PRE-DEVELOPMENT ARBORICULTURAL IMPACT APPRAISAL AND REPORT

ON TREES AT

"APPLEGATE HOUSE"
50 HOLYDYKE
BARTON UPON HUMBER
DN18 5PP

CLIENT

WIDER OPTIONS LTD

Ref : LTS/13009/Wider Options Ltd

CONTENTS

APPENDICES

1.0 INTRODUCTION

1.1 Purpose of the report

This report is intended for use by my client in connection with a planning application to form a new vehicular access into the garden and provide parking facilities. It shall not apply to any other use or purpose.

1.2 Terms of reference

I am instructed to prepare the report by my client -
Wider Options Ltd, Turnpike Gatehouse, Alcester Heath, Alcester B49 5JG.
The instruction was issued in the form of an electronic communication dated 3 April 2013 by Richard Cooke, Head of Corporate Development.

1.3 Documents received

My client has authorised the issue of copies of the existing and proposed site layouts by Baily Garner, Birmingham [ref. Job No. 24881, Drawing Nos. (W) 100 and (W) 101] to assist in the preparation of this report.

1.4 Scope of the report

My client has requested that I consider the following points when preparing the survey and report;

1 Specifically inspect and assess two trees growing adjacent to the proposed access and turning head.
2 Comment on their condition and suitability for retention.
3 Provide a report complying with BS5837:2012 'Trees in relation to design, demolition and construction - Recommendations' which gives management recommendations to assist in mitigating any potentially adverse effects of the development, including a tree protection plan and an arboricultural method statement.

1.5 Limitations

The report is limited to providing a record of a single visual inspection and arboricultural impact appraisal for 2 trees growing within the site boundaries. The inspection was made from ground level. No other tests have been conducted, either by myself or by others under my direction, nor have I recovered any samples for testing by a third party. The trees have been assessed as part of a larger survey for management purposes. They are therefore bear the numbers T1 and T5 issued as part of that assessment.

2.0 SITE DESCRIPTION AND PROTECTED STATUS OF TREES

2.1 Site description

The site stands at the junction of Holydyke and Fleetgate, close to the centre of the ancient market town of Barton upon Humber. The property is know as Applegate House and appears to date from the late Victorian period. It is constructed of red brick, capped with a Welsh slate roof and has a central front door with portico. There is a later, single storey extension to the east elevation. A substantial air-raid shelter forms an elevated ridge parallel to the west elevation of the house and a small, brick-built outbuilding stands in the front garden. The gardens are elevated above street level by 0.5m across the frontage and up to 1.5m along Fleetgate at the north-western corner of the grounds. The land is contained by a red brick retaining wall, topped by Yorkstone copings and black-painted iron railings. The garden is mainly lawned with shrub borders across the frontage. Curving pathways of cast concrete form the main hard features of the garden design.

2.2 Protected status of the trees

The trees are protected by virtue of the site being located within the Barton upon Humber Conservation Area. As such, the tree work recommendations given in Appendix A require the local planning authority's consent before they are carried out and may be a condition of the planning permission granted.

3.0 DISCUSSION

3.1 Condition of the trees

The two trees forming the subject of this report are both classed as being in semi/early maturity. They are firmly-rooted and structurally sound with no significant defects, although the beech T1 has a potentially weak fork union developing at 6m. Physiologically, the beech is classed as being in good/fair condition. The leading shoot has died back in recent years by approximately 1m. There is no obvious reason for this decline as all its remaining branches support vibrant, healthy shoots with no traces of failing vigour or actual dieback. The Greek fir T5 is in good condition with a very compact, robust and healthy crown. It has made growth of around 400mm in the leading shoot, whilst the incremental growth around the canopy margins averages 150mm last summer. Both trees are in sufficiently good condition to warrant their retention within the proposed scheme.

3.2 Impact of the proposed access and car park on the trees

The impact of forming the new access drive which will ascend into the site from street level will be greater than that of constructing the car park turning head. The closest edge of the drive will stand approximately 1m from the closest part of the root collar of T1 and will entail building some form of soil retaining structure. Loss of a proportion of root material from the eastern quarter of the rootplate is therefore likely to occur. The turning head (including its sub-base, kerbs and haunching) will be located outside the crown spread of T5. Root material from the tree can be expected to extend beyond this point and may be encountered at the kerbline.

