

**ARBORICULTURAL REPORT
AND
ARBORICULTURAL IMPACT ASSESSMENT
to BS 5837:2012**

**at
James Durrans and Sons Limited
Phoenix Works
Thurlstone
Penistone
South Yorkshire
S36 9QU**

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JCA Limited

Arboricultural Consultants

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1. Introduction

1.1 Purpose of the Report

- 1.1.1 A report is required at **Phoenix Works, Thurlstone, Penistone**, to provide detailed, independent, arboricultural advice on the trees present, in the context of potential development.

1.2 Terms of Reference

- 1.2.1 I am instructed by **FDA Landscape** to visit the site and prepare my findings in a report.
- 1.2.2 For this purpose I have been supplied with a topographical survey (**Drawing No. 13183-114**).

1.3 Scope of the Report

- 1.3.1 This report is compiled in accordance with *BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations*.
- 1.3.2 Preliminary recommendations are given with a view to the long-term management of a sustainable tree cover.
- 1.3.3 Two trees were surveyed within the scope of this report.
- 1.3.4 The specific design of the proposed development has been considered within the Arboricultural Implication Assessment in **Section 6** and detailed on the plan at **Appendix 7**.

1.4 Survey Details

- 1.4.1 The survey took place during the month of October 2014.
- 1.4.2 The survey was conducted by Toby Thwaites *BSc. (Hons), H.N.D. Arboriculture*.
- 1.4.3 Inspection was made at ground level. Further investigation, such as climbed inspections or decay detection surveys, may be recommended where appropriate.
- 1.4.4 Measurements were obtained using clinometers, specialist tapes or electronic distometers. Where this was not possible measurements were estimated.

2. Site Description

2.1 Land Use

- 2.1.1 The site is a small plot of grassland to the rear of several derelict dwellings, within the Phoenix Works complex.

2.2 Topography

- 2.2.1 The site slopes from the northern boundary down towards the derelict dwellings to the south.

2.3 Treescape

- 2.3.1 Surrounding the site is an industrial and residential area containing occasional mature garden trees.
- 2.3.2 The two surveyed trees on this site have a moderate impact on the local treescape.

2.4 Visual Amenity Value

- 2.4.1 The two surveyed trees collectively provide a reasonable visual amenity to the surrounding area.

2.5 Age Class Mix

- 2.5.1 The trees surveyed were both mature specimens.

2.6 Species Diversity

- 2.6.1 Both of the trees surveyed were Sycamore.

3. Status of the Trees

- 3.1 A check was made in October 2014 with ***Barnsley Metropolitan Borough Council***.
- 3.2 We are informed that there is a Tree Preservation Order in force on this site covering both **T1** and **T2**
- 3.3 Before any work is organised, all the necessary steps to get the permission of the Local Planning Authority must be taken.
- 3.4 ***No work must be done to any trees until permission has been granted.***

4. Recommendations

- 4.1 Full details of all individual trees surveyed are recorded in the tables at **Appendix 1**, a full explanation of the tables can be found at **Appendix 2**. Please refer also to the Tree Constraints Plan at **Appendix 6** for tree locations.

5. Discussion

5.1 Tree Condition & Recommended Works

- 5.1.1 Two trees were surveyed within the scope of this report; these have been identified as **T1** and **T2**.
- 5.1.2 **T1** tree was identified as retention category 'B' and **T2** was identified as retention category 'C'. Please refer to **Appendix 2** for retention category and definition criteria.
- 5.1.3 The trees are growing close together and form one canopy. They offer a higher amenity when considered as a group rather than as individual trees; both trees are unbalanced due to competition from their neighbour.
- 5.1.4 **T2** was noted to have a sparse crown with small leaves and dieback evident, a possible indication that this tree is in decline. As such, it is recommended that **T2** be monitored (re-inspected) on an annual basis to assess its condition.
- 5.1.5 Both trees are growing against a stone wall, beyond which runs a public right of way. The wall was noted to be bowing slightly at the base of the trees. The wall could potentially collapse as the trees put on increment growth and therefore this situation needs to be closely monitored to prevent risk to users of the public right of way. I was informed on site that the wall previously collapsed due to a tree to the south of **T1**. This tree has now been removed (the stump is still present) and the wall has been repaired.
- 5.1.6 As the trees overhang the public right of way they will require future maintenance in order to maintain clearance heights for vehicular or pedestrian traffic. We recommend a clearance height of 2.5 metres above the public right of way.

