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Arboricultural Advice in accordance with BS 5837:2012 Trees in relation to construction – Recommendations Tree survey, Impact Assessment and Tree Protection Advice 3rd May 2013

Subject Property:	Former Fole Dairy Fole Nr.Uttoxeter Staffordshire ST14 5EH
Instructing Client:	WSP Environment & Energy on behalf of the Co-operative Group
Completed by:	Chris Shortis Dip. Arb. (RFS) M. Arbor A. Midland Forestry Ltd Eastcote Hall Farm Barston Lane Hampton-in-Arden Solihull B92 0HR

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Appendices

1 INTRODUCTION

1.1 **Brief** We have been appointed by WSP on behalf of the Co-operative Group to carry out an arboricultural survey of the former Fole Dairy site and to provide a tree survey, impact assessment and tree protection advice in accordance with BS5837:2005 *Trees in relation to construction – Recommendations* and subsequently updated to BS5837:2012 *Trees in relation to demolition, design & construction – Recommendations* (hereafter BS5837).

1.2 **Qualifications and experience:** I have based this report on my site observations and the provided information, and I have come to conclusions in the light of my experience. I have experience and qualifications in arboriculture and list the details in Appendix 1. Observations or comments on structural engineering and the law are made from an arboricultural perspective. Specialist professional advice should be sought to clarify such observations.

1.3 **Documents and information provided:** I was provided with copies of the following documents:

- Topographical survey of the site. (dwg no. sss-3864-WSP-uttoxeter-fole; dated June 2011)
- Masterplan (dwg PL1119.M100 Rev I; dated 20.01.12)

1.4 **Scope of this report:** This report includes an assessment of the trees in relation to potential development in order to:

1. Record principle attributes (species, height, crown spread and stem diameter).
2. Determine their quality and value.
3. Identify their remaining contribution and retention grading.
4. To show the collected data graphically on the Tree Protection Plan.

1.5 **Purpose of the report:** The data collected and plotted on the tree survey plan is used to inform my opinion of the defensible level of tree retention/removal presented as a preliminary tree constraints plan, showing, by definition, the constraints imposed by those trees prioritised for retention. This advice is preliminary in nature.

1.6 **Caveats:** This report is only concerned with trees in relation to construction. It includes a detailed assessment based on the site visit and the documents provided, listed in 1.3 above. All my observations were from ground level without detailed investigations. Aerial tree inspection, invasive procedures and sub-soil investigations are outside the scope of the report. Should further assessment involving any of these be required it will be highlighted in the report.

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2 TREE SURVEY

2.1 Scope and method

2.1.1 A tree survey was carried out compliant with BS5837:2005. The collected data was updated to reflect changes made with the revision BS5837:2012 and is included as appendix 2 and the pertinent information is shown graphically on the Tree Protection Plan (appendix 4).

2.1.2 Trees are categorised in accordance with the cascade chart in Table 1 of BS5837:2012. The purpose of the categorisation process is to differentiate the quality and value of the existing tree stock so that informed decisions can be made on the retention or removal of trees.

2.1.3 The tree categories are summarised thus:

Category U: Trees lost within the short term for reasons of physiology or structural integrity.

Category A: Trees of particularly high quality in arboricultural, landscape or cultural/conservation terms

Category B: Moderate quality trees downgraded from the high category because of significant defects, groups with a collective value through numbers rather than individual tree quality or trees with identifiable cultural or conservation values.

Category C: Trees with low value in arboricultural, landscape or cultural/conservation terms. Also includes young trees with a stem diameter of less than 150mm.

For trees in categories A – C subcategories 1, 2 & 3 are given to reflect arboricultural, landscape and cultural values respectively.

