

LIDL, STONEHAM, EASTLEIGH

Tree Survey Report and Arboricultural Impact Assessment



JSL4422_770
Tree Survey and
Arboricultural Impact
Assessment
A
19 August 2022

TREE SURVEY AND ARBORICULTURAL IMPACT ASSESSMENT

Quality Management

Version	Status	Authored by	Reviewed by	Approved by	Review date
-	For Planning	NJ	DC	DC	June 2022
A	For Planning	RC	DC	DC	Aug 2022

Approval for issue

David Cox

19 August 2022

File/Model Location

Document location: P:\4400 Series\JSL4422 - Lidl Stoneham\Report

Model / Appendices location: P:\4400 Series\JSL4422 - Lidl Stoneham\Report

© Copyright RPS Group Plc. All rights reserved.

The report has been prepared for the exclusive use of our client and unless otherwise agreed in writing by RPS Group Plc, any of its subsidiaries, or a related entity (collectively 'RPS'), no other party may use, make use of, or rely on the contents of this report. The report has been compiled using the resources agreed with the client and in accordance with the scope of work agreed with the client. No liability is accepted by RPS for any use of this report, other than the purpose for which it was prepared. The report does not account for any changes relating to the subject matter of the report, or any legislative or regulatory changes that have occurred since the report was produced and that may affect the report. RPS does not accept any responsibility or liability for loss whatsoever to any third party caused by, related to or arising out of any use or reliance on the report.

RPS accepts no responsibility for any documents or information supplied to RPS by others and no legal liability arising from the use by others of opinions or data contained in this report. It is expressly stated that no independent verification of any documents or information supplied by others has been made. RPS has used reasonable skill, care and diligence in compiling this report and no warranty is provided as to the report's accuracy. No part of this report may be copied or reproduced, by any means, without the prior written consent of RPS.

Prepared by:

RPS

Neil Jones CMLI
Landscape Architect

Lakesbury House, Hiltingbury Road
Hampshire SO53 5SS

T +44 2380 810 440
E rpsso@rpsgroup.com

Prepared for:

Lidl GB Ltd

Mr Douglas Symington
Senior Consultant- Acquisitions

Foxes Park, Brownhill Way, Nursling,
Southampton, SO16 0AW

T 02380 742584
E Douglas.Symington@lidl.co.uk

Contents

1	INTRODUCTION.....	1
2	SITE LOCATION	2
3	SURVEY METHOLDODOGY.....	3
4	APPRAISAL AND RECOMMENDATIONS.....	6
5	ARBORICULTURAL IMPACT ASSESSMENT.....	9
8	CONCLUSION	10

Appendices

Appendix A	Tree Constraints Plan JSL4422_700
Appendix B	Tree Survey Schedule JSL4422_750
Appendix C	Tree Protection and Removal Plan JSL4422_701A
Appendix D	TPO no. 55-H extract
Appendix E	Arboricultural site register
Appendix F	Site Photographs
Appendix G	Landscape Statement
Appendix H	Arboricultural Glossary

1 INTRODUCTION

- 1.1 This Tree Survey and Arboricultural Impact Assessment (AIA) has been prepared by RPS on behalf of Lidl Great Britain to support the application for proposed development on a parcel of land off Stoneham Lane, Eastleigh Southampton.
- 1.2 A tree survey of the application area was carried out by RPS on the 7th April 2022 in accordance with the requirements of BS5837:2012. Refer to Tree Constraints Plan JSL4422_700 (Appendix C). The weather was dry with some cloud.
- 1.3 This report has been prepared in broad accordance with the requirements set out in BS5837:2010 'Trees in relation to design, demolition and construction – Recommendations.'¹
- 1.4 The purpose of this report is to:
- Provide an assessment of the quality of the surveyed trees with reference to the categories and sub-categories listed within Table 1 - BS5837:2012.
 - Assess and quantify the arboricultural impact of the proposed development within the survey area, based on the proposed development layout.
 - Provide additional arboricultural information and advice in relation to the protection of trees throughout the development of the site.
 - Provide a Tree Protection and Removal Plan to detail the proposed protective measures to be taken in respect of the trees during development of the site.
- 1.5 The Tree Protection and Removal Plan JSL4422-701 included at Appendix B identifies the following:
- Trees to be retained;
 - Alignment and design of protective fence;
 - Root Protection Area (RPA) of trees;
- 1.6 The Tree Protection Plan shall be made available to all relevant site operatives prior to and throughout the construction process, so they understand the scope and importance of the tree protection measures.
- 1.7 To minimise the potential for harm to occur to retained trees all works shall be carried out with regard to the Tree Protection Measures and construction techniques detailed within this report.
- 1.8 In particular the establishment of a Construction Exclusion Zone (CEZ) by erection of Tree Protection Fencing will minimise the potential for harm to occur to retained trees.

¹ British Standards Institute. British Standard (BS5837) Trees in Relation to Design, Demolition and Construction - Recommendations. 2012.