6. Arboricultural Implications Assessment (AIA)

6.1 Proposed Development

- 6.1.1 The proposed development will consist of the construction of seven residential dwellings.
- 6.1.2 **Drawing No. 1442 P02B** has been supplied by the client; this plan can be found at **Appendix 7** and is the basis for which this AIA has been prepared.

6.2 Trees to be Removed

- 6.2.1 Based on the proposals provided, it will be necessary to remove both **T1** and **T2** to facilitate development.
- 6.2.2 **T1** will be affected greatest, due to the proximity of the proposed dwellings (especially Plot 1) and due to the level changes that are proposed within the Root Protection Area. **T2**, growing further from the proposed development area, will also be affected but to a lesser degree. However, as this is the poorer of the two trees, and as individually the trees are unbalanced due to them growing together as a group, it is advised that **T2** be removed also.
- 6.2.3 The planting of new trees will go some way towards mitigating the loss of **T1** and **T2**. There is scope along the northern boundary, which will be the bottom of be new gardens, to plant new trees.

7. Conclusions

- 7.1 The trees surveyed were generally found to be in fair condition.
- 7.2 **T1** and **T2** are protected by a Tree Preservation Order.
- 7.3 **T2** requires an annual inspection as it has a sparse crown with small leaves and dieback present. This is discussed in **Section 5.1.4** and detailed at **Appendix 1**.
- 7.4 The condition of the stone wall adjacent to the trees also requires monitoring, as this is at risk of collapse due to the presence of the trees. This is discussed in **Section 5.1.5** and detailed at **Appendix 1**.
- 7.5 The arboricultural implications of the development have been considered and discussed in **Section 6**.
- 7.6 Both trees will require removal in order to facilitate the proposed development. This is discussed in **Section 6.2** and detailed on the plan at **Appendix 7**.
- 7.7 It is advised that a **Tree Planting Scheme** is prepared which will help to ensure that the site retains a sustainable tree cover (following the removal of **T1** and **T2**). A carefully designed **Tree Planting Scheme** will incorporate tree species in harmony with the development whilst seeking to improve the overall age range and species diversity.

Appendices

Tree Ref.	Age Species Latin Name	Height (m)	Crown Height (m)	Height (m) and Direction of the Lowest Branch	Diameter (cm)	Crown Spread			Observations	Recommendations	Physiological Condition	Structural Condition	Amenity Value	Life Expectancy (yrs)	Retention Category
						N	W	E							
T 1	Mature Sycamore <i>Acer pseudoplatanus</i>	17	5.5	5.5 W	61	1 4		4.5 4.5	Single-stemmed with a slight lean and an unbalanced crown (due to T2). Overhanging the public right of way and a neighbouring garden. The two trees are growing as a group and form one canopy. Multiple pruning wounds due to crown lifting (generally occluding well). Epicormic growth at the base and minor deadwood present. Growing very close to a stone wall which is bowing out slightly due to the tree.	Monitor the wall.	GOOD	FAIR	MOD	20-40	B
T 2	Mature Sycamore <i>Acer pseudoplatanus</i>	17	9	9 E	49	N - 2.5 NE - 5.5 E - 3.5 S - 1.5 W - 3			Single-stemmed and vertical with an unbalanced crown (due to T1). Overhanging the public right of way and a neighbouring garden. The two trees are growing as a group and form one canopy. Multiple pruning wounds due to crown lifting (generally occluding well). The canopy is sparse with very small leaves noted and dieback present. Previous lifting works have resulted in the tree having a very high crown. Growing against a stone wall which is bowing slightly due to the tree. Minor bark wounds were noted on the buttresses.	Monitor the tree due to the sparse foliage. Monitor the wall	FAIR	FAIR	MOD	10-20	C

Appendix 2: Explanation of Tree Descriptions

A2.1 Measurements

A2.1.1 *HEIGHT* of the tree is measured from the stem base in metres. Where the ground has a significant slope the higher ground is selected.