2.2 Findings of the survey

2.2.1 The tree survey identified 15 individual trees and 6 tree groups. Of these, it was found that they fell into the following quality and value grades:

BS 5837 QV Category	Description	No of trees or groups	Percentage
U	Trees lost in the short term (<10 yrs)	3	14
A	Trees of particularly high quality	2	10
B	Trees of moderate quality	7	33
C	Trees of low quality	9	43
		21	100

3 ARBORICULTURAL IMPACT ASSESSMENT

3.1 **Overview of the tree stock:** The tree population is concentrated along the southern edge of the site, between the existing buildings and the river. The trees are of variable quality and form a significant feature in the local landscape, albeit in an area of limited public access. The species range is generally suited to the location and represent a mixture of landscaped planting and trees of self-set or natural origin. The major exception is the grown out Leyland cypress hedge on the frontage, which is out of character with the wider landscape though has provided a useful screen of the industrial appearance of the former dairy.

3.2 **Development proposals:** A detailed description of the proposals is provided by others in the planning application, however for reference purposes and in the context of this report it is useful to provide a summary:

- The development is primarily residential with just over half the proposed approximate 61 units being 2 bed properties.
- Areas of public open space will be created around the existing stream, Broadgate Hall Brook the latter being currently culverted will be opened out.
- New tree planting will occur in areas of open space.
- Play space secured with fencing will be created beside the river utilising and building upon the existing green space and providing public access.

3.3 **Impact assessment**

3.3.1 The proposal will lead to the loss of very few trees, the majority of which are of low quality and value with none being a quality landscape feature in the existing context. The purpose of critical grading the trees is to make informed decisions on the retention and removal decisions with the logical emphasis is on the loss of lower quality trees to enable the retention of better quality trees. Category C trees can therefore be considered acceptable losses to facilitate development.

3.3.2 The greatest significance in landscape impact is the loss of the hedge along the frontage with Uttoxeter Road (ref TG 3). This hedge has served successfully as a screen for the existing site but it is out of character with the rural nature of the area and its loss will not be detrimental to the character of the local landscape. The proposal includes the commendable replacement with species appropriate to the location and to fit the layout.

3.3.3 Internally trees of modest size will be removed including a single tree of moderate quality (T15). None of these trees have any significant impact on the visual amenity of the area with T15 in particular is entirely screened from the Uttoxeter Road by the existing building and there are only very distant glimpsed views from Fole Lane to the south east of the site.

3.3.4 The branch tips of trees 13, 14 & TG 6 are in contact with the existing buildings to be demolished. A degree of facilitation pruning will be necessary to avoid damage to the trees during demolition works. Even once the pruning works have been completed care will be required during demolition works to avoid damage to the trees and accordingly a methodology is detailed in the Arboricultural

Method Statement.

3.3.5 Tree 6 is causing substantial damage to the boundary wall attached to the former Recreation Room to the east of the site. This wall appears to have been buttressed to provide secondary support against historical damage. This buttress has now been displaced by the incremental growth of the tree applying direct pressure to the wall. The tree has potential for further growth and this will result in ongoing and worsening damage with the wall at risk of collapse. The tree needs to be removed and considering the moderate quality, mitigation for the loss should be factored into the landscaping scheme.

3.3.6 Pruning works have been recommended to tree 5 and TG 5. These works are recommended irrespective of whether development takes place or not.

3.3.7 The proposal includes areas of green space with many new trees shown indicatively. Whilst the proposal is only outline, nonetheless it shows the substantial scope for increased green space and many new trees as a result of development. Particular note is the space given to the trees; in many instances there are opportunities to plant species with moderate to large final size rather than the token gesture small species that adorn many proposals.

3.4 **Retention Trees**

3.4.1 Harm to trees during construction operations is most commonly in the form of root damage through excavation works within the root protection area or through soil compaction leading to root dysfunction and death. The proposal includes demolition works inside the root protection areas of some trees. There will be a need to carefully consider demolition methods and the means to protect the soil structure in the root protection area during construction. We suggest the protection measures detailed in BS5837 would be suitable and a combination of fencing and ground protection system should be used. The fencing should consist of Heras type wire mesh panels mounted on a well braced scaffold framework with the uprights and braces driven into the ground. These are detailed on the Tree Protection Plan and in the Arboricultural Method Statement.