2 SITE LOCATION

- 2.1 The survey covered an area of land located off Stoneham Lane, Eastleigh, Southampton. Eastleigh is a railway town just north of Southampton which has experienced significant growth in recent years.
- 2.2 The applicable area currently comprises a development site which is surrounded by hoarding to prevent access. It is surrounded by new, predominantly residential development and occupies a prominent corner adjoining Stoneham Lane.
- 2.3 The soilscape of the area typically consists of 'Naturally wet, very acid, sandy and loamy soils.'²

² *Magic.gov.uk* – 15.06.2022

3 SURVEY METHODOLOGY

- 3.1 This report was authored by Neil Jones of RPS and authorised by David Cox, a professional member of the Arboricultural Association and Chartered Landscape Architect of RPS Group.
- 3.2 The report and survey were carried out in general accordance with the requirements set out in BS 5837:2012 "Trees in Relation to Design, Demolition and Construction – Recommendations".
- 3.3 The tree survey involved a visual inspection from the ground of individual specimens and groups of trees in order to record their amenity value, management recommendations and dimensions. Where observed, the general condition of all the trees has been noted. The survey does not constitute a full arboricultural condition assessment involving the detailed inspection of trees in relation to their structural condition, decay, and any other physical and pathogenic defects.
- 3.4 The locations of the trees were based upon topographic survey (20152/T/01-01) produced by EDI Surveys Ltd in December 2021.
- 3.5 The survey assesses individual trees and groups of trees for quality and benefits within the context of proposed development. The quality of each tree or group of trees has been recorded by allocating it to one of four categories as described in table 3.1. These categories have been differentiated on the Tree Constraints plan JSL4341_700 (Appendix A) by colours.
- 3.6 The survey information was recorded on the Tree Survey Schedule (Appendix B) in general accordance with the guidance contained within Section 4 of BS 5837:2012 "Trees in relation to design, demolition and construction - Recommendations".
- 3.7 The information recorded includes the following-

TREE SURVEY AND ARBORICULTURAL IMPACT ASSESSMENT

Table 3.1 Tree characteristics recorded during survey

Tree Ref No:	Sequential reference number of trees or groups of trees. Avenues, woodlands and hedgerows were also recorded on the tree constraints plan. # - denotes inaccessible trees (best estimates are made about the location, physical dimensions and characteristics.)			
Species	Species listed by common name, with scientific names (italic lettering).			
Height (m)	Estimated height of canopy to nearest metre.			
Branch Spread	branch spread, taken as a minimum at the four cardinal points, to derive an accurate representation of the crown			
Stem diameter @ 1.5 m (m)	Estimated diameter of trunk at 1.5 m above ground level in metres unless otherwise indicated, multi-stemmed trees being measured in accordance with Annex C: BS5837			
Existing height above ground level	To inform on ground clearance, crown/stem ratio and shading the estimated height of the first significant branch and direction of growth and canopy above ground level.			
Stem No.	Number of stems (if necessary) of individual tree.			
Life Stage	Expressed as:-	Y	(Young)	OM (Over-mature)
		SM	(Semi-mature)	V (Veteran)
		EM	(Early-mature)	D (Dead)
		M	(Mature)	
Physical Condition	Apparent condition expressed as the following categories, based upon a brief visual inspection from the ground only:-		Good Fair Poor Dead	
Comments / Management Recommendations	General observations, particularly of structural and/or physiological condition (e.g. the presence of any decay and physical defect), and/or preliminary management recommendations and potential for wildlife habitats (not exhaustive).			
Estimated remaining contribution (years)	Estimated remaining contribution, in years (<10, 10+,20+,40+)			
Tree Quality Assessment Value: <u>Category</u>	Criteria grading with regards to Table 1: BS 5837:2012, expressed as:-	A (Trees/Vegetation of high quality and value) B (Vegetation of moderate quality and value) C (Trees/Vegetation of low quality and value) 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)		
	* Category U trees can have existing or potential conservation value which might be desirable to preserve.			
Tree Quality Assessment Value: <u>Sub - Category</u>	Criteria grading with regards to Table 1: BS 5837:2012, expressed as:-	1 (Trees with mainly <i>arboricultural</i> value) 2 (Trees with mainly <i>landscape</i> value) 3 (Trees with mainly <i>cultural / conservation</i> value)		

3.8 It is recommended that further arboricultural assessments be undertaken in order to assess the full health and safety of all trees which may possess structural or pathogenic conditions.

Limitations

- 3.9 The findings of this survey are not valid following adverse or unpredictable weather conditions or for any failure due to 'force majeure' or unpredictable events.
- 3.10 Trees were not climbed or inspected below ground level and inaccessible trees will have best estimates made about the location, physical dimensions and characteristics.
- 3.11 Where the locations of trees were not highlighted in the provided topographical survey, they were estimated on site and highlighted within the supporting plan/s with a - #.
- 3.12 Trees and woody vegetation were not assessed for their potential impact upon future construction issues such as foundation designs (re: NHBC chapter 4.2)³. Whilst this report may assist in assessing likely future impacts, it should not be classed as a comprehensive vegetation survey in relation to impact upon future designs.

³ NHBC. 'Chapter 4.2- Building Near Trees'. NHBC Standards 2016. 2016.

4 APPRAISAL AND RECOMMENDATIONS

Generally

- 4.1 In general, trees onsite appear to be good to fair health, being largely consistent with expectation for the age, management and species.
- 4.2 One individual mature Oak tree was recorded on site only in the north-west corner of the site.