3.3 Mitigating the direct effects of the construction

The work to form the new entrance and access drive will involve demolishing the existing garden wall, cutting into the land between existing street and garden levels and excavating the sub-base of the drive. Since the excavation will be approximately 1m from the root collar of T1 at its closest point, the building contractor will need to exercise due care and attention throughout the process. Following the removal of the retaining wall and railings, the western margin of the access should be marked out and excavated by hand to expose major roots which may extend into the driveway. Any roots encountered above 10mm in diameter must be carefully and cleanly cut back to the west face of the trench with secateurs or a sharp handsaw blade. Once the trench has been exposed down to the required depth of the retaining wall foundation and any roots have been correctly pruned, the remaining excavation can be completed by machine. An identical method of marking out, hand digging and root pruning must be employed along the western margin of the car park turning head adjacent to T5. I have summarised my recommendations for this work in the arboricultural method statement forming Appendix C.

3.4 Further mitigation measures for conserving T1

3.4.1 The soil face to the western side of the entrance must be lined with a polythene damp-proof type membrane sheet as soon as it has been fully exposed. There are two reasons for this requirement. Firstly, it will help prevent the exposed roots from becoming desiccated whilst the work is progressing. Secondly, I am assuming a conventional brick retaining wall is proposed to secure the edges of the drive. The membrane will protect the beech roots from the damaging caustic effects of the mortar and should be left in situ when the void behind the brickwork is backfilled. By taking account of these points, the pruned roots should be able to make a swift recovery.

3.4.2 The crown habit of the beech is unusually open. Its branch formations are long and stringy with large gaps between them (see Appendix D, Picture 1). Some pruning is required to lift the crown above the access and remove the weak fork union. By reducing the lateral branch length of the lower crown by 2m and creating a conical profile, the loss of root will be mitigated and the tree's appearance improved. The pruning will also stimulate renewed vigour during the growing season.

3.5 General constraints and mitigation measures

British Standard 5837:2012 'Trees in relation to design, demolition and construction - Recommendations', lays out specific guidelines for excluding access to the RPAs. It illustrates an acceptable type of protective fencing, the position of which is marked on the tree protection plan. The fencing can be formed from "Heras" type panels but must be fixed into the ground on stakes to prevent it from being casually re-positioned. Signs bearing the words "No Entry – Tree Root Protection Area" must be fixed to the fencing at 10m intervals. The RPAs are necessary to prevent soil compaction by machinery as well as safeguard against the spillage of toxic fuels or chemicals which, if they occurred within the root zone of retained trees, would cause irreparable long-term damage. The RPA fencing must only be removed once the construction phase has been completed. The position of the fencing is shown on the proposed layout drawing (W) 101.

4.0 CONCLUSIONS

4.1 Summary of my findings and opinion

The two trees which stand closest to the new access and parking area are both B category trees under BS5837:2012. The Greek fir T5 is a very rare species locally and is exceptionally healthy, whilst the beech T1 is also well worth retaining. Forming the turning head beside T5 is likely to have minimal impact in terms of root interference, providing careful trial digging along the kerbline is carried out to locate any main roots. There is the potential for inflicting root damage to T1 but the actual extent will depend on the root morphology of the tree once it has been carefully exposed by hand digging. It stands approximately 1m from the proposed drive excavation and the associated change in levels. The building contractor must afford the tree due care in his approach to excavating beside it. I consider that this project can be sustainable if the recommendations regarding this tree are strictly adhered to. It would be beneficial if the beech can be pruned as described in Appendix A as an additional measure to offset the adverse effect of any significant root loss. It is relatively youthful and vigorous which will enhance the likelihood of it making a full recovery.

5.0 RECOMMENDATIONS

5.1 Recommendations for the main contractor

The building contractor should be issued with a copy of the summarised arboricultural method statement (Appendix C) before the contact commences. He should incorporate its recommendations into the Construction Design and Management programme for the project. The contractor must also comply with BS5837:2012 in setting out the protective fencing around the RPA of the retained trees before any other site works begin.