3.4.2 Underground structures are present within the root protection areas of some retained trees and the treatment of these requires careful consideration. The need for removal has not been fully established at this stage and arboriculturally the preferred option is to retain undisturbed. If removal is essential the operations will need to be carefully planned with substantial arboricultural input and a detailed method statement provided.

3.4.3 No information was provided on the routing of services but these can readily be kept out of root protection areas. In the event of installation through root protection areas being unavoidable specialist installation techniques can be used, if required.

3.4.4 The detail of layout is presented in sketch form with no significant detail. This is common to outline applications with the detailed proposals are prepared for reserved matters applications. The final positioning of structures, layout and infrastructure will need to reflect the arboricultural presence and are matters for the detailed planning stage, rather than outline proposals.

4 CONCLUSIONS

4.1 The proposal requires the removal of a number of trees, predominantly of low quality and value.

4.2 A single tree of moderate quality is identified for removal to prevent the continuing damage to a boundary wall attached to the former Recreation Room. This recommendation is not made in relation to the proposal. A further internal tree of moderate quality is indentified for removal to facilitate development. This is an internal tree with very limited public visibility and the loss will not materially impact the visual amenity of the wider area.

4.3 The demolition of the existing structures will require a modicum of pruning to the adjacent trees. This works are minimal in nature and will not be detrimental to the visual appearance of the trees or their long term retention. Care will be needed during demolition works to avoid harm to these trees and the matter is detailed within the Arboricultural Method Statement.

4.4 Tree protection measures are essential during both demolition and construction phases to ensure the successful retention of trees. This has been detailed on the Tree Protection Plan and in the Arboricultural Method Statement. Further input will be required once the treatment of below ground structures within root protection areas has been detailed.

4.5 The outline proposal identifies many opportunities for landscape planting where trees of substantial final size can be included. The indicated planting locations reflect a net gain in tree numbers across the site as a result of development.

4.6 Taken on balance, considering the tree losses, the likely successful retention of trees identified for retention and with due consideration of the potential for new planting I consider that the proposal is arboriculturally acceptable, and I am happy to lend my full professional support

Chris Shortis

Chris Shortis Dip. Arb. (RFS), M. Arbor A.
Associate Director

Appendix 1

Brief qualifications and experience of Chris Shortis

1. Qualifications

- Royal Forestry Society Professional Diploma in Arboriculture.
- Arboriculture Association Technician Certificate (Credit).
- National Certificate in Arboriculture and Forestry (Double Distinction).
- Awarded Warwickshire College Arboriculture Student of the Year.

2. Practical experience:

- Bournville Landscapes and Tree Care Ltd: Arborist.
- Midland Forestry Ltd: Arboriculturalist.
- Midland Forestry Ltd: Arboricultural Consultant
- Midland Forestry Ltd: Associate Director

3. Continuing professional development:

Studied for The Arboriculture Association Technician Certificate and the Royal Forestry Society Professional Diploma at Westonbirt Arboretum with Treelife AC Ltd Training.

Licensed user of *Quantified Tree Risk Assessment.*

Recent seminars and conferences attended:

- Defensible Tree Management Systems (International Society of Arboriculture)
- Practitioners guide to Visual Tree Assessment
- New Horizons in Arboriculture (Arboriculture Association)
- Arboriculture Association - British Standard 5837:2005 Application and Implications.
- Visual Tree Assessment, Tree Safety Diagnosis and Failure Analysis seminar by Dr. Claus Mattheck
- Preparing for and giving evidence at Public Local Inquiries
- 40th National Arboriculture Conference (Arboriculture Association)
- Fungal Decay Process & Applied Engineering
- Designing with Trees
- Capital Asset Value for Amenity Trees (CAVAT)
- Trees, People and the Built Environment

Independently evaluation of surveys carried out by David Dowson MICFor BA (Hons) F.ARBOR.A Dip Arb (RFS) of Treelife AC Training Ltd as part of the accreditation procedure for Arboriculture Association Approved Contractor status.