A2.1.2 *CROWN HEIGHT* is an indication of the average height at which the crown begins.

A2.1.3 *STEM DIAMETER* is measured at 1.5 metres above (higher) ground level. Where the tree is multi-stemmed at this point; the diameter is measured close to ground level, just above the root buttress.

A2.1.4 *CROWN SPREAD* is measured from the centre of the stem base to the tips of the branches in all four cardinal points.

A2.2 Evaluations

A2.2.1 *AGE CLASS* of the tree is described as young, semi-mature, early-mature, mature, or over-mature.

A2.2.2 *PHYSIOLOGICAL CONDITION* is classed as good, fair, poor, or dead. This is an indication of the health of the tree and takes into account vigour, presence of disease and dieback.

A2.2.3 *STRUCTURAL CONDITION* is classed as good, fair or poor. This is an indication of the structural integrity of the tree and takes into account significant wounds, decay and quality of branch junctions.

A2.2.4 *LIFE EXPECTANCY* is classed as; less than 10 years, 10-20 years, 20-40 years, or more than 40 years. This is an indication of the number of years before removal of the tree is likely to be required.

A2.3 Retention Categories

A2.3.1 A (marked green on the plan) = retention most desirable.

These trees are of high quality and value with a good life expectancy. They may be further sub-divided as follows:

- A1) Particularly good examples; perhaps rare or unusual species, or forming an essential part of arboricultural features e.g. avenues.
- A2) Groups of trees having a significant landscape impact or with excellent screening properties, or those softening the effect of existing structures.
- A3) Those having significant conservation or historical value e.g. veteran trees.

A2.3.2 B (marked in blue on the plan) = retention desirable.

These trees are of moderate quality and value with a significant life expectancy. They may be further sub-divided as follows:

- B1) Trees that might be included in the high category but because of their numbers or slightly impaired condition, are downgraded in favour of the better individuals.
- B2) Groups of trees forming distinct landscape features, thereby attracting a higher collective rating than they might as individuals.
- B3) Trees with clearly identifiable conservation or other cultural benefits.

A2.3.3 C (marked in grey on the plan) = trees which could be retained.

These trees are of low quality and value, and are in adequate condition to remain until new planting could be established. They may be further sub-divided as follows:

- C1) Trees not qualifying in higher categories.
- C2) Groups of trees which do not form a distinct landscape feature.
- C3) Trees with very limited conservation or other cultural benefits.

A2.3.4 U (marked in red on the plan) = trees for removal.

These trees are in such a condition that any existing value would be lost within 10 years. This may be due to any of the following:

- 1) Failure is likely due to serious, irredeemable, structural defects.
- 2) Removal of other category U trees will render them exposed and unstable.
- 3) They are in serious, overall decline or are dead.
- 4) They are of low quality and suppressing adjacent trees of better quality.
- 5) Diseases are present which may affect the health of adjacent trees.

These trees should be removed or treated in such a way as to make them safe where they have high ecological value, such as in a woodland setting.

Appendix 3: General Guidelines

- A3.1 All work must be to BS 3998: 2010 '*Recommendations for tree work*'.
- A3.2 Staff carrying out the work must be qualified, experienced and ideally be Arboricultural Association approved contractors. They should be covered by adequate public liability insurance.
- A3.3 This report is based upon a visual inspection. The consultant shall not be responsible for events which happen after this time due to factors which were not apparent at the time, and the acceptance of this report constitutes an agreement with the guidelines and the terms listed in this report.
- A3.4 Any defects seen by a contractor or the employer that were not apparent to the consultant must be brought to the consultant's attention immediately.
- A3.5 No liability can be accepted by JCA in respect of the trees unless the recommendations of this report are carried out under the supervision of JCA and within JCA's timescale.
- A3.6 It is advisable to have trees inspected by an arboricultural consultant regularly. In this instance it is recommended that these inspections are made every year.