Planning considerations

- 4.3 Trees can offer many benefits, including the provision of visual amenity, softening or complementing the effect of the built environment, and adding maturity to new developments by making places more comfortable in tangible ways e.g. contributing screening and shade, reducing wind speed and turbulence, intercepting snow and rainfall, and reducing glare.
- 4.4 New tree planting opportunities should be considered as part of any potential redevelopment; this will help to broaden the age diversity of the tree cover within the area. Sufficient space should be provided for species with significant stature to grow out into maturity.
- 4.5 Under the UK planning system, local authorities have a statutory duty to consider the protection and planting of trees when granting planning permission for proposed development. The potential effect of development on trees, whether statutorily protected (e.g. by a tree preservation order or by their inclusion within a conservation area) or not, is a material consideration that is taken into account in dealing with planning applications.
- 4.6 Where tree felling is unavoidable, new trees will be planted to mitigate the arboricultural impact, in line with Eastleigh Borough Councils 'Tree and Development Supplementary Planning Document' (adopted April 2022).
- 4.7 In accordance with this SPD, a Landscaping Statement has been produced and is included in Appendix G.
- 4.8 Trees covered by a Tree Preservation Order are protected under the Town and Country Planning Act 1990 (Trees Regulation 2012) and the local authority must be consulted and permission sought for any works that may affect them.
- 4.9 TPOs: An existing blanket TPO has been confirmed by the local planning authority Eastleigh Borough Council which covers the site: TPO no. 55-H - Refer to Appendix D.
- 4.10 Conservation Areas: A desktop investigation using the Magic Maps application² confirmed that the survey area does not form part of a conservation area.
- 4.11 Ancient woodlands: A desktop investigation using the Magic Maps application² confirmed that the site does not form part of an ancient woodland.

Design and Site Layout Considerations

- 4.12 A tree constraints plan defines the Root Protection Area (RPA) for each tree shown as a circle. This area may be adjusted should physical constraints or topographical features limit root activity in a particular area, however the total area should remain the same. Prior to any adjustment of the trees RPA zones the changes should be assessed by an arboriculturalist. During any site planning exercises the current and future growth potential of the trees should be considered.
- 4.13 The RPA for single stem trees broadly equates to a radius 12 times the stem diameter of the tree at 1.5m above ground level or the extent of canopy spread, whichever is the greater. For multi-stemmed, low branching trees or those with trunks with an irregular girth the point of stem diameter measurement is adjusted in consideration of these factors and in accordance with the illustrations in BS5837:2012 (Appendix C).
- 4.14 The RPA should become an exclusion zone during construction works and for any development. It should be fenced-off and protected in accordance with BS5837:2012. The canopy is likewise susceptible to damage during construction work and requires similar protection.
- 4.15 No activities that result in excavations, changes in level or soil compaction should take place within the RPA of any retained trees, especially older mature trees. This would include the storage of materials, any construction work, trafficking by vehicles or even excessive trafficking by pedestrians.
- 4.16 If some form of construction has to take place within the RPA then certain measures need to be adopted to avoid disturbance or damage to the roots and to maintain moisture infiltration and gaseous diffusion into the soil.
- 4.17 Services likewise should be routed outside the existing or potential root zone of trees. Where it is unavoidable, then certain measures should be employed to avoid damage to the trees larger roots.
- 4.18 The location and siting of new services near trees should consider the potential impact on and conflict with both tree roots and canopy. This should take into account the ultimate size of existing young and middle-aged trees at maturity. Conversely the impact of the tree on the activities should also be considered with regard to obstruction, shading, leaf fall and root action. These are problems that can be managed provided sufficient space is allowed for.

Services

- 4.19 Any new services should avoid the RPAs of any retained tree. Where it is unavoidable, then the route of the services must be designed by an Engineer in consultation with an Arboriculturalist.
- 4.20 For further advice, read in full - NJUG Volume 4- "Guidance for the planning, installation and maintenance of utility services in proximity of trees". (The National Joint Utilities Group. *NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees*. 2007).⁴

⁴ N.J.U.G. 4: Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees. 2007

Trees and Management of Health and Safety

- 4.21 It is recommended that a programme of periodic arboricultural assessments be undertaken in order to regularly assess the full health and safety of all trees both in full leaf and bare stemmed. The assessments should prioritize areas based on levels of access and presence of target (i.e. exposure of people to hazard) and accord with arboricultural advice, taking account of relevant factors (where known) that affect safety such as the age class, condition, size and species of the trees.

5 ARBORICULTURAL IMPACT ASSESSMENT

Introduction

- 5.1 Trees have finite energy reserves, developed each year throughout the growing season, which are utilised for biological processes such as growth and defence against pests or diseases throughout the following year.
- 5.2 Any development in proximity to trees has the potential to cause harm to those trees unless control measures are identified and acted upon; as such it is essential to consider the relationship between the proposed development and the retained trees to identify what precautions are necessary, proportionate and appropriate.
- 5.3 Development has the potential to impact upon the above ground and below ground parts of trees. Whilst some damage that can occur, such as physical damage to the trees stems and branches from machinery movements, is clearly visible the impact from other aspects of work common on development sites which can have a significant effect upon the continued health of trees are not always immediately evident.
- 5.4 Damage that is not immediately evident, but which can cause long term harm to retained trees includes things such as damage to the soil structure by compaction causing root damage and levels changes altering the water table and affecting moisture availability.
- 5.5 To minimise the potential for harm to occur to retained trees all works must be carried out with regard to the Tree Protection measures detailed within this report.
- 5.6 In general, it can be seen that, by adopting appropriate methods of working, precautionary and protective measures, significant harm to retained trees can be avoided.
- 5.7 In particular the establishment of a Construction Exclusion Zone (CEZ) by erection of Tree Protection Fencing will minimise the potential for harm to occur to retained trees.
- 5.8 The retention and protection of significant trees and vegetation will assist in assimilating the proposed development into the wider landscape and offer long term tree cover.
- 5.9 Furthermore, redevelopment of the site may offer an excellent opportunity to actively manage any retained vegetation and accordingly we recommend restorative tree works be undertaken as appropriate. This will further improve the amenity value and landscape setting of the site and increase the useful life of any retained trees.