Midland Forestry is committed to continuing professional development.

4. Membership of professional bodies:

- Professional Member of the Arboriculture Association.
- Member of the Royal Forestry Society.
- Associate Member of the Institute of Chartered Foresters.

APPENDIX 2 - Tree Survey Schedule Explanatory Notes

- **ID no**.: Trees and groups are recorded using a site-specific unique identification number. This identification number is used for all references throughout the report and associated plans
- **Species:** The species identification is based on visual observations and the common English name of what the tree appeared to be is listed. In some instances, it may be difficult to quickly and accurately identify a particular tree without further detailed investigations. Where there is some doubt of the precise species of tree, it is indicate it with a '?' after the name in order to avoid delay in the production of the report. The species listed for groups and hedges represent the main component and there may be other minor species not listed.
- **Estimated dimensions:** Estimated dimensions are marked *.
- **Height:** Height is to the nearest metre.
- **Stem diameter(s):** This is measured at 1.5m above ground level and recorded in millimetres.
- **NSWE:** The branch spread is measured in metres at the four cardinal points of the compass to derive an accurate representation of the crown.
- **Ht 1st branch**: Height above ground in metres of attachment point of first significant branch (cardinal point may be given indicating direction of lowest branch).
- **Life Stage:** Assessed as Young, Semi-Mature, Early-Mature, Mature, Over Mature and Veteran.
- **Phys. condition:** An assessment of the physiological condition (i.e. health/vitality) status of the tree summarised into:

  Good: Generally in healthy condition

  Fair:Condition satisfactory though below mean species performance

  Poor: Tree in decline

  Dead: Self-explanatory
- **Structural condition & Notes:** Notes on the structural integrity of the tree based on visual tree assessment, including damage, decay fungi, pests, etc as appropriate, plus other pertinent observations
- **Management recommendations:** Recommendations for intervention (e.g. tree surgery, felling, etc) prior to any development. Immediately hazardous trees will be notified to the client separately.
- **Ret. Span:** An estimate of the remaining contribution span that the tree or group of trees is expected to have, based on species, condition and context. The following longevity bands are used, categorised accordingly:

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<10 Tree is dead, dying, has a severe structural defect, or will become exposed following inevitable loss of companion shelter. Possibly requires sanitation felling Unsuitable for retention

10+ Short-term longevity only: replacement planting generally appropriate

20+ Mid-term longevity

40+ Good longevity

- **QV Grade:** Quality & Value grade classification according to BS5837

  U - Unsuitable for retention

  A - High retention priority

  B - Moderate retention priority

  C - Low retention priority

  +subcategories 1, 2 & 3 reflecting arboricultural, landscape and cultural values respectively.

- **Retention / removal colour code**:

  Trees and groups to be retained

  Trees and groups to be removed to facilitate development

  Trees and groups to be removed for arboricultural reasons

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APPENDIX 2 - Tree Survey Schedule

Survey Data for Individual Trees

Tree No.	Species	Ht.	Dia. (mm)	N	S	W	E	Ht. 1st br.	Age Class	Phys. Condition	Structural condition & Notes	Management recommendations	Ret. Span	QV Grade
1	Lawson cypress	6	300 MS	2	3	2	3	2	EM	P	Multiple stems and poor shape and form. Outside of the application site and unaffected by the proposals.	No action required at time of survey	10+	C1
2	Plum	4.5	250*	2	2	1	3	1	OM	P	Poor shape and form and heavily suppressed by ivy.	Remove for reasons of sound arboricultural management	<10	U
3	Ash	6	130	1.5	1.5	1.5	1.5	2	Y	G	No apparent significant defects	Remove to facilitate development	40+	C1
4	Ash	5	175 MS	2	1	0	2	1	Y	F	Crown is suppressed by adjacent trees. Poor shape and form.	Remove to facilitate development	40+	C1
5	Ash	15	650 MS	8.5	9	8.5	8.5	4.5	M	G	Tight fork with bark inclusion at 1m. Ivy obscures stem. End-loaded lateral branches with hazard beam failure of branch to NE.	Remove suspended branch. Reduce crown by 20% to address branch failure potential	10+	C1