John F Robinson NDArb
Arboricultural Consultant and Managing Director
11 April 2013

APPENDIX A

TREE SURVEY DETAILS

GLOSSARY OF TECHNICAL TERMS AND ABBREVIATIONS

AGE CLASSIFICATIONS

Y	Young	Very vigorous tree aged less than 15% of the projected normal life expectancy for the species/cultivar noted. (Cultivar is the abbreviation for cultivated variety.)
SM	Semi-mature	Tree exhibiting good or moderate vigour and aged between 15% - 30% of projected normal life expectancy.
EM	Early maturity	Tree exhibiting good or moderate vigour and aged between 30% - 50% of projected normal life expectancy.
M	Mature	Tree exhibiting moderate vigour and aged between 50% - 80% of projected normal life expectancy.
FM	Fully mature	Tree exhibiting reduced vigour or static growth signifying its full size has been attained.
LM	Late maturity	Tree entering senescence and displaying associated symptoms of decreasing vigour, crown decline and decay.
V	Veteran	Ancient tree with large, hollow trunk and greatly reduced crown exhibiting static or declining growth. Typically of great ecological value.

CONDITION

Description	Physiological	Structural
Good	Tree exhibiting robust vitality with vigorous growth and healthy foliage. No discernible pathogenic (especially fungal) activity. Long projected life expectancy exceeding 25 years.	Tree in sound state with no discernible weaknesses or pathogenic activity. No alteration in adjacent ground conditions.
Good/Fair		
Fair	Tree of moderate or low vigour and reasonable health. No discernible pathogenic activity. Projected life expectancy of 10 - 25 years.	Tree in generally sound state with occasional minor rectifiable defect or storm damage. No discernible pathogenic activity or alteration in adjacent ground conditions.
Fair/Poor		
Poor	Tree of declining vitality with abnormally small or discoloured foliage. Fungal pathogens may/may not be present. Projected life expectancy of less than 10 years.	Tree exhibiting significant structural defects, storm damage and/or fungal pathogens. Ground conditions may have been significantly altered so as to impair or weaken root structure.
Dead or Dying	Tree crown has minimal or no foliage present in summer. Bark may be loosened or removed by desiccation or foraging/nesting actions of birds or animals. Fungal pathogens may/may not be present.	Absence of fine twig structures in outer canopy. Dead branchwood throughout crown. Larger limbs may/may not be failing. Ground surface may/may not be cracking as roots degrade or tree becomes progressively less stable. Fallen dead wood littering ground below.

GLOSSARY OF TERMS AND ABBREVIATIONS USED
continued

N, SW, E etc.	Cardinal compass points
Bark inclusion	A weakness present where two or more stems are joined at a fork but where they force themselves apart by producing new wood in the margin of the split (also known as a compression fork). The bark is included between the two stems at the centre of the union. They rarely bind together to form a solid structure and are frequently prone to failure.
Callus tissue	The new wood formed by annual growth in the process of occluding a wound.
Compartmentalisation	The process by which a healthy tree isolates and seals off an area of damage and subsequent decay.
Coppice	Regenerative shoots growing from the stump of a tree routinely cut to ground level. Also a verb ie. to coppice.
Crown cleaning	The removal of dead, dying, abrading, mis-directed and duplicated branches (and climbing plants eg. ivy) within the tree crown.
Crown lifting	The removal of lower branches to “lift” the lower crown level so as to remove growth causing an obstruction or allow the improved passage of daylight beneath the tree.
Crown reduction	Pruning to reduce the height and width by a given measurement, cutting the pruned branches back to suitable secondary branches or tertiary shoots in order to reshape the crown.
Epicormic shoots	Young shoots emerging on the root collar, trunk or main branches from dormant buds. If retained, they have the potential to grow into larger branches and can disfigure a specimen tree.
Occlusion	The sealing of a wound (eg pruning cut or other damage to the bark) by the formation of new growth around the wound margin.
Pollarding	The routine cutting (normally annual) of young growth back to a stump above ground level, typically 1.5m - 2m.
Reaction wood	Growth produced by the tree to strengthen affected parts in reaction to a weakness or lines of physical stress.
Root collar	The trunk base where the root buttresses begin to flare outwards and descend into the soil.
Root stock	A separate (related) species onto which the named variety of specimen tree (known as the scion) is grafted.

