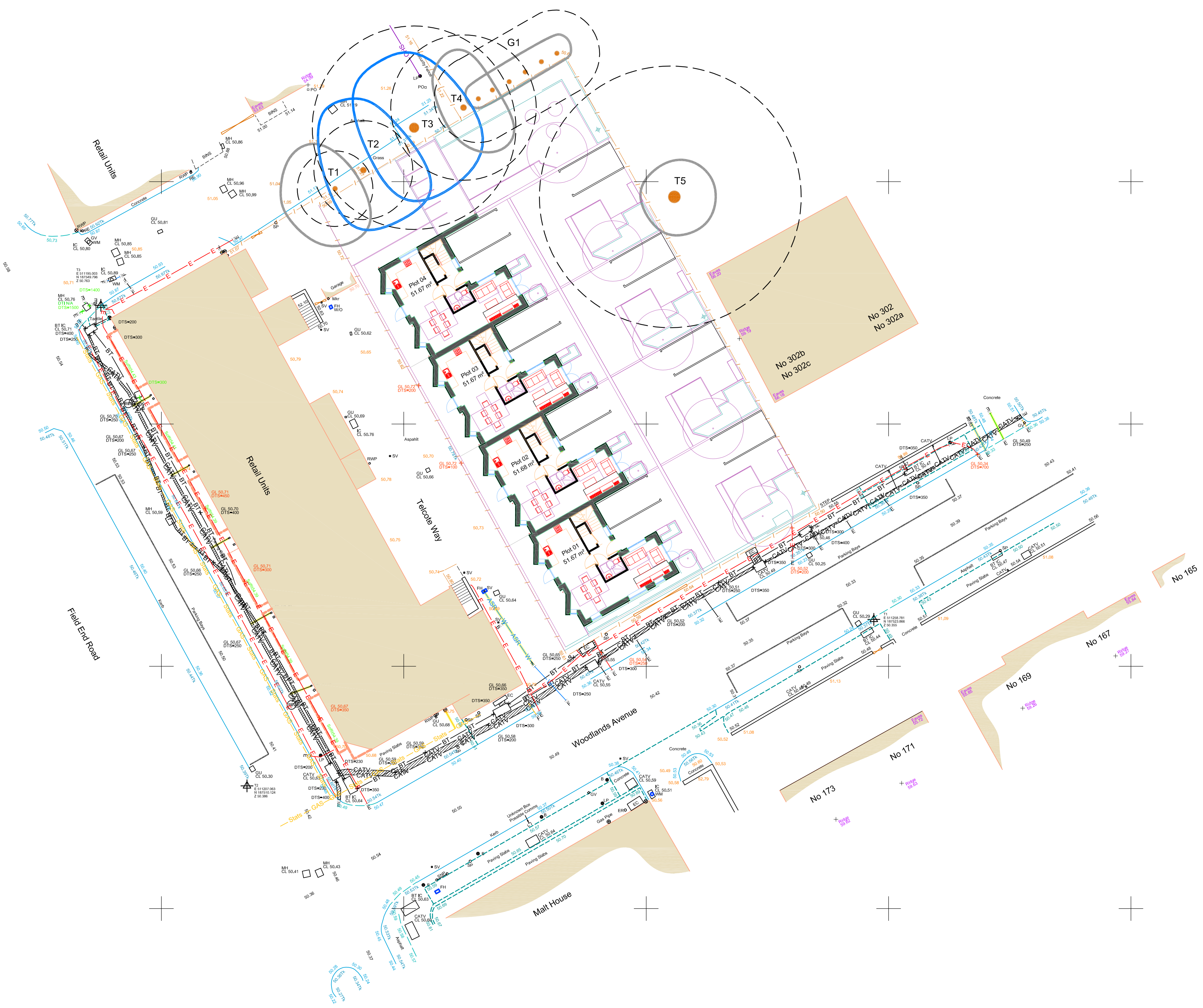
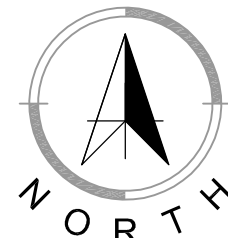
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Notes:

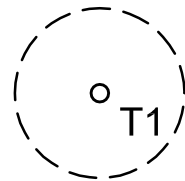
Key to Tree Survey Plan

The RPA (Root Protection Area) is the zone in which the root system is believed to be concentrated, has been calculated for each tree within the site boundary. The results can be found with the Tree Report.