Brief Description of Proposed Development

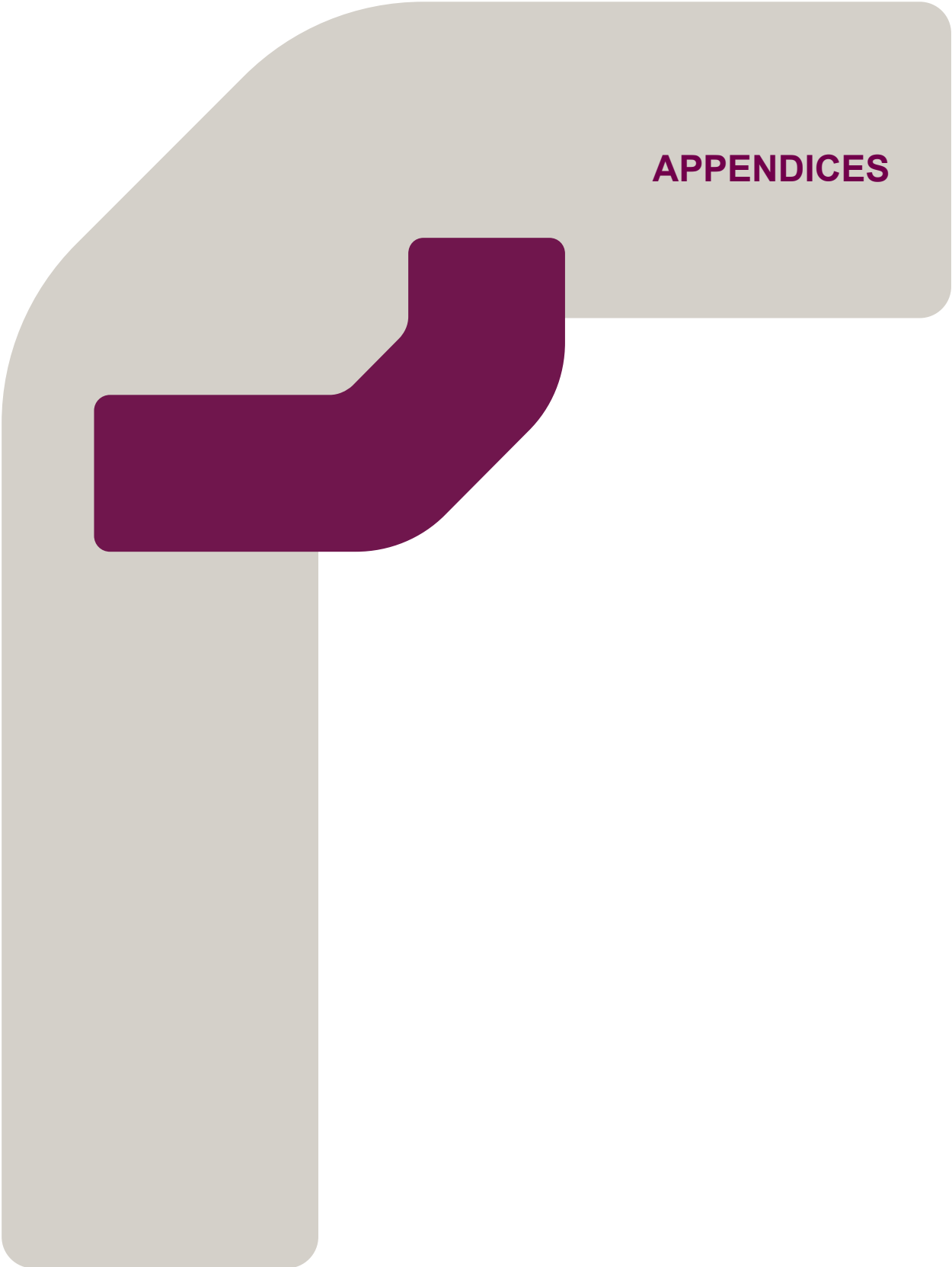
- 5.10 This report relates to the following:
- Construction of a new 'Lidl food store'
 - Associated works.