APPENDIX B

SURVEY CONDITIONS AND METHODS

1 Dates of inspection

The afternoon of Tuesday 9 March 2013

2 Persons present

John F Robinson - Lindsey Tree Services Ltd
Chantelle Bradshaw, Team Leader at Applegate House, witnessed my signing in and was aware of my presence on the site.

3 Weather conditions

Weather conditions at the time of the inspection were alternately bright or overcast with a light easterly breeze.

4 Survey methods

The trees have been visually inspected from ground level with the aid of binoculars. The following apparatus has been used to determine the tree data and other measurements quoted;

Height	- Clinometer
DBH (Diameter at breast height)	- Diameter tape measure
Crown spread	- Surveyor's tape measure

5 General survey information

The DBH measurement is taken at 1.5m above ground level unless otherwise stated. The tree data includes a value for the Root Protection Area (RPA) where applicable (ie for the retainable trees). This figure is taken as the crown spread of a given tree, or is calculated using its DBH value in accordance with BS 5837:2012, whichever is the greater. The Root Protection Radius value equates to the RPA on the ground and is marked on the tree protection plan (site plan). An exception has been made for T1 which stands immediately adjacent to the proposed new access.

APPENDIX C

SUMMARISED ARBORICULTURAL METHOD STATEMENT FOR TREE PROTECTION AND MANAGEMENT

Site – Applegate House, 50 Holydyke, Barton upon Humber

Scope of Works
The proposal for the site is to form a new access from Holydyke into an entrance drive leading to a parking and turning area. It is recommended that the following method statement is incorporated into the CDM programme for the project.

Method

1 Conduct pre-commencement site meeting to include building contractor, local authority tree officer and/or arboricultural consultant. Identify and confirm location of protective fencing. Also confirm areas for site accommodation, storage of materials and mixing of cement / cleaning of mixers which must avoid conflicting with Root Protection Areas as per BS 5837:2012.

2 Main contractor to set out secure protective fencing to safeguard RPAs as marked on tree protection plan.

3 Main contractor to demolish wall and railings at point of new access.

4 Appoint competent, trained arboricultural contractors to carry out pruning works to beech T1 as per schedule in Appendix A and remove arisings offsite.

5 Consideration should be given to timing tree works to coincide with hand digging of access beside tree to ensure arboricultural supervision and root pruning are carried out by professional arborists co-operating with building contractor. Cover west face of entrance excavation with thick polythene sheeting (DPC membrane will be ideal) to protect roots and conserve soil moisture. Trial digging beside T5 should also be carried out whilst arborists are onsite.

6 Complete retaining walls of entrance. Backfill void between wall and membrane with good quality topsoil and gently firm in.

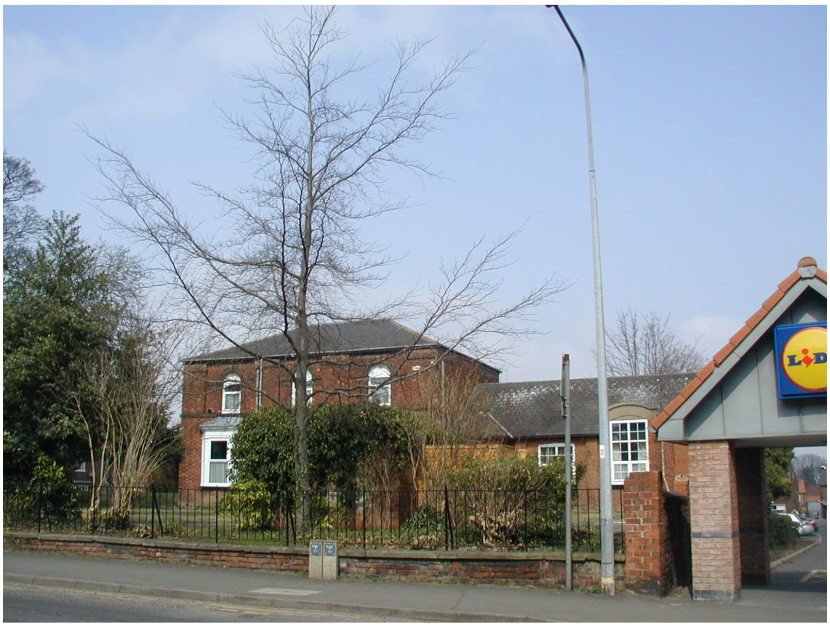
7 Complete remaining construction works.