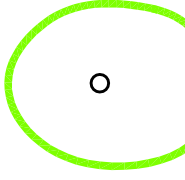
The branch spread of each tree is indicated by the size of the circle representing the tree.

This drawing is based on:

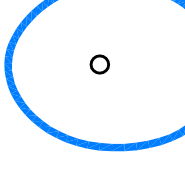
- Topographical Survey reference 8200 dated 09.04.15 by Sumo Services Ltd
- Proposed Site Layout reference AA3143-1100 dated 02.03.16 by PRP



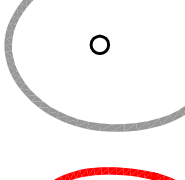
RPA shown as a dashed circle around each tree with the Reference Number



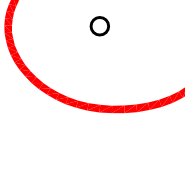
Class A



Class B



Class C



Class U

For full details of the tree classifications, refer to the Tree Report.

A 08.02.18 Revised in line with new layout MJB GLM

Rev	Date	Description	Drawn	Checked
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Client

Home Group

Project
Residential Development
Woodlands Avenue
Hillingdon

Title
Tree Constraints Plan

Drawing Status
FOR PLANNING APPROVAL

Drawn	MJB	Checked	GM
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Date	08.06.16	Scale (A1)	1:200
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Job Number	Drawing Number	Rev
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A2902

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A

Appendix C - Photographic Record



Photo 1 - View of the trees on the northern boundary of the site (T1-T4)



Photo 2 - View of the Ash tree trunk (T1) close to the boundary fence and kerbing



Photo 3 – View of the Oak tree trunk (T2) close to the boundary fencing and kerbing



Photo 4 - View of the Oak tree trunk (T3) close to the boundary fencing and kerbing



Photo 5 - View of the Ash tree (T4) close to the Jewson's site



Photo 6 - View of the 6 Leylandii "hedge" (G1) on the boundary of the Jewson's site



Photo 7 – View of the tall Poplar (T5) close to the eastern boundary

Appendix D - Arboricultural Method Statement & Tree Protection Details

The following Arboricultural Method Statement to be read in conjunction with the Tree Constraints Plan (TCP) which identifies:

- Trees to be retained
- Trees to be removed
- Trees to be protected

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 any building foundations within any RPA around the existing trees to be retained.

1.3 The construction proposals include construction of new kerbs, surfacing and fencing within the RPA of 1 existing tree on site (T5). A “no-dig” specification should be used to install the new surfacing and careful hand digging should be carried out to install the new fencing. See

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 contaminants 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

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 Remedial Tree Works

All recommended tree works should be undertaken prior to the commencement of construction activities. Trees on site which have been identified to have their crowns lifted and/or formative pruning, must be carried in accordance with BS 3998 British Standard Tree Work - Recommendations 2010 by a competent tree surgeon to the following specification:

Crown Lifting & Formative Pruning:

- Where practicable, pruning should be restricted to healthy, small diameter parts of the tree to minimise the size of resultant wounds and enable these to be occluded.
- Crownlift to achieve a clearance of 6m above ground level to include complete removal of the lowest primary branches and thereafter secondary and tertiary branches, not exceeding 100mm diameter cuts. When pruning branches back to the main stem or fork, the branch will be removed in small sections using the step cut method leaving a small stub before carrying out the final cut.
- Formative pruning to epicormic growth less than 20mm in diameter to be pruned cleanly back to its point of origin, avoiding damaging the bark of the tree. Growth greater than 20mm is to be cut back to avoid damage to the branch bark ridge and collar if applicable. All pruning carried out using a sharp handsaw or secateurs. On no account will a chainsaw be used in this operation. All shoots will be removed back to, but not into the branch collar leaving no projections or exaggerating the size of the wound.
- Selective pruning to be carried out to remove any inner crown deadwood or to preserve the shape and habit of the tree.