Identified Tree Removal and Specific Works

- 5.11 In order for this development to be realised, the following will require removal:
- 1 Category A tree (T1)

8 CONCLUSION

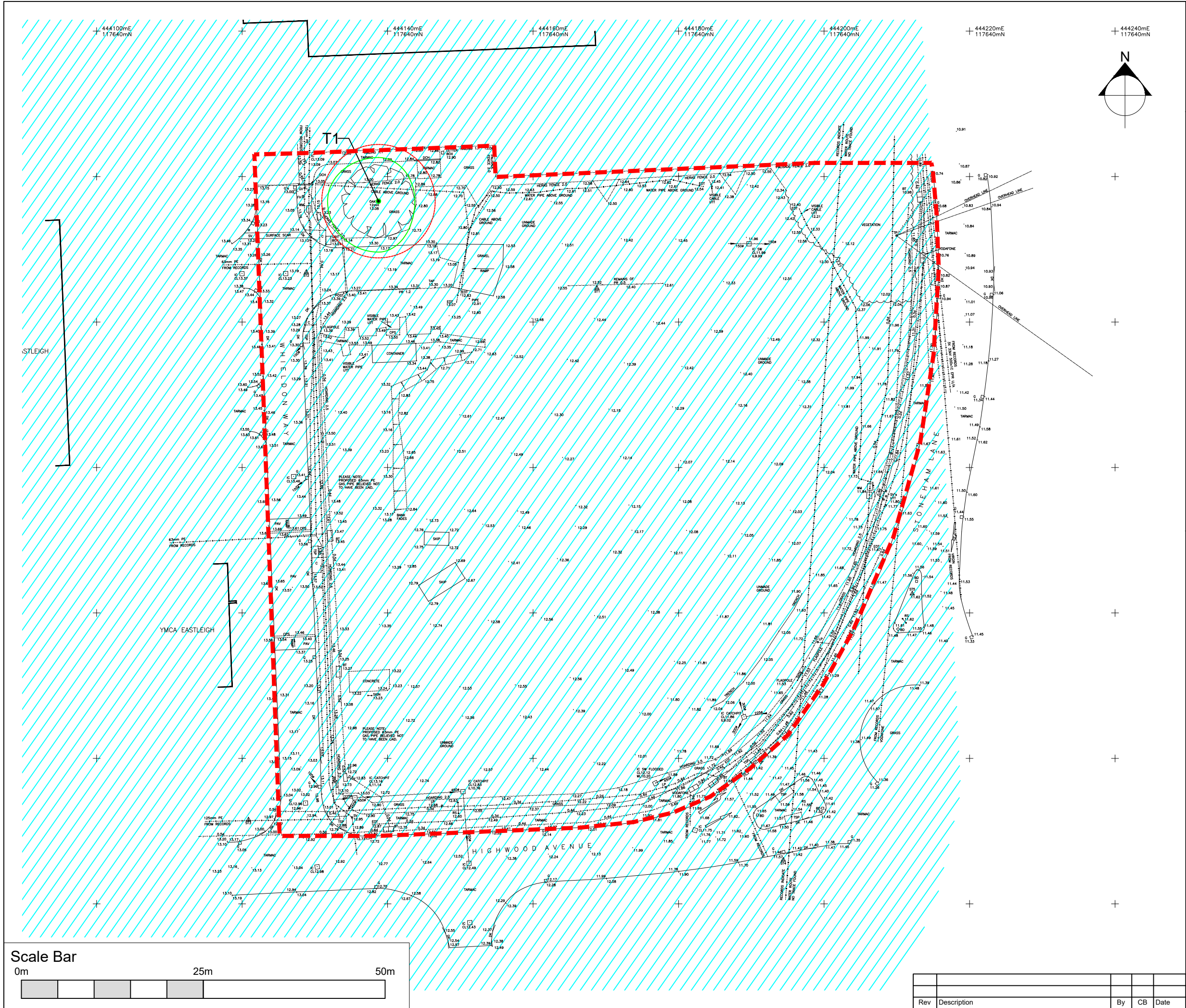
- 8.1 A comprehensive tree survey has been completed on the site and its immediate surroundings. The survey was completed in accordance with BS5837:2012.
- 8.2 The proposed development will require the removal of T1 which is subject to a Tree Preservation Order (no. 55-H).
- 8.3 Where tree felling is unavoidable, new trees will be planted to mitigate the arboricultural impact, in line with Eastleigh Borough Councils 'Tree and Development Supplementary Planning Document' (adopted April 2022).



APPENDICES

Appendix A

Tree Constraints Plan JSL4422_700



© 2022 RPS Group

Notes

1. This drawing has been prepared in accordance with the scope of RPS's appointment with its client and is subject to the terms and conditions of that appointment. RPS accepts no liability for any use of this document other than by its client and only for the purposes for which it was prepared and provided.
2. If received electronically it is the recipients responsibility to print to correct scale. Only written dimensions should be used.
3. Where applicable Ordnance Survey (c) Crown Copyright 2022
All rights reserved. Licence number 0100031673

Key

- Survey boundary.
- Tree with numbered reference.
Canopy spread and BS5837:2012 tree quality category as shown below.