Appendix 4: Glossary of Terms & Abbreviations

Arboriculture	The cultivation of trees in order to produce individual specimens of the greatest ornament, for shelter or any primary purpose other than the production of timber.
Canker	Disease damaged area of a tree, usually caused by fungus or bacteria.
Co-dominant Stem	A stem which has grown in direct competition to the main stem and which has formed a substantial size influencing the appearance of the tree.
Crown Lift	The removal of the lowest branches, usually to a given height. It allows more residual light and greater clearance underneath for vehicles etc.
Crown reduce	The reduction of a tree's height or spread while preserving its natural shape.
Crown thin	The removal of some of the density of a tree's crown, usually 5-25% allowing more light through its canopy and reducing wind resistance.
Deadwood	Either dead branches, or a procedure involving the removal of dead, dying and diseased branches.
Dieback	Where branches are beginning to show signs of death usually at the tips in the crown.
Epicormic shoots	Small branches that grow in uncharacteristic clusters around the base or the stem of a tree, usually as a result of bad pruning or some other stress factor.
Formative pruning	The trimming of a tree to remove weaknesses and irregularities which may lead to problems. The formative pruning operation is aimed at reducing the potential for future weaknesses or problems within the tree's crown.
Included bark	Where the bark on two adjoining branches or stems is growing tight together, forming a joint with limited physical strength.
Pollarding	A method of tree management in which the main trunk of the tree is cut at about 4m, and the resulting branches are then cropped on a regular basis.
Remedial pruning	The removal of old stubs, deadwood, epicormic growth, rubbing or crossing branches and other unwanted items from the tree's crown. Sometimes referred to as crown cleaning.
RPA	Root Protection Area – Theoretical rooting area of a tree as defined in BS5837:2012 <i>Trees in relation to construction</i> .
Topping	Topping is a form of pruning that removes terminal growth leaving a 'stub' cut end. Topping causes serious health problems to a tree.

Appendix 5: Author Qualifications

Principal Consultant and Managing Director

Jonathan Cocking *F.R.E.S., Tech. Cert. (Arbor.A), PDipArb (RFS) FARborA CBiol MSB, MICFor*. Jonathan is a Registered Consultant and Fellow of the Arboricultural Association and sits on its Professional Committee. He has 31 years experience in the Arboricultural profession and served for eight years as Senior Arboriculturist with a large local authority before establishing JCA in 1997. Jonathan has since developed JCA's portfolio of services and its extensive client base. He is a Chartered Biologist, a Chartered Arboriculturalist and an Expert Witness with much experience of litigation work.

Technical Coordinator

Toby Thwaites *BSc (Hons), HND (Arboriculture)*. Toby joined JCA in 1998 after graduating in Ecology at the University of Huddersfield and has since graduated in Arboriculture at the University of Central Lancashire. A former JCA team leader and Consulting Arboriculturist, Toby was promoted to Technical Coordinator and now oversees all office and on-site activities at JCA and is on hand to offer technical support and advice.

Consulting Staff: Arboriculture

Andy Bagshaw *FdSc (Arboriculture)*. Andy joined JCA in 2005 having gained several years experience in tree surgery and landscaping. He is trained in aerial rescue and is JCA's principal first aid person. Andy has obtained a foundation degree in Arboriculture at the University of Central Lancashire, is QTRA qualified and is a JCA team leader who manages an office of Consulting Arboriculturists.

Toby Parsons *Cert. Arb. (RFS), Tech. Cert. (Arbor.A)*. Toby joined JCA after spending 6 years working as a senior climber for various Arboricultural contractors in the East Midlands and the South-West. He has gained the Level 2 Certificate in Arboriculture (RFS) and an Arboricultural Technicians Certificate. Toby is LANTRA certified in Professional Tree Inspection.

Scott Reid *ND (Arboriculture and Forestry)*. Scott joined JCA after working with other consultancy companies in the south of England. He specialises in trees in relation to development and holds a National Diploma, various NPTC qualifications and is currently studying for his Level 4 Diploma in Arboriculture.

Andrew Bussey Andrew joined JCA having spent 12 years working as a tree surgeon for various private companies and a Local Authority. He has various NPTC qualifications, is QTRA qualified and is currently studying for his Arboricultural Technicians Certificate.