18.0 Installation of Fencing within Root Protection Area

The following Arboricultural Method Statement is to be followed when installing any fencing, including any proposed boundary fencing, close to existing trees to prevent damage to roots, trunk and branches:

- Heras type protective fencing to be installed to fence off the trees from the construction activities. All fencing to be pegged and braced to resist impact and/or reinforced using horizontal rails - to resist accidental impact and make the whole fencing more inconvenient to be moved and therefore more likely to be respected by contractors during works.
- No excavations using machinery is to take place within the RPA exclusion zones. All works to be carried out in accordance with the NJUG Chapter 4 - Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees.

- Holes for fence posts to be carefully dug by hand avoiding damage to roots, particularly those of 10mm diameter and above or significant clumps of smaller roots, which may be encountered. Post hole positions must be adjusted where significant roots are encountered and/or to minimise harm to adjacent trees.
- No storage of materials or mixing of cement to take place within the RPA or at a separation of less than 10m and/or locating downhill or use of bunding so that run off cannot encroach the RPA.
- No machinery or vehicles to travel within the RPA of any tree by ensuring the protective fencing remains in place at all times during the construction works. Any plant must only operate from the site side of the pits.
- Holes dug for fence posts to be lined with polythene prior to pouring concrete to prevent cement coming into contact with tree roots to avoid contamination.
- Extreme care to be taken when installing fencing posts and panels to prevent damage to trunk or branches of the trees. The works are to be appropriately supervised at all times. The work supervisor/contracts manager is to relay the information in this report in “tool box talks” including a pre start briefing.
- No fence posts to be located within 1m of the tree trunks.
- No fence panel should be closer than 1m from the trunk to allow for future expansion of the trunks girth.
- Burying of the gravel board may cause root severance, therefore soil levels to be artificially raised to give the necessary seal between the board and the ground without excavations to prevent damage to tree roots

19.0 Responsibilities

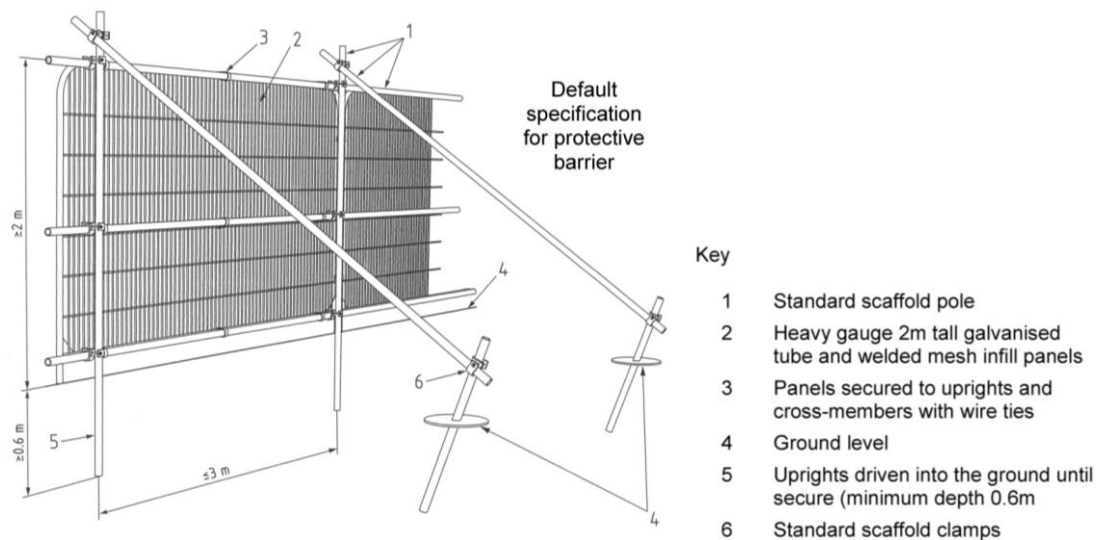
It will be the responsibility of the main contractor to ensure that the planning conditions are adhered to at all times and that a monitoring regime in regards to tree protection is adopted on site.

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

19.2 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.

19.3 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.

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



19.5 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:



20.0 Cellular Confinement System for Tree Root Protection

A “no dig” specification to be used to form areas of new hard surfacing to ensure the root systems of the retained trees are not damaged as a result.

20.1 The following Terram Geocell (or similar approved) to be used:

Appendix E - Tree Preservation Orders

Extract form Hillingdon Protected Trees Map



<https://www.hillingdon.gov.uk/article/28757/Protected-trees-map>