8 Remove protective fencing.

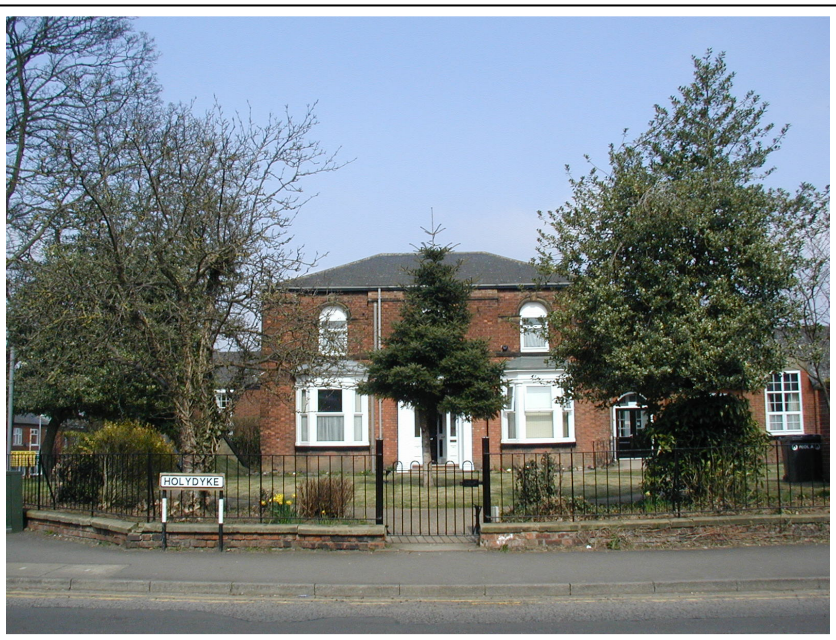
9 Complete re-seeding of grassed margins around parking and turning area.

APPENDIX D

PHOTOGRAPHS



Picture 1
Beech T1 stands left of centre. The position of the proposed access is located between the tree and the street lamp column.



Picture 2
A general view of the frontage with Greek fir T5 in the centre.

APPENDIX E

John Fraser Robinson

Professional qualifications and experience

Qualifications

National Diploma in Arboriculture (BTEC)
Professional Tree Inspection Award (LANTRA)

Experience

John Robinson has been involved in working with trees on a full time basis since 1976. His career started as a trainee with the forestry department of the Earl of Yarborough's Estate, Brocklesby Park, Lincolnshire from 1976 - 1978.

1978 - 1981 Merrist Wood College, Worplesdon, Guildford
Whilst on industrial placement during the second year of the 3 year course, he gained further experience as an arboricultural trainee with Sheffield City Recreation Department. Individual placements within the department yielded specific experience in tree surgery operations, tree inspections and surveys, plant material handling and nursery practices.

In September 1981, he established Lindsey Tree Services as a partnership with Thomas James Robinson. The firm became incorporated in October 2001 and is based in Grimsby, serving the northern parts of Lincolnshire and surrounding districts as arboricultural contractors and consultants. In addition to both directors, the firm currently employs 5 staff.

The daily organisation of the business yields routine experience in hazard tree evaluation, decay detection assessments and in compiling arboricultural method statements and risk assessments.

