



ARBORICULTURAL PLANNING CONSULTANTS

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ARBORICULTURAL METHOD STATEMENT

**For Protection of Trees
at**

Bicester Eco Town Exemplar Site

Banbury Road

Caversfield

Oxfordshire



February 2018

SJA ams 17313-01a

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1. Statement of purpose

1.1. The purpose of this method statement is to detail what actions need to be taken to ensure the construction of Phases 3 and 4 of the outline approval ref: 10/01780/HYBRID, at Bicester Eco Town Exemplar Site, Caversfield. Oxfordshire does not cause any unacceptable damage to the trees to be retained within this site and in the adjacent properties.

1.2. This method statement has been drawn up to comply with Conditions nos. 75 and 78 of the outline planning permission granted by Cherwell District Council, which state:

75: “No works or development of a phase or adjoining phase shall take place until a scheme for the protection of the retained trees (section 7, BS59837, the Tree Protection Plan) has been agreed in writing with the Local Planning Authority. This scheme shall include:

a) A plan that shows the position, crown spread and Root Protection Area (paragraph 5.2.2 of BS5837) of every retained tree in the phase as shown on drawings D01-UA001881-01, D02-UA001881-01 and D03-UA001881-01 and on neighbouring or nearby ground to the site in relation to the approved plans and particulars. The positions of all trees to be removed shall be indicated on this plan.

b) The details of each retained tree as required at paragraph 4.2.6 of BS5837 in a separate schedule.

c) A schedule of tree works for all the retained trees in paragraphs (a) and (b) above, specifying pruning and other remedial or preventative work, whether for physiological, hazard abatement, aesthetic or operational reasons. All tree works shall be carried out in accordance with BS3998, 1989, Recommendations for tree work.

d) Written proof of the credentials of the arboricultural contractor authorised to carry out the scheduled tree works.

e) The details and positions (shown on the plan at paragraph (a) above) of the Ground Protection Zones (section 9.3 of BS5837).

f) The details and positions (shown on the plan at paragraph (a) above) of the Tree Protection Barriers (section 9.2 of BS5837), identified separately where required for different phases of construction work (e.g. demolition, construction, hard landscaping).

The Tree Protection Barriers must be erected prior to commencement of construction of the relevant phase commencing and remain in place, be maintained, and undamaged for the duration of that phase. No works shall take place on the next phase until the Tree Protection Barriers are repositioned for that phase. Application No : 10/01780/HYBRID 16 of 27

g) The details and positions (shown on the plan at paragraph (a) above) of the Construction Exclusion Zones (section 9 of BS5837).

h) The details and positions (shown on the plan at paragraph (a) above) of the underground service runs (section 11.7 of BS5837).

i) The details of any changes in levels or the position of any proposed excavations within 5 metres of the Root Protection Area (para. 5.2.2 of BS5837) of any retained tree, including those on neighbouring or nearby ground.

j) The details of any special engineering required to accommodate the protection of retained trees (section 10 of BS5837), (e.g. in connection with foundations, bridging, and water features, surfacing)

k) The details of the working methods to be employed with the demolition of buildings, structures and surfacing within or adjacent to the Root Protection Areas of retained trees.

l) The details of the working methods to be employed for the installation of drives and paths within the Root Protection Areas of retained trees in accordance with the principles of “NoDig” construction.

m) The details of the working methods to be employed with regard to the access for and use of heavy, large, difficult to manoeuvre plant (including cranes and their loads, dredging machinery, concrete pumps, piling rigs, etc.) on site.

n) The details of the working methods to be employed with regard to site logistics and storage, including an allowance for slopes, water courses and enclosures, with particular regard to ground compaction and phytotoxicity.

o) The details of the method to be employed for the stationing, use and removal of site cabins within any Root Protection Areas (para. 9.2.3 of BS5837).

p) The details of tree protection measures for the hard landscaping phase (sections 13 and 14 of BS5837).

q) The timing of the various phases of the works or development in the context of the tree protection measures.

The scheme shall be implemented as approved.”