Tree No.	Species	Ht.	Dia. (mm)	N	S	W	E	Ht. 1st br.	Age Class	Phys. Condition	Structural condition & Notes	Management recommendations	Ret. Span	QV Grade
6	Ash	13	700 MS*	8.1	7.9	6	8.4	5	M	G	Secondary stem from ground level. Base in contact with and substantially distorting adjacent wall. Retention of both tree and wall on the existing alignment and not mutually compatible.	Remove to prevent further damage to wall	20+	B1
7	Common lime	14	640	6.0	4.5	6.5	4.8	6	M	F	Epicormic growth at base and through crown. Metal pipe brackets embedded in stem. Crown suppressed to SE by adjacent tree. Major dead wood scattered through crown	Remove basal/ epicormic and reinspect	40+	B2
8	Copper beech	16	880	7.2	7*	4.6	7.6	6	M	F	Crown is suppressed to NW & W by adjacent tree. 3no. *Ganoderma lipsiense* fruiting bodies at base on NE side. Extinct fruiting body to N. Sounding indicates localised decay. Dead leaves retained across crown. Major dead wood scattered through crown	No action required at time of survey	20+	B1
9	Ash	8	240	1.9	3.7	2.9	3.1	2	Y	F	Poor shape and form from crown suppression and unsympathetic past pruning.	Remove to facilitate development	20+	C1
10	Ash	11	315	1.8	5.9	3.8	4.1	4	Y	F	Poor shape and form from crown suppression and unsympathetic past pruning.	Remove to facilitate development	20+	C1

Tree No.	Species	Ht.	Dia. (mm)	N	S	W	E	Ht. 1st br.	Age Class	Phys. Condition	Structural condition & Notes	Management recommendations	Ret. Span	QV Grade
11	Apple	5.5	320 MS	2.5	4	5	2	1	OM	F	Leaning stem with dysfunction and dieback through crown.	Remove for reasons of sound arboricultural management	<10	U
12	Beech	5.5	150	3	3	3	3	1	Y	F	Low and congested crown, suppressed by adjacent trees	No action required at time of survey	40+	C1
13	Ash	14	475	6	5	7.2	5.9	3	EM	G	No apparent significant defects. Branches in contact with existing building.	Facilitation pruning to provide clearance for demolition works. Suggested 2m clearance provided.	40+	A1
14	Alder	9.5	300	4	3.5	4.7	3.0	2	EM	G	Basal/epicormic growth. Branches in contact with existing building. No apparent significant defects	Facilitation pruning to provide clearance for demolition works. Suggested 2m clearance provided.	40+	B1
15	Alder	10	250	3	2.5	3.8	3.2	2	EM	G	Slight stem lean. Branches in contact with existing building.	Remove to facilitate development	40+	B1

Survey Data for Tree Groups

Tree No.	Species	Ht.	Dia. (mm)	N	S	W	E	Ht. 1st br.	Age Class (Y-MA-M-OM-V)	Phys. Condition (G-F-P-D)	Structural condition & Notes	Management recommendations	Ret. Span	QV Grade
TG 1	Alder Crack willow & Ash	15	200-500	4.5	4.5	4.5	4.5	2	M	F	Linear group of useful screening potential on the opposite side of stream. Under third party ownership.	No action required at time of survey	20+	B2
TG 2	Alder	11	300 max	4	4	4	4	2	EM	G	Self set trees growing in the brickwork over the millrace. Largest has Phytophthora bleeding cankers.	No action required at time of survey	<10	U
TG 3	Leyland cypress	6-8	150	1.5	1.5	1.5	1.5	1	SM	G	Grown out hedge of useful screening function but unremarkable in all other respects and of little arboricultural merit.	Remove to facilitate development	10+	C2
TG 4	Holly Hawthorn & Elder	4-6	250	1	1	1	1	0	M	G	Grown out boundary hedge of good screening function. Occasional dead stem and gaps developing. Some elder growth suppressing principal species.	Replace dead stems and plant up gaps. Consider options for returning to hedge management though laying or reduction to 1m with a circular saw.	40+	A2