He acts as a consultant preparing reports for social housing providers and various departments within several local authorities, as well as a number of utilities, health authorities and conservation organisations. Further wide experience has been gained in reporting for developers, consulting engineers, architects, insurance companies, loss adjusters and solicitors. He has been called as an expert witness on various occasions, giving evidence both in court and to planning appeals and inquiries on matters involving trees.

Professional Association

He has been an Associate member of the Arboricultural Association since 1981 and subscribes to its programme of Continuing Professional Development. He has served on the Association's Northern Branch Committee since March 2001 and attends the AA's annual National Amenity Arboriculture Conference and various technical seminars throughout the year.

Tree No	Species	Age Class	Condition	Height (m)	Crown Spread (m)	DBH (mm)	Root Protect Radius (m)	Remarks / **Recommendations**	Retn Code
T1	Beech *Fagus sylvatica*	SM/ EM	Phys Good/Fair Struct Good/Fair	10	N - 3.5 S - 5 E - 4 W - 4	231	**4.0**	Sound root collar with no prominent buttresses. Single, sound and erect trunk extends to leading shoot with no deviation. Cluster of epicormic shoots on E face at 0.75m and light ivy to 1.5m. Crown begins at 2.5m above garden level, with descending tips to 1.5m to E. Branches all sound with long, extended habit forming large gaps between. Narrow fork union at 6m where secondary branch grows to N. Leading shoot has died back in recent years by 1m but no other dead wood present in remaining crown. Occasional minor crossing branches. **Retain tree. Lift lower crown to 3.5m above proposed entrance (4.0m above street level) and balance all round. Reduce remaining lateral branches by 2m in lower half of crown and reshape to a conical profile in to leading shoot. Remove dead tip. Remove narrow fork structure at 6m on northern quarter of crown and clean out any remaining crossing branches.**	**B1**
T5	Greek fir *Abies cephalonica*	SM/ EM	Phys Good Struct Good/Fair	7	N - 2 S - 2 E - 2 W - 2	200	**2.4**	Sound root collar with no prominent buttresses in circular bed. Sound, single, tapered trunk with sub-standard pruning stubs at 2m. Crown begins at 2.2m and descends to 1.6m to E. Trunk kinks at 3m then regains vertical habit right to leading shoot tip. Vigorous extension growth in leader to 400mm and well furnished crown all round making incremental growth to 150mm. Very healthy, rich green foliage all round crown. Very attractive tree despite minor imperfections in terms of shape. **Retain tree. Clean out old pruning stubs on trunk at 2m. Lower crown to the eastern quarter may be lightly lifted to balance it with the remaining crown if desired.**	**B1**