78: “No works or development shall take place until a scheme of supervision for the arboricultural protection measures has been approved in writing by the Local Planning Authority. This scheme will be appropriate to the scale and duration of the works and may include details of:

- a) Induction and personnel awareness of arboricultural matters**
- b) Identification of individual responsibilities and key personnel.**
- c) Statement of delegated powers.**
- d) Timing and methods of site visiting and record keeping, including updates.**
- e) Procedures for dealing with variations and incidents.**

The Local Planning Authority may require the scheme of supervision to be administered by a qualified arboriculturist approved by the Local Planning Authority but instructed by the applicant. The scheme shall be implemented as approved.”

1.3. This method statement has been drawn up to comply with the recommendations of British Standard BS 5837:2012, *Trees in relation to design, demolition and construction – Recommendations* and to respond specifically to the requirements of these conditions

1.4. Details of the trees can be found in the tree survey schedule at **Appendix 1**. Their locations are shown on the tree protection plan (SJA TPP 17313-01) at **Appendix 2**. This plan is based on the approved site layout drawing, no. AA2699(3)_2001.

1.5. This statement is designed to reflect the principles of the proposed layout only insofar as these relate to the protection of trees to be retained, and should **not** be read as a definitive engineering or construction method statement for this development.¹

1.6. The key words and phrases used in this statement are defined in **Table 1** below.

¹ Reference should be made to the architect or structural engineer over any matters of construction detail, specification, engineering performance standards or regulatory requirements, relating to structures, surfaces or underground services to be constructed. As arboricultural consultants, Simon Jones Associates Ltd. can accept no liability for any matters relating to the structural integrity or engineering performance of structures, surfaces or underground services described, proposed or eventually constructed. The responsibility for satisfying any Health & Safety requirements relating to any operations described in this method statement remains with those commissioning or undertaking the operations concerned.

Arboricultural consultant	Arboricultural expert instructed by the developer to oversee the retention and protection of trees adjacent to the development site.
Arboricultural monitoring	Regular inspections of retained trees by the arboricultural consultant, in order to monitor their health and condition; and to inspect the effectiveness of the tree protection measures proscribed.
Arboricultural supervision	Pre-arranged attendance on site of appointed arboricultural consultant for the duration of specific construction activities that could otherwise result in unacceptable damage to retained trees. Whilst on site the consultant will control, supervise and where appropriate assist in the undertaking of these activities.
Construction Exclusion Zone ('CEZ')	Area based on the root protection area (RPA), normally surrounded with protective fencing, from which access is prohibited during development works.
Ground boarding	Temporary ground covering, designed to prevent compaction of soil in which significant roots of retained trees are growing.
Protective fencing	Temporary fencing, erected for the duration of demolition and construction activities; designed to prevent access and disturbance to the trunks and root protection areas of trees.
Pruning	The removal of living or dead parts of a tree, especially branches, to reduce size, to maintain shape, health, safety, or to regulate growth.
Root Protection Area ('RPA')	The minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority.
Tree Protection Plan ('TPP')	Drawing based upon the finalised proposals; showing trees for retention, and illustrating the tree and landscape protection measures.

Table 1: Key Words & Phrases

2. Planning and communication

2.1. Unless otherwise agreed with the Local Planning Authority (LPA), the following actions are to be taken, in the order specified in the Sequence of Works at **Table 2**.

2.2. The developer will appoint an arboricultural consultant to oversee all aspects of tree care and protection for the duration of construction works.

2.3. Prior to the commencement of works, the project manager will send copies of any construction method statements that might have implications for existing trees to the arboricultural consultant for his comments. The arboricultural consultant will liaise with the project manager to ensure that there are no conflicts between the construction method statements and this arboricultural method statement.

2.4. Prior to the start of any site clearance or construction works the developer will convene a pre-commencement site meeting. This shall be attended by the developer's contract manager or site manager, the fencing/boarding contractor, the groundwork contractor(s) and the arboricultural consultant. The LPA tree officer will be invited to attend. If appropriate, the tree felling/surgery contractor should also attend. At that

meeting contact numbers will be exchanged, and the methods of tree protection outlined in this statement shall be fully discussed, so that all aspects of their implementation and sequencing are made clear to all parties. Any clarifications or modifications to this statement required as a result of the meeting shall be circulated to all parties in writing.