BS 5837:2012 Tree Quality Categories - Table 1

- Category A - High quality
- Category B - Moderate quality
- Category C - Low quality
- Category U - Unsuitable for retention

- Tree protected by Tree Preservation Order
Eastleigh Borough Council No.55-H (all tree Species)
- Root protection area (RPA)
Calculated in accordance with Section 4.6 - BS5837:2012

NOTES:

- Refer to RPS Tree Survey Report & Schedule for further details.
- Survey based on a visual inspection from the ground and is not intended as a full arboricultural inspection.
- Plan produced in accordance with recommendations set out in BS 5837:2012 - 'Trees in Relation to design, demolition and construction'.
- Due to the legal protection afforded to breeding birds vegetation removal should not take place during the bird nesting period; generally, although not restricted to, March - August inclusive.
- Survey based upon topographic survey produced by EDI Surveys Ltd. in Dec, 2021
-



Lakesbury House, Hiltigbury Road, Chandlers Ford,
Hampshire SO53 5SS
T: 02380 810 440 E: rpsso@rpsgroup.com

Client **Lidl GB**

Project **Lidl Stoneham**

Title **Tree Survey**

Status	Drawn By	PM/Checked by
Information	SH	DC

Job Ref	Scale @ A3	Date Created
JSL4422	1:500	April 22

RPS Drawing / Figure Number	Rev
700	-

rpsgroup.com

Rev	Description	By	CB	Date

Appendix B

Tree Survey Schedule JSL4422_750

Tree Survey Schedule

Site Lidl: Stoneham
Project schedule ref: JSL4422_750
Drawing reference: JSL4422_700
Survey date: 07/04/2022

Surveyor: D. Cox
Status:
Revision: .
Notes:



Ref. no.	Species	Height (m)	Crown spread (m)				Stem dia. (m)	Stem no. at 1.5m	Height of crown clearance (m)	Dir/ height	Age class	Structural condition	Physiological condition	General observations Management recommendations	Estimated remaining contribution (years)	Tree Quality Category (BS5837)
			N	E	S	W										
T1	Quercus robur Pedunculate Oak	8.0	6.0	5.0	7.0	7.0	0.65	1.00	1.50	S E W	EM	Good	Good	Fine Oak, good potential. Even form, low canopy. Set in bramble. New footpath to North.	+ 40	A2

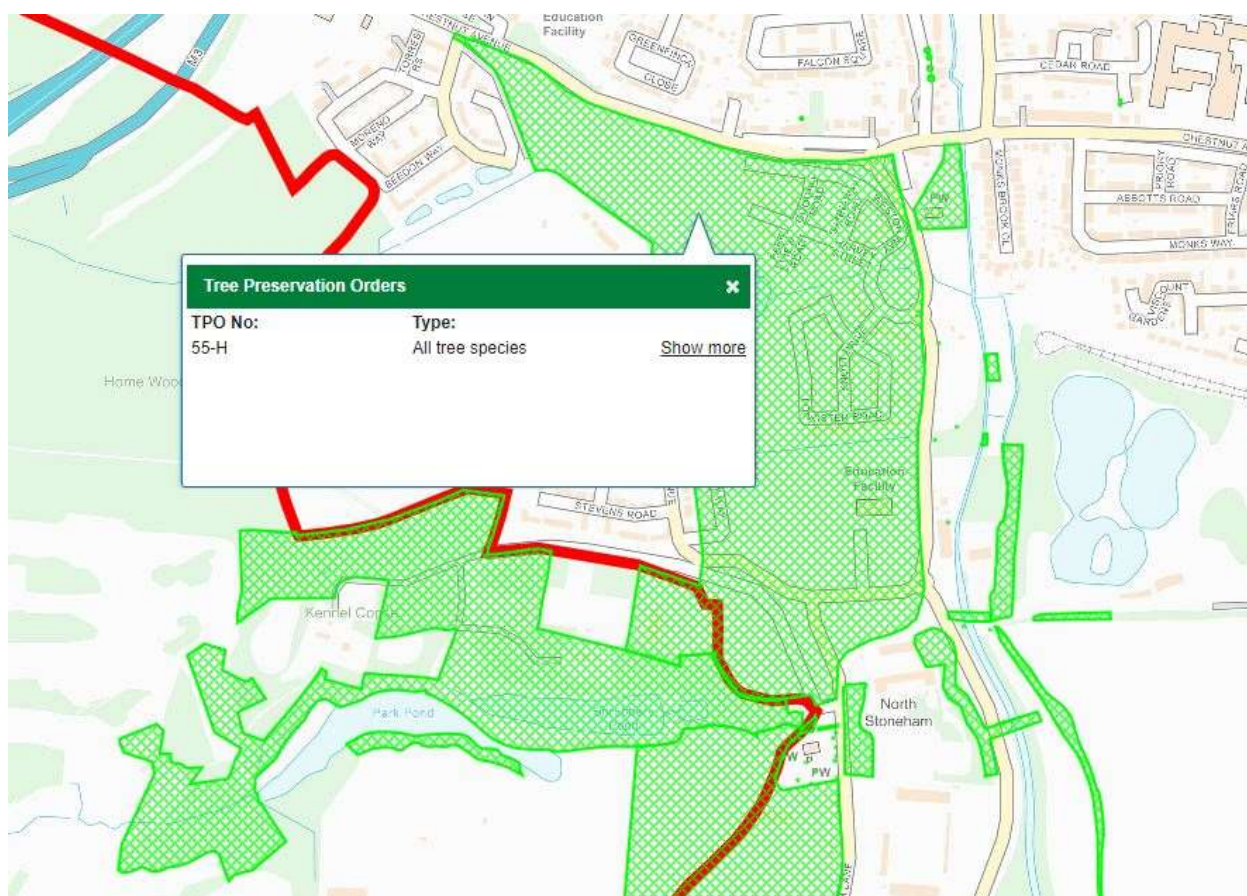
Note: This survey is based on a brief visual inspection from the ground.
It is not intended as a full arboricultural inspection.
- Indicates estimated tree. * - Indicates off site tree.