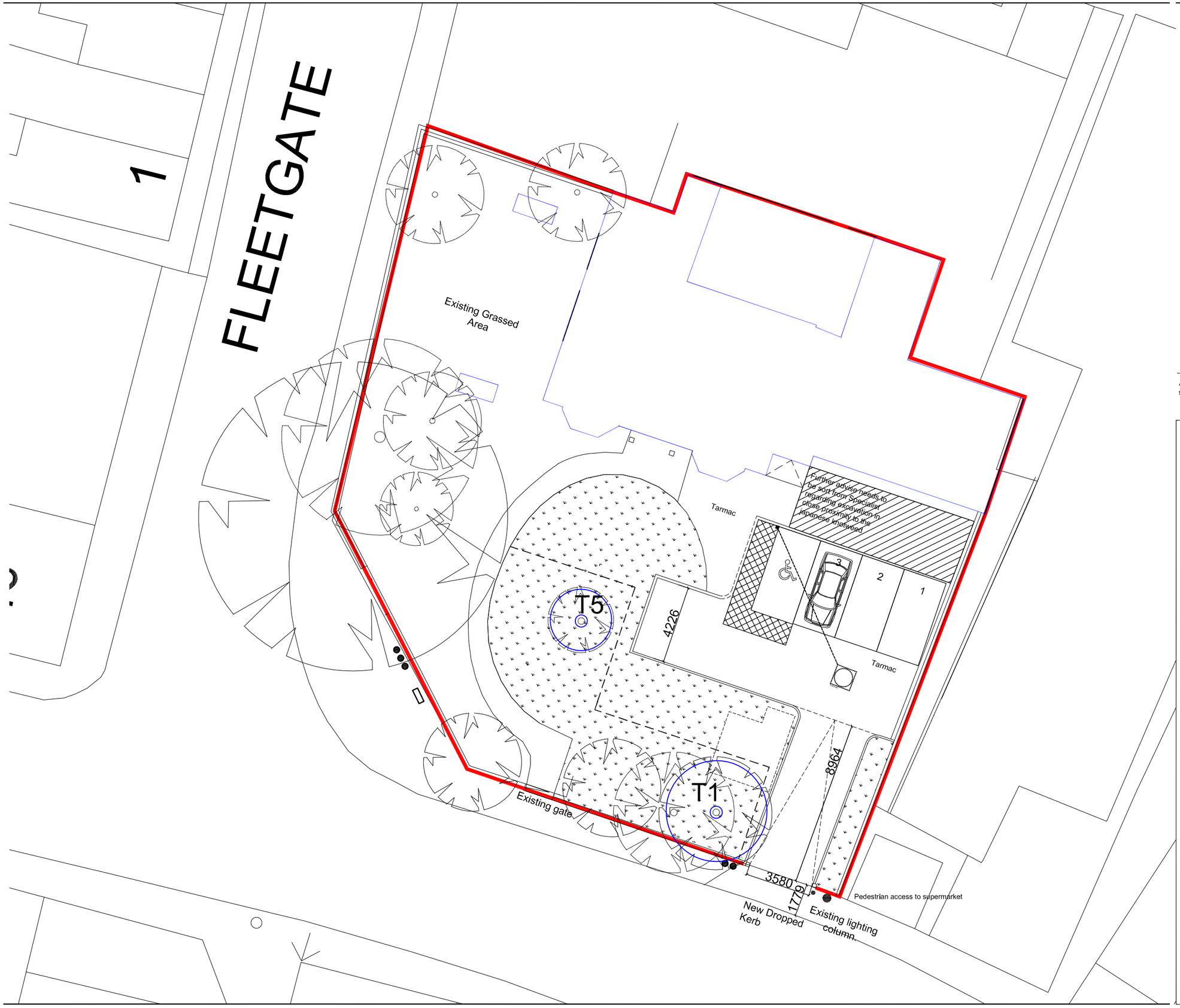
Tree Retention Categories after BS5837:2012 – explanatory notes

U Unclassified trees unworthy of retention due to failing health, extensive decay or defects which cannot be rectified. (Marked in red on plan)

A Trees of high quality and value with at least 40 years of useful life expectancy and landscape contribution. (Marked in green on plan)
- 1 Particularly good examples in open setting or essential components of groups.
- 2 Trees or groups providing screening or softening effect at the site margins, or form otherwise visually important features.
- 3 Trees with significant cultural value eg. conservation, historical or commemorative.

B Trees of moderate quality and value (at least 20 years useful life expectancy). (Marked in blue on plan)
- 1 Trees which would otherwise qualify for an A category rating but are impaired by minor remediable defects.
- 2 Trees forming part of a group or otherwise located within the site (thereby affording limited landscape value to the wider locality).
- 3 Trees with clearly identifiable conservation or other cultural benefits.

C Trees of low quality but retainable in short - medium term (at least 10 years). (Marked in grey on plan)
- 1 Trees not qualifying for the higher categories.
- 2 Trees in low-grade groups or those offering temporary screening benefits.
- 3 Trees with very limited conservation or other cultural benefits.



A3

KEY

Tree retention codes after BS 5837:2012 B category tree (actual crown spreads)

Position of root protection area protective fencing

REVISION	D	C	DATE
A Amendments to actual crown spread and position of root protection fencing as detailed by Lindsey Tree Services Ltd	EB		12.04.2013

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PROJECT.
Proposed New Vehicular Access

TITLE.
Proposed Site Plan

PURPOSE OF ISSUE.
For Information

SCALE.	D	C	DATE
1:200 @ A3	AMC		05/04/2013

JOB NO.	DRAWING No.	REVISION
24881	(W) 101	A