Tree No.	Species	Ht.	Dia. (mm)	N	S	W	E	Ht. 1st br.	Age Class (Y-MA-M-OM-V)	Phys. Condition (G-F-P-D)	Structural condition & Notes	Management recommendations	Ret. Span	QV Grade
TG 5	White willow	24	900 MS max*	7.5	7.5	7.5	7.5	1	OM	G	Stout lower stems bearing massive scaffolds. Tight forks with bark inclusion on two largest specimens likely to lead to failure in the short term. Rooting system extents are complex and extensively beneath existing site structures. Some damage may occur during sub-soil demolition works.	Consider management options; Remove and replace, Substantially reduce and retain with ongoing management or Combination of both replacement with phased removal and reduction.	10+	C2
TG 6	Silver birch	14	155-345	3	6	4	6	2	M	G	Close set trees forming a single canopy. Branches in contact with existing building. Smallest tree underperforming and adds little to the group.	Remove the smallest trees and plant replacement. Facilitation pruning to provide clearance for demolition works. Suggested 2m clearance provided.	20+	B2

APPENDIX 3

BS 5837 Trees in Relation to Demolition, Design & Construction
Table 1

Instruction: Fole Dairy. 03-05-13
Ref. MF/5921D
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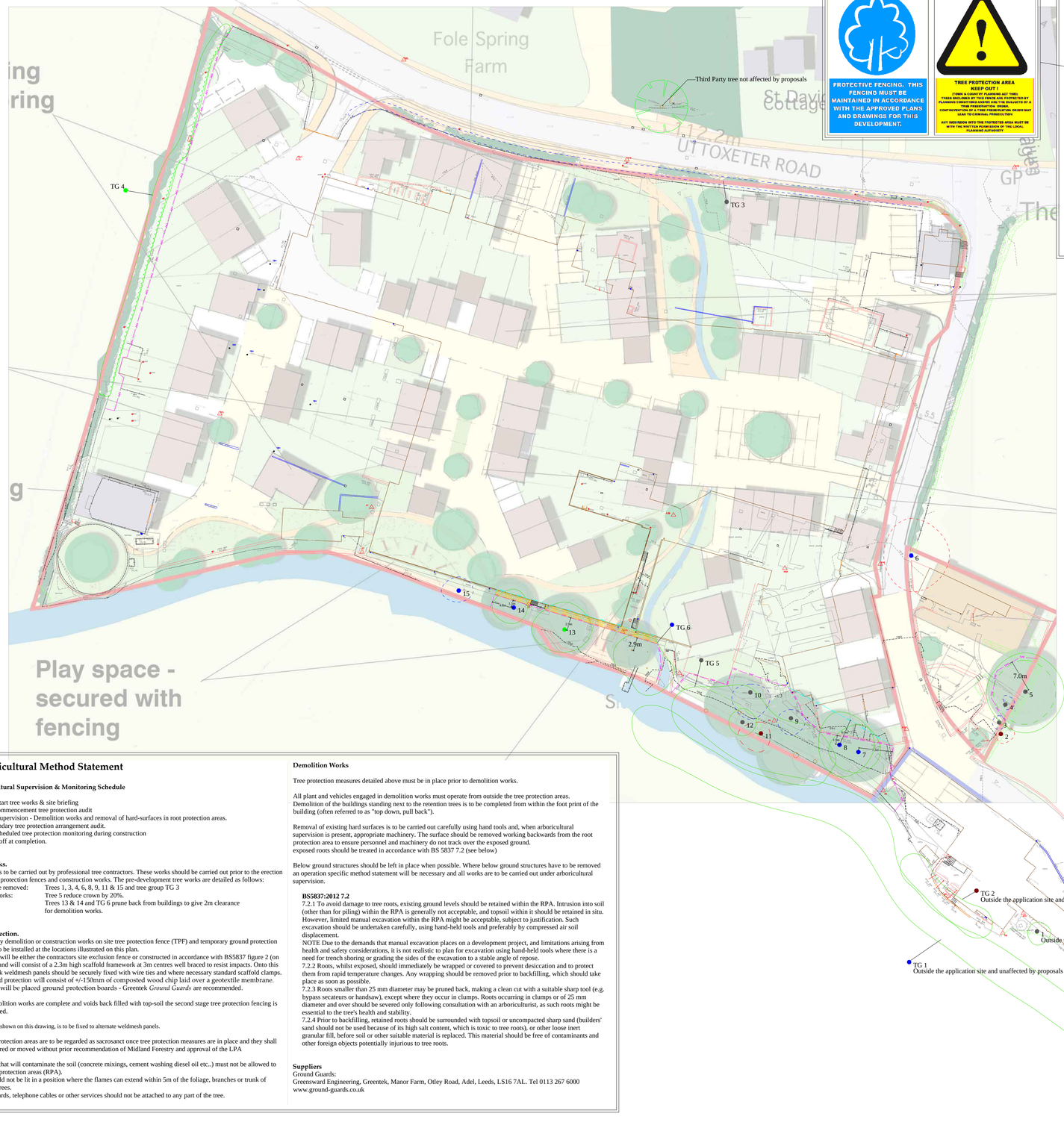
Table 1 **Cascade chart for tree quality assessment**

Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention (see Note)				
Category 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	Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality *NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see **4.5.7**.*			See Table 2
	1 Mainly arboricultural qualities	**2 Mainly landscape qualities**	**3 Mainly cultural values, including conservation**	
Trees to be considered for retention				
Category A **Trees of high quality** with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	See Table 2
Category B **Trees of moderate quality** with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value	See Table 2
Category C **Trees of low quality** with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	See Table 2

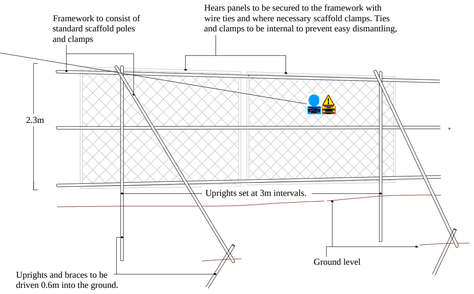
APPENDIX 4

TREE PROTECTION PLAN

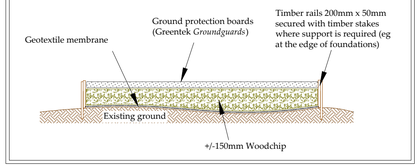


Tree Protection Fencing from BS5837:2005 figure 2

(Not to scale)



Ground protection cross section



Arboricultural Method Statement

Arboricultural Supervision & Monitoring Schedule

1. Pre-start tree works & site briefing
2. Precommencement tree protection audit
3. Site supervision - Demolition works and removal of hard-surfaces in root protection areas.
4. Secondary tree protection arrangement audit.
5. Unscheduled tree protection monitoring during construction
6. Sign off at completion.

Tree works.
Tree works to be carried out by professional tree contractors. These works should be carried out prior to the erection of the tree protection fences and construction works. The pre-development tree works are detailed as follows:

Trees to be removed:	Trees 1, 3, 4, 6, 8, 9, 11 & 15 and tree group TG 3
Pruning works:	Tree 5 reduce crown by 20%.
	Trees 13 & 14 and TG 6 prune back from buildings to give 2m clearance for demolition works.

Tree Protection.
Prior to any demolition or construction works on site tree protection fence (TPF) and temporary ground protection (TGP) is to be installed at the locations illustrated on this plan.
The fence will be either the contractors site exclusion fence or constructed in accordance with BS5837 figure 2 (on this dwg) and will consist of a 2.3m high scaffold framework at 3m centres well braced to resist impacts. Onto this frame work weldmesh panels should be securely fixed with wire ties and where necessary standard scaffold clamps.
The ground protection will consist of +/-150mm of composted wood chip laid over a geotextile membrane.
Over this will be placed ground protection boards - Greentek *Ground Guards* are recommended.