Appendix C

Tree Protection and Removal Plan JSL4422_701A

Appendix D

TPO no. 55-H extract



Screen capture from Eastleigh Borough Council Interactive mapping

Appendix E

Arboricultural site register

(Example template only)

ARBORICULTURAL SITE REPORT

PROJECT: <i>XXX, XX Street, XXX Town</i>	SITE CONTACT: <i>Mr XXX</i>	REPORT NO: <i>001</i>
INSPECTION COMPLETED BY: <i>Mr XXX</i>	DATE AND TIME: <i>XXX</i>	SHEET: <i>X OF X</i>

1.1 IT EM	LOCATION	NOTES / RECOMMENDATIONS	ACTION
1	<i>E.g. Adjacent to T999, north of building</i>	<i>E.g. Damaged fence, materials spilled into RPA, further inspection requirements, damage to tree</i>	<i>E.g. Reinstate fencing, make good levels with topsoil</i>
2			
3			

CIRCULATION:
M

Appendix F

Site Photographs



Looking towards north west corner



Looking through a gap in the hoarding into the site

Appendix G

Landscape Statement

LANDSCAPE STATEMENT

REF: Proposed LIDL Store, Stoneham Lane, Eastleigh

The statement is made in support of landscape proposals as set out on RPS 'Detailed Soft Landscape Proposals' ref: JSL4492-RPS-XX-EX-DR-L-9002.

Eastleigh Borough Councils 'Tree and Development Supplementary Planning Document' (adopted April 2022) states;

d. not involve the loss of or damage to trees, woodlands, hedgerows, ponds, priority habitats or other landscape features of value to the character of the area, for appearance or biodiversity unless they can be replaced with features of equivalent or enhanced value (recognising that some species and habitats may be irreplaceable);

e. include a landscape scheme covering the design and layout of external space;

The proposals result in the loss of one mature tree in the north eastern corner of the site; *Quercus robur* (650mm stem diameter) categorised as of 'A2' amenity value as set out in RPS Tree Survey Report ref: JSL4422_770 which is covered by a blanket TPO no.55-H.

The site has been maximised to facilitate a new store and associated car parking, delivery access and associated landscape. The 'Tree and Development Supplementary Planning Document' states that the loss of trees with a stem diameter of 600-699mm must be replaced with 6 trees.

The new proposals offer 21 new mature tree planting to enhance the wider setting of the development as well as those of neighbouring community facilities. 7 new trees will be provided within the car park including suitable below ground rooting volumes to reflect the proposed species. A further 7 trees will be provided around the southern and eastern boundary to compliment the development and provide an attractive setting to the site.

Tree species selection has been specific to provide a range of small, medium and large tree species as set out under Appendix 3 – New Tree Size Exemplar of the SPG including; *Tilia cordata* (Large), *Pyrus chanticleer* (Medium) and *Acer griseum* (Small). Additional species; *Prunus serrula* and *Betula pendula* are also proposed to maximise species diversity in order to provide greater resilience.

All proposed tree stock is to be sourced and transported under strict biosecurity measures inline with RPS's biosecurity statement, to avoid the spread of disease and provide a transparent stocking record of all plants used within the scheme for the protection and benefit of the local and wider ecosystem.

The proposed tree planting is part of a wider, comprehensive landscape scheme including dedicated pedestrian routes, ornamental shrub planting and boundary enclosures.

Appendix H

Arboricultural Glossary

Age-class - A general classification of the tree into either - young, semi-mature, early mature, mature, over-mature, or veteran.

Apical Bud/Shoot – The apical bud, also known as the leading shoot, is responsible for shoot extension and is dominant.

Apical Dominance – A singular, leading shoot remains dominant.

Arboreal - In connection with, or in relation to, trees.

Arboriculturalist – Person who has, through relevant education, training and experience, gained recognised qualifications and expertise in the field of trees in relation to construction.

Arboricultural Implications Assessment (AIA) – Study, undertaken by an arboriculturalist, to identify, evaluate and possibly mitigate the extent of direct and indirect impacts on existing trees that may arise as a result of the implementation of any site layout proposal.

Arboricultural Method Statement (AMS) – Methodology for the implementation of any aspect of development that has the potential to result in the loss of or damage to a tree. Note The AMS is likely to include details of an on-site tree protection monitoring regime.

Asymmetric crown- Crowns that have a morphological bias in a particular direction. This can give the tree an aesthetically unfavourable appearance, but can also subject the tree to uneven wind- loading forces and potentially result in failure.

Basal – Referring to the bottom part of a tree's stem.

Basifugal mortality – A natural process seen in trees in an advanced life stage whereby the trees extremities die back and the inner crown expresses new growth, in order to conserve energy reserves.

Bifurcated - A growth characteristic, where two stems of similar size grow from the same point. Can create an inherent weakness.

Branch union/junction - The point at which a branch joins a larger stem. Can be a point of weakness, especially in certain species.

Brown Rot- Decay caused by certain species of fungus which results in the affected wood becoming brittle and liable to suddenly 'break out', especially if in key structural areas.

Buttress flares – Extensions of the basal stem of a tree that provide additional structural support. See reaction wood.

Bifurcated- A growth characteristic, where two or more stems of similar size grow from the same point. Can create an inherent weakness.