Phil Humeniuk *FdSc (Arboriculture)*. Phil joined JCA having spent 3 years working for various tree surgery companies and as a Tree Officer for a Local Authority. He also has several years experience working as a consultant both for JCA and for another consultancy. Phil obtained his foundation degree in Arboriculture at the University of Central Lancashire and has various NPTC's and is LANTRA certified in Professional Tree Inspection.

Flora Harding *BSc (Hons) Fd.BSc. (Arboriculture and Tree Care)*. Flora has a degree in Rural Resource Development (specialising in Wildlife and Landscape Conservation). She spent her former career working for a local authority and has a licence for QTRA. In 2012, Flora published an article to enable industry based research for the purpose of gaining Chartered Arboriculturist status.

Michelle Ryan *BSc (Hons) Arboriculture*. Michelle has recently joined JCA having previously worked for a Local Authority. She obtained a degree in Arboriculture at the University of Central Lancashire and has various NPTC qualifications. Michelle is seeking to become LANTRA certified in Professional Tree Inspection.

Liam Plummer *BSc (Hons), Ecology*. Liam graduated from Bangor University in Ecology. He has recently joined JCA having worked for the Forestry Commission Scotland and previously in the Arboriculture and Conservation sectors. Liam has various NPTC qualifications and has completed several National Diploma (Arboriculture) units.

Charles Cocking. Charles joined JCA in January 2014 as an Apprentice having previously worked for the company on a part time basis during 2013. In between his roles at JCA, Charles will be studying at Myerscough College, Preston, undertaking a one year RFS course which will be followed up by a further two year course, in order to obtain a Foundation degree in Arboriculture – *FdSc (Arboriculture)*.

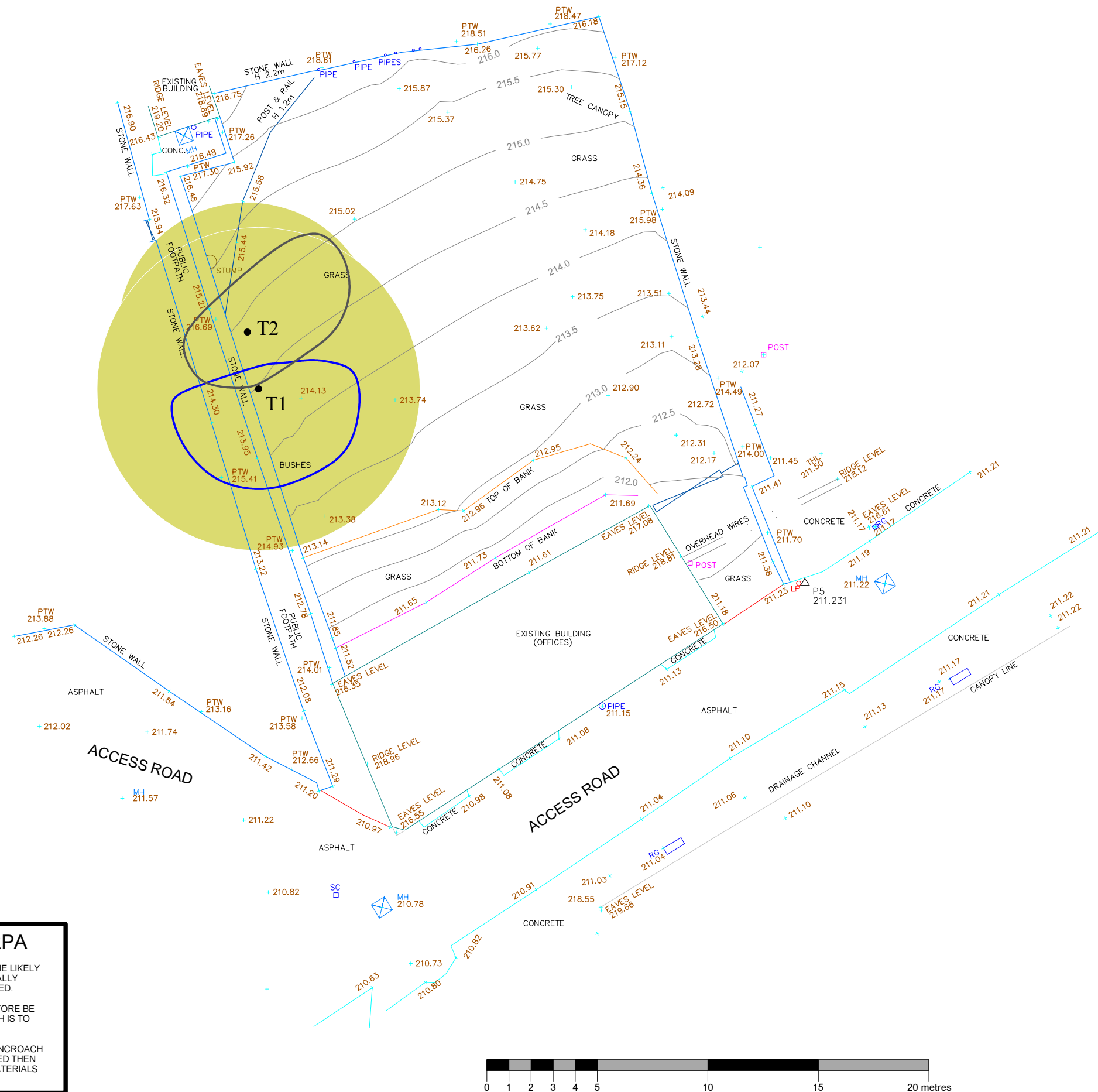
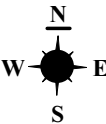
Consulting Staff: Ecology