2.5. The developer will immediately inform the arboricultural consultant if at any time during site clearance or construction the site manager or agent is replaced or transferred. The arboricultural consultant will convene a site meeting with the incoming/replacement site manager, to be held within five working days, to explain all outstanding tree protection measures detailed in this method statement.

2.6. A copy of this method statement shall be supplied to all site personnel who have control over works of any nature within the Root Protection Areas (RPAs) of trees to be retained, or within the footprints of their canopies. The contractor will provide adequate instruction on its implementation for all relevant staff. This instruction will be carried out by, or to the approval of, the arboricultural consultant.

Order	Works	Details at Section:	Arb. supervision required:
1	Pre-commencement site meeting	2	Yes
2	Removal of sections of groups of trees (G3, G5, G9 and G10) as shown on the TPP	3	-
3	Erection of protective fencing in the positions shown on the TPP.	4	Yes
4	Main construction phases	-	-
5	Clearance of machinery/materials from site, reinstatement and landscaping.	7	-
6	Removal of protective fencing.	8	-

Table 2: Sequence of works (relevant to protection of existing trees)

3. Tree Removal

3.1. Prior to any tree removals or pruning works taking place, the LPA shall be given seven working days' notice that any such works are to take place.

3.2. The single tree no. 82, an approximately 25m section of group G3 and an approximately 16m section of group G11 are to be removed at the main entrance to the site to accommodate the new 'gateway' landscaping in this area.

3.3. Three further sections (measuring approximately 6m, 16m and 5m) of group G11 are to be removed to accommodate the sustainable connections between the two phases of the development.

3.4. An approximately 15m section of group G9 is to be removed where a turning head abuts the hedgerow in this area; this is at least 50m from the nearest tree with bat roost potential.

3.5. And finally, an approximately 6m section of group G5 is to be removed to make way for a new pedestrian access/exit from the eastern corner of the site

3.6. Stumps of the above trees shall either be left in place, or shall be ground out.

3.7. All tree works are to be done in accordance with British Standard BS 3998:2010, *Tree work - Recommendations*.

4. Protective fencing

4.1. No site clearance or construction shall commence on site, and no demolition or construction vehicles or plant will enter the site until the RPAs of the trees to be retained have been safeguarded by the erection of protective fencing to the specification recommended in BS 5837:2012, Section 6.2.2, as shown in Figure 2 of that document (see **Figure 1** below).

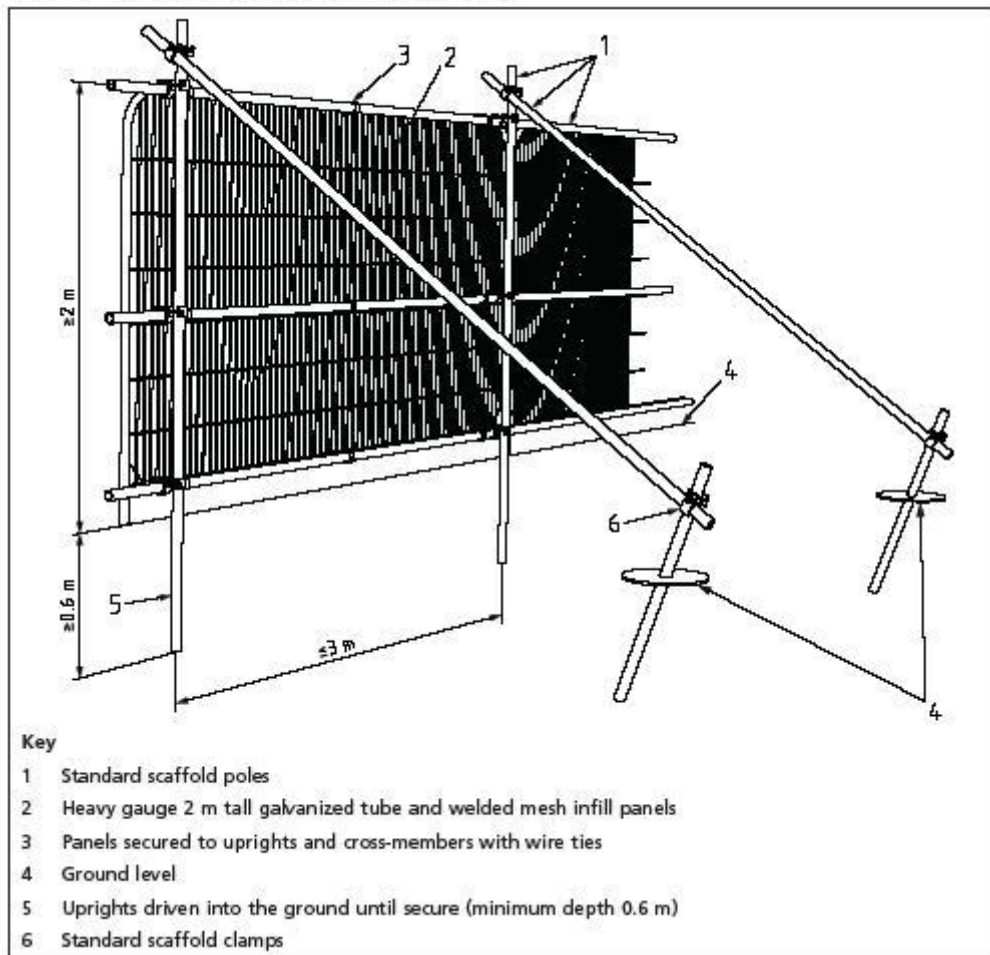
4.2. The protective fencing will be located in the positions shown by the **continuous bold blue lines** on the TPP. Once installed, the fencing will demark Construction Exclusion Zones (“CEZs”), excluding the RPAs of the retained trees from construction activity.