Once demolition works are complete and voids back filled with top-soil the second stage tree protection fencing is to be erected.

Signage, as shown on this drawing, is to be fixed to alternate weldmesh panels.

The tree protection areas are to be regarded as sacrosanct once tree protection measures are in place and they shall not be altered or moved without prior recommendation of Midland Forestry and approval of the LPA

Materials that will contaminate the soil (concrete mixings, cement washing diesel oil etc..) must not be allowed to enter root protection areas (RPA).
Fires should not be lit in a position where the flames can extend within 5m of the foliage, branches or trunk of retention trees.
Notice boards, telephone cables or other services should not be attached to any part of the tree.

Demolition Works

Tree protection measures detailed above must be in place prior to demolition works.

All plant and vehicles engaged in demolition works must operate from outside the tree protection areas.
Demolition of the buildings standing next to the retention trees is to be completed from within the foot print of the building (often referred to as "top down, pull back").

Removal of existing hard surfaces is to be carried out carefully using hand tools and, when arboricultural supervision is present, appropriate machinery. The surface should be removed working backwards from the root protection area to ensure personnel and machinery do not track over the exposed ground.
exposed roots should be treated in accordance with BS 5837 7.2 (see below)

Below ground structures should be left in place when possible. Where below ground structures have to be removed an operation specific method statement will be necessary and all works are to be carried out under arboricultural supervision.

BS5837:2012 7.2
7.2.1 To avoid damage to tree roots, existing ground levels should be retained within the RPA. Intrusion into soil (other than for piling) within the RPA is generally not acceptable, and topsoil within it should be retained in situ. However, limited manual excavation within the RPA might be acceptable, subject to justification. Such excavation should be undertaken carefully, using hand-held tools and preferably by compressed air soil displacement.
NOTE Due to the demands that manual excavation places on a development project, and limitations arising from health and safety considerations, it is not realistic to plan for excavation using hand-held tools where there is a need for trench shoring or grading the sides of the excavation to a stable angle of repose.
7.2.2 Roots, whilst exposed, should immediately be wrapped or covered to prevent desiccation and to protect them from rapid temperature changes. Any wrapping should be removed prior to backfilling, which should take place as soon as possible.
7.2.3 Roots smaller than 25 mm diameter may be pruned back, making a clean cut with a suitable sharp tool (e.g. bypass secateurs or handsaw), except where they occur in clumps. Roots occurring in clumps or of 25 mm diameter and over should be severed only following consultation with an arboriculturist, as such roots might be essential to the tree's health and stability.
7.2.4 Prior to backfilling, retained roots should be surrounded with topsoil or uncompacted sharp sand (builders' sand should not be used because of its high salt content, which is toxic to tree roots), or other loose inert granular fill, before soil or other suitable material is replaced. This material should be free of contaminants and other foreign objects potentially injurious to tree roots.

Suppliers
Ground Guards:
Greensward Engineering, Greentek, Manor Farm, Otley Road, Adel, Leeds, LS16 7AL. Tel 0113 267 6000
www.ground-guards.co.uk

midland forestry

Client: WSP Environment and Energy

Instruction: Fole Dairy

Ref: MF/5921

Drawing Title: Tree Protection Plan

DWG No.: MF/5921.02D

Revision date: 03-05-13

Scale: 1:500 @ A1 / 1:1000 @ A3

Key

Quality and Value Categories

Category A	High	
Category B	Moderate	
Category C	Low	
Category U	Unsuitable	

Crown outlines

Trees to be retained.

Crown outline post-pruning

Trees to be removed for reasons of sound arboricultural management

Trees to be removed to facilitate development

Tree protection fence

Second stage Tree Protection Fence

Temporary Ground Protection

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