David Ryder. David has recently joined JCA as our in-house ecologist. He brings with him over 8 years experience in the field of ecological consultancy. David holds a Natural England Licence to disturb and handle bats and is currently undergoing assessment for Chartered Institute of Ecology & Environmental Management (CIEEM) membership.

Administrative Staff

Sue Guest Administrative Team Leader.
Simeon Haigh *BSc (Hons)*. IT Officer.
Lorraine Spink Administrative Assistant.

Yasmin Shahzad Administrative Assistant.
Catherine Cocking Accounts Manager.



Root Protection Area: RPA

THE ROOT PROTECTION AREA (RPA) INDICATES THE LIKELY ROOTING ZONE OF A TREE. THE RPA SHOULD IDEALLY REMAIN UNDISTURBED IF A TREE IS TO BE RETAINED.

THE DEVELOPMENT PROPOSALS SHOULD THEREFORE BE DESIGNED TO AVOID THE RPA OF ANY TREE WHICH IS TO BE RETAINED.

IF IT IS NECESSARY FOR THE DEVELOPMENT TO ENCROACH INTO THE RPA OF A TREE WHICH IS TO BE RETAINED THEN SPECIALIST CONSTRUCTION TECHNIQUES AND MATERIALS MUST BE CONSIDERED.

Appendix 6: Tree Constraints Plan

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SCALE : 1:200

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SURVEYED BY: TT

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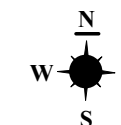
BRITISH STANDARD 5837:2012: 4.5 RETENTION CATEGORIES

Detailed definitions of these categories are at Appendix 2 of our report. N.B. These categories do not necessarily represent or correspond to recommendations for action made in this report.