2 **Cable braces** – Cable braces used to support the crown of a tree, reduce impacts caused by wind- throw oscillation.

Canker – A clearly defined area of dead and sunken or malformed bark, caused by bacteria or fungi. Can have a bearing on structural integrity of infected limb(s) depending on size and location.

Central leader- See apical dominance.

Chalara ash dieback- A disease affecting ash trees caused by the fungus *Hymenoscyphus fraxineus*. Usually fatal, the disease causes leaf loss and crown dieback in infected trees. It was first confirmed in Britain in 2012.

Chlorosis- yellowing of leaves which can be caused by a range of factors, often an indicator of nutrient deficiency.

Compaction - The compressing & hardening of soil around tree root systems, due to vehicular/pedestrian use etc. Loss of pore space between soil granules limits water movement and gaseous exchange, and inhibits root growth.

Companion shelter- Shelter provided by neighbouring trees in groups to one another, factors such as wind throw are reduced due to supporting branches and interlocking root systems. Removing individual trees on the peripheries of such groups can expose neighbouring trees to environmental factors they have not previously been subjected to and can lead to individual failure.

Competent person – Person who has training and experience relevant to the matter being addressed and an understanding of the requirements of the particular task being approached

Note 1 A competent person understands the hazards and the methods to be implemented to eliminate or reduce the risks that can arise. For example, when on site, a competent person is able to recognise at all times whether it is safe to proceed.

Note 2 A competent person is able to advise on the best means by which the recommendations of this British Standard may be implemented.

Condition – Assessment based on a visual and professional view giving consideration to many factors such as tree health, structural integrity and suitability of its position.

Conservation dead- wooding- Removal of deadwood using 'coronet cuts' that mimic the way a branch would naturally break off, maximising deadwood habitat availability for invertebrates.

Coppice - The method of managing trees by cutting the stems at between 1.0 inch and 1.0 foot from the ground level on a regular cycle, the cut stumps of the trees or shrubs are allowed to re-grow many new stems.

Crown spread - Gives distances between extreme limits of the crown and the stem, usually along the four compass points. Helps to show crown symmetry.

Crown Reduction – The removal of branch ends to reduce the extreme limits of a trees branch spread and height.

Crown Thin – The removal of selected branches within the crown to thin the internal branch structure.

D.B.H. - 'Diameter at Breast Height', an industry standard to gauge tree stem size and development. Within arboriculture, breast height is taken to be 1.5m above ground level.

Dieback - The reduction in crown vigour and extension growth progressing to death of distal parts; often associated with decline.

Epicormic growth - New growth from dormant buds that can often form tenuous attachments. Although some species readily form such shoots, it can be an indication of stress.

Form - A general assessment of the shape and position of the tree within its environment.

Hanger – Term used to describe a branch that has become detached and is being supported by other branches. Can be a hazard to persons and property below.

Hazard Beam – After the loss of a distal part, a limb concentrates growth upwards creating adverse end weights that can render the limb susceptible to failure. .

Included bark – Growth characteristic usually caused when two or more stems/branches growing in close proximity 'fuse' together entrapping the bark from when the parts were separate in the middle, creating a structural weakness.

Invertebrate tower – Pollarding of a (usually dead) tree to a safe height that leaves part of the main stem as a deadwood habitat for invertebrate species.

Occlusion/Occluded – Normally used to describe the overgrowth of a wound. Also, immovable foreign objects in contact with a tree part can become encased or 'occluded' by the tree as it grows incrementally.

Pathogen - An agent that causes disease, especially a living microorganism such as a bacterium or fungus.

Phototropic growth – Growth responding to a light stimulus i.e. the sun. This can influence the form of a tree, particularly where other factors e.g. buildings or other trees, affect the amount/ direction light is received.

Pollard – The removal and subsequent regular re-removal of the crown of a tree above animal browsing height. Can be an effective method of controlling the size of trees in urban areas. This is ideally begun in the trees early stages and maintained throughout its life.

Reaction wood - Essentially additional wood laid down by the tree to compensate for structural defects such as cavities.

Rhizosphere - The rhizosphere is the narrow region of soil that is directly influenced by root secretions and associated soil microorganisms. In particular, mycorrhizal fungi form a symbiotic relationship with trees and assist in the assimilation of phosphates essential to the trees health.

Ring barking/Girdling – the removal of bark around the entire circumference of a stem or branch, causing the death of all distal parts.

Root Protection Area (RPA) – Layout design tool indicating the area surrounding a tree that contains sufficient rooting volume to ensure the survival of the tree, shown in plan form in m².

Scaffold limbs - The main structural branches within the crown.

Tree protection plan – scale drawing prepared by an arboriculturalist showing the finalised layout proposals, tree retention and tree and landscape protection measures detailed within the arboricultural method statement (AMS), which can be shown graphically.

U.L.E – ‘Useful Life Expectancy’ is an estimate based on currently known factors of the possible remaining life of the tree as an asset. AKA ‘Estimated remaining contribution’.

Veteran tree – Tree that, by recognised criteria, shows features of biological, cultural or aesthetic value that are characteristic of, but not exclusive to, individuals surviving beyond the typical age range for the species concerned.

Vigour - A general classification, as to the present and future potential growth and development of a tree. A comment regarding the health status of the tree specific to its species.

White Rot - A type of decay caused by certain species of fungi which results in the affected wood becoming flexible with little compressive strength.