4.3. The fencing shall be at least 2.1m in height, comprising a scaffolding or a timber post and rail framework supporting either a minimum of 20mm exterior grade ply or other robust man-made boards, or standard anti-climb ‘Heras’ welded mesh fence panels, fixed to each other with at least two clamps, and secured with anti-lift devices to concrete or plastic bases (footings) that are pinned at least 450mm into the ground with lengths of scaffold tube.

4.4. Scaffolding construction shall be to BS EN 12811-1:2003; uprights shall be at minimum 3.5m centres and every other one shall be supported on the side closest to

the trees by struts braced to the ground at an angle of 45°. If used, ‘Heras’ panels shall be secured to two cross members between the uprights with heavy-duty cable ties. Notices stating “Tree Protection Zone, Keep Out!” will be attached to every third panel with cable ties.

Figure 2 Default specification for protective barrier



**Figure 1: Protective fencing.
(Based on Figure 2, BS 5837: 2012)**

4.5. No activity will take place within the “CEZs” behind the fencing: no equipment or materials will be stored, and no vehicles, plant or personnel shall enter these areas. Ground levels will not be changed within them, and existing vegetation and topsoil will be left undisturbed.

4.6. Areas for the storage of materials shall be outside the CEZs, suggested locations for material storage have been **hatched red** on the TPP at **Appendix 2**. These areas are away from retained trees and proposed dwellings and infrastructure, they are areas of public open space to be landscaped later in the development

process. Their location, aided by the relatively flat nature of the site, avoids the potential for harmful chemicals to enter water courses.

4.7. Oil, bitumen, diesel, and cement shall not be stored, mixed or discharged onto the ground within 10m of the trunks of any trees. Areas for the storage or mixing of such materials shall be agreed at the pre-commencement meeting.

4.8. No notice boards, or power or telephone cables, shall be attached to any of the trees. No fires shall be lit where their flames could extend to within 5m of any parts of trees.

4.9. In the event that the protective fencing or ground boarding is accidentally damaged or knocked over, those sections will immediately be cordoned off with high visibility plastic mesh fencing. The damaged sections then will be repaired or replaced within 48 hours (2 working days). All instances of damage and re-instatement shall be recorded and immediately reported to the arboricultural consultant.

4.10. Once the protective fencing has been erected, the arboricultural consultant will visit the site and inspect it. He will record the position of the fencing and the condition of the retained trees. If it complies with this statement, the arboricultural consultant will 'sign off' the fencing to the contractor, and copy this (in writing) to the developer. (See also 'Supervision and Monitoring' below.)

4.11. The protective fencing will not be moved or re-located without the prior approval of the arboricultural consultant. It will only be removed once all construction works are completed: the arboricultural consultant will be informed in advance of when it is intended to remove the fencing.

5. Site preparation

5.1. As the site is comprised of two open fields with boundary hedging there will be no demolition works to prepare the site.

5.2. However, there will be groundworks and moulding operations to prepare the site during the excavation of foundations. Much of the site will be increased in level by up to 500mm. The edges of any such increases in level will have a 1:3 batter down

towards the edges of the site. All earthworks and moulding will take place outside the CEZs and hence no RPAs will be impacted upon.

5.3. Currently the site compound is to be sited in the north-central portion of the Phase 4 field. This is away from any retained trees and the boundary hedgerow will be protected through the implementation of protective fencing. This will allow for the site to be 'built-out' around the compound and the compound area is close to the current access point and logically is the last area to be built.

5.4. Vehicle movements will therefore make use of a circular route using the existing access and around the site. There is plenty of space for all shapes and sizes of vehicle to manoeuvre around the site without impacting upon retained trees.

5.5. Satellite areas for the storage of materials are discussed in the previous section of this method statement.

6. Installation of drainage and underground services

6.1. At the time of writing, the drainage and services layouts are not available. However, the relevant engineers have confirmed that, all underground service and drainage routes shall be located outside of the RPAs of trees to be retained; so that no excavation is required within RPAs. Because the site comprises two open fields it is easy to see how this can be achieved. Links for services and drainage between the two fields can be routed through one of the gaps to be created in the dividing hedgerow.

7. Fencing, landscaping and reinstatement

7.1. Upon completion of the development, care will be taken to ensure that fencing, landscaping and reinstatement do not cause any damage to the existing trees. Prior to the commencement of any landscaping works within RPAs the developer will convene a site meeting to be attended by the site manager or agent, the landscape contractor, the fencing contractor and the arboricultural consultant. The methods of tree protection outlined in this section of the arboricultural method statement shall be fully discussed, so that all aspects of their implementation and sequencing are made

clear to all parties. Any clarifications or modifications to this statement shall be recorded and circulated to all parties in writing.

7.2. Within RPAs the following points shall be observed:

- Ground levels will not be changed.
- Only lightweight plant or vehicles shall enter the RPAs.
- No fuels or chemicals shall be brought into or stored within these areas.
- Digging (for fence posts etc.) shall be done by hand. Any roots of 25mm diameter and above that are encountered shall not be cut: if such sized roots are found the position of the proposed post will be re-located. Any smaller roots shall be cut cleanly. All roots exposed should be back-filled with sharp sand on the same day they are uncovered.
- No parts of any fencing shall be nailed or otherwise attached to any parts of the retained trees.
- Unwanted vegetation shall be removed manually or by using chemicals that cannot damage the roots of the trees.
- No irrigation or drainage pipes shall be installed within RPAs.

8. Supervision and monitoring

8.1. Once the protective fencing has been erected, the arboricultural consultant will visit the site and inspect these tree protection measures. In the event that the specification or location of these items does not comply with this method statement, the arboricultural consultant will inform the fencing contractor, and adjustments will be made. Once compliance is achieved, the arboricultural consultant will 'sign off' the tree protection measures to the contractor, and copy this (in writing) to the client.

8.2. Throughout the construction process the arboricultural consultant will monitor the condition of the trees, and the integrity and effectiveness of the protective fencing. He will visit the site every two weeks during the site clearance and ground works phases and every four to six weeks thereafter (or other such frequency, as agreed with the LPA Tree Officer at the pre-commencement meeting), to ensure that the

protection measures outlined in this document are adhered to; and will contact the site manager or agent on a weekly basis whilst ground works are being undertaken, and on a fortnightly basis thereafter, to ascertain what works are planned for the coming week and whether any of these require arboricultural input or supervision. Records of all monitoring and supervisory visits will be made, and will be forwarded to the client and copied to the LPA.

8.3. The arboricultural consultant shall directly supervise the location of the protective fencing.

8.4. The project or site manager will give the arboricultural consultant at least 48 hours written notice of the date of works that are within the RPAs of any of the trees, so that he/she can attend.

8.1. All drawings or revised drawings issued to the site agent or to sub-contractors, that show details of any works within or abutting RPAs or beneath the crowns of trees are to be referred in advance to the arboricultural consultant to enable him to advise on any changes to the impact on trees that these drawings may cause, and to be able to provide solutions to avoid or minimise any further tree damage. All such drawings will be approved in writing by the arboricultural consultant before works within or abutting RPAs are proceeded with.

8.2. The arboricultural consultant will issue variation orders to the client in the case of any agreed changes to this method statement, and non-compliance notices in any cases of substantial deviation from the statement. These will be recorded in a final completion statement suitable for submission to the LPA if required.

SJAtrees

February 2018

APPENDIX 1
Tree Survey Schedule



ARBORICULTURAL PLANNING CONSULTANTS

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Tree Survey Schedule

Banbury Road, Bicester, Oxfordshire

October 2017

Tree Survey Schedule: Explanatory Notes

Banbury Road, Bicester, Oxfordshire

This schedule is based on a tree inspection undertaken by Tom Wawman and Jeff Mashburn of SJAtrees (the trading name of Simon Jones Associates Ltd.), on Tuesday the 31st October 2017. Weather conditions at the time were clear, dry and bright. Deciduous trees were in partial leaf.

The information contained in this schedule covers only those trees that were examined, and reflects the condition of these specimens at the time of inspection. We did not have access to the trees from any adjacent properties; observations are thus confined to what was visible from within the site and from surrounding public areas.

The trees were inspected from the ground only and were not climbed, and no samples of wood, roots or fungi were taken. A full hazard or risk assessment of the trees was not undertaken, and therefore no guarantee, either expressed or implied, of their safety or stability can be given.

Trees are dynamic organisms and are subject to continual growth and change; therefore the dimensions and assessments presented in this schedule should not be relied upon in relation to any development of the site for more than twelve months from the survey date.

1. Tree no.

Given in sequential order, commencing at "82".

2. Species.

'Common names' are given, taken from MITCHELL, A. (1978) A Field Guide to the Trees of Britain and Northern Europe. Botanical names are shown in italics.

3. Height.

Estimated with the aid of a hypsometer, given in metres.

4. Trunk diameter.

Trunk diameter measured at approx. 1.5m above ground level; or where the trunk forks into separate stems between ground level and 1.5m, measured at the narrowest point beneath the fork. Given in millimetres.

5. Radial crown spread.

The linear extent of branches from the base of the trunk to the main cardinal points, rounded up to the closest half metre, unless shown otherwise. For small trees with reasonably symmetrical crowns, a single averaged figure is quoted.

6. Crown break.

Height above ground and direction of growth of first significant live branch.

7. Crown clearance.

Distance from adjacent ground level to lowest part of lowest branch, in metres.

8. Age class.

Young: Age less than 1/3 life expectancy

Semi-mature: 1/3 to 2/3 life expectancy

Mature: Over 2/3 life expectancy

Over-mature: Mature, and in a state of decline

Veteran: Mature, with a large trunk diameter for the species; but showing signs of ancientness, irrespective of actual age, with decay or hollowing, and a crown that has undergone some retrenchment and has a structure characteristic of the latter stages of life.

Ancient: Beyond the typical age range and with a very large trunk diameter for species; with extensive decay or hollowing; and a crown that has undergone retrenchment and has a structure characteristic of the latter stages of life.

9. Physiology.

Health, condition and function of the tree, in comparison to a normal specimen of its species and age.

10. Structure.

Structural condition of the tree – based on both the structure of its roots, trunk and major stems and branches, and on the presence of any structural defects or decay.

Very good: No significant physiological or structural defects, an upright and reasonably symmetrical structure; a particularly good example of its species.

Good: No significant physiological or structural defects, and an upright and reasonably symmetrical structure.

Moderate: No significant pathological defects, but a slightly impaired physiological structure; however, not to the extent that the tree is at immediate or early risk of collapse.

Indifferent: Significant physiological or pathological defects; but these are either remediable or do not put the tree at immediate or early risk of collapse.

Poor: Significant and irreparable physiological or pathological defects, such that there may be a risk of early or premature collapse.

Hazardous: Significant and irreparable physiological or pathological defects, with a risk of imminent collapse.

11. Comments.

Where appropriate comments have been made relating to:

- Health and condition
- Safety, particularly close to areas of public access
- Structure and form
- Estimated life expectancy or potential

12. Category.

Based on the British Standard "Trees in relation to design, demolition and construction - Recommendations", BS 5837: 2012, Table 1, adjusted to give a greater weighting to trees that contribute to the character and appearance of the local landscape, to amenity, or to biodiversity.

Category U: Trees 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, irreparable, 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 infested 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.

Category A: Trees of high quality with an estimated remaining life expectancy of at least 40 years.

- (1) Trees that are particularly good examples of their species, especially if rare or unusual.
- (2) Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features.
- (3) Trees, groups or woodlands of significant conservation, historical, commemorative or other value.

Category B: Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.

- (1) 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 minor 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.
- (2) Trees present in numbers, usually growing as groups or woodlands, such that they form distinct landscape features, thereby attracting a higher collective rating than they might as individuals; or trees present in numbers but situated so as to make little visual contribution to the wider locality.
- (3) Trees with material conservation or other cultural value.

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 150mm.

- (1) Unremarkable trees of very limited merit or of such impaired condition that they do not qualify in higher categories.
- (2) 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 landscape benefits.
- (3) Trees with no material limited conservation or other cultural value.

TREE SURVEY SCHEDULE
Banbury Road, Bicester, Oxfordshire

No.	TPO no.	Species	Height	Trunk diameter	Radial crown spread	Crown break	Crown clearance	Age class	Physio - logy	Structure	Comments	Category
82		Field maple	6.5m	x6 stems est. 150mm	3.5m N 3m E 4m S 3.5m W	0.5m	0.5m	Young	Average	Indifferent	Four stemmed from base; hedgerow field boundary tree; previously laid as part of hedgerow; visible in views from B4100; of moderate quality and of long-term potential; but of low landscape value.	C (1)
83		Ash	14.5m	380mm 430mm	8.2m N 8.3m E 2.2m S 3.7m W	4m E	4.5m	Semi-mature	Average	Indifferent	Twin stemmed from base; saddle shaped union; field boundary tree; self seeded specimen; visible in views from B4100; inessential component of the group in which it stands; of moderate quality and of long-term potential; but of low landscape value.	C (12)
84		Ash	13m	180mm 390mm 120mm 175mm	4m N 7.1m E 5.25m S 4.5m W	2m SW	4m	Semi-mature	Average	Poor	Multi-stemmed from base; historically partially uprooted with trunk leaning heavily towards the E, started to self-correct with lateral branches growing vertically, exposed roots to the SW are small, fine roots which appear to have been trimmed back to the root bole; self seeded specimen; field boundary tree; inessential component of the group in which it stands; of low quality; of moderate landscape value; of medium-term potential.	C (2)
85		Ash	14m	250mm 225mm	4.5m	3m NW	2.5m	Young	Average	Indifferent	Twin stemmed from base; field boundary tree; growing adjacent to B4100; inessential component of the group in which it stands; of moderate quality and of long-term potential; but of low landscape value.	C (1)
86		Ash	14m	270mm 225mm 220mm	6m	3m SW	4m SW	Young	Average	Indifferent	Twin stemmed from base; field boundary tree; growing adjacent to B4100; self seeded specimen; inessential component of the group in which it stands; of moderate quality and of long-term potential; but of low landscape value.	C (1)
87		Ash	14m	310mm 290mm 150mm	7m	5m SW	3m SW	Semi-mature	Average	Indifferent	Three stemmed from base; included bark union; smaller stem to NE as started to split apart from the main stem; field boundary tree; growing adjacent to B4100; self seeded specimen; of moderate quality and of long-term potential; but of low landscape value.	C (1)

No.	TPO no.	Species	Height	Trunk diameter	Radial crown spread	Crown break	Crown clearance	Age class	Physio - logy	Structure	Comments	Category
88-90		Field maple	12m 8m 8m	#88 300mm 320mm 185mm #89 315mm @1.25m 230mm @1.25m #90 320mm @1.25m 240mm @1.25m all over ivy	4.5m	2m	4m	Semi-mature	Average	Indifferent	Aerodynamic group with meshing crowns providing companion shelter; field boundary tree; growing adjacent to B4100; self seeded specimen; inessential component of the group in which it stands; included bark union; t89 cavity on SW side measuring 800mm long by 130mm wide exposed heartwood somewhat degraded, able to probe downwards to