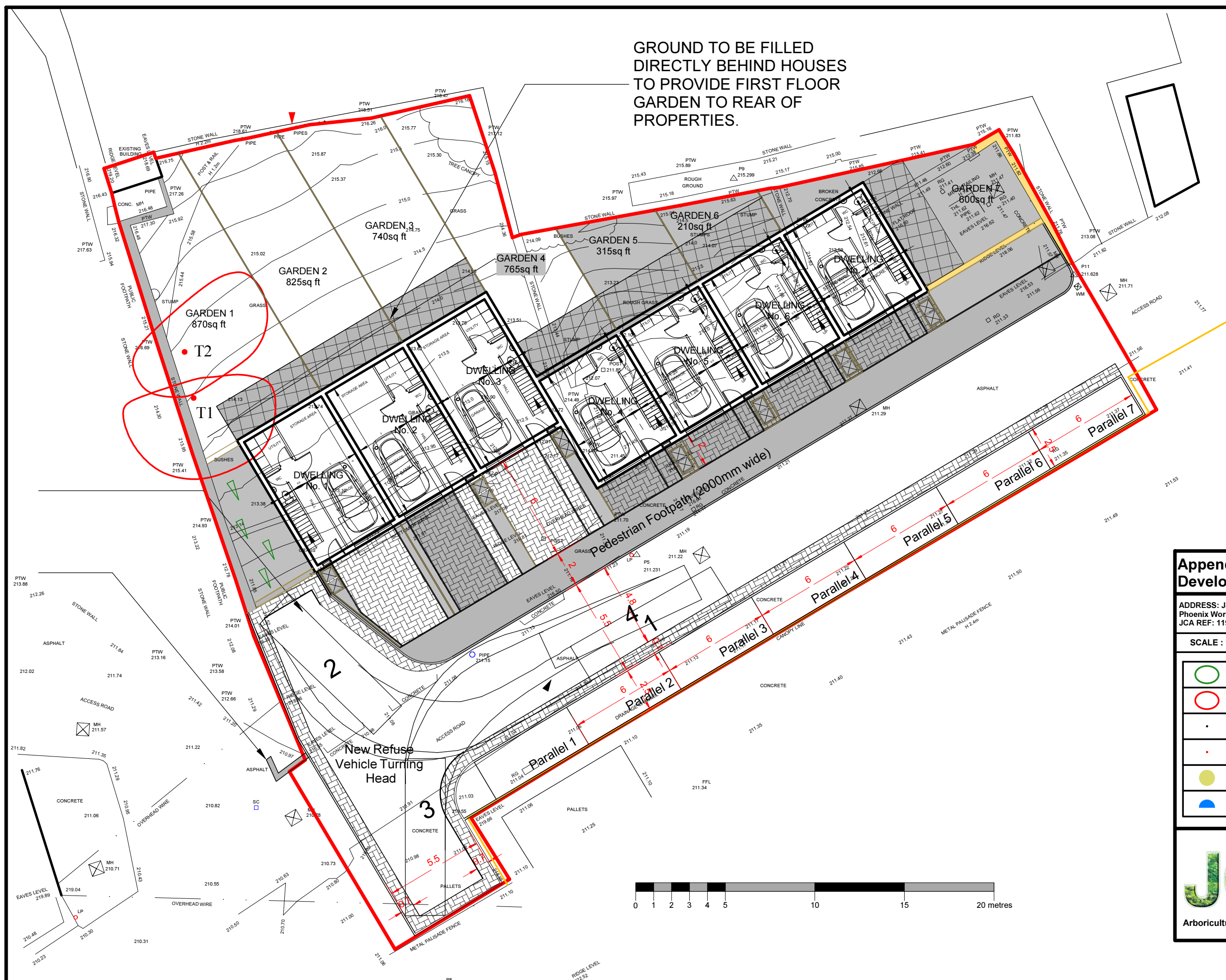
	CATEGORY A: 'RETENTION MOST DESIRABLE'
	CATEGORY B: 'RETENTION DESIRABLE'
	CATEGORY C: 'TREE WHICH COULD BE RETAINED'
	CATEGORY U: 'TREE FOR REMOVAL'
	STEM OF TREE TO BE RETAINED
	STEM OF TREE TO BE REMOVED
	ROOT PROTECTION AREA
	ROOT PROTECTION AREA (PRIOR TO OFF-SETTING)



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GROUND TO BE FILLED
DIRECTLY BEHIND HOUSES
TO PROVIDE FIRST FLOOR
GARDEN TO REAR OF
PROPERTIES.



Appendix 7: Development Proposals

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	TREE TO BE RETAINED
	TREE TO BE REMOVED
	STEM OF TREE TO BE RETAINED
	STEM OF TREE TO BE REMOVED
	ROOT PROTECTION AREA
	ROOT PROTECTION AREA ENCROACHED BY THE PROPOSED DEVELOPMENT

JCA Limited
Arboricultural & Forestry Consultants

I hope that this report provides all the necessary information, but should any further advice be needed please do not hesitate to contact the author.

Signed

Toby Thwaites

.....
Toby Thwaites BSc. (Hons), H.N.D. Arboriculture.

10th October 2014

For and on behalf of **JCA Ltd**

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Catherine Cocking
RGN RM

Photo front cover: Sluice at Bowers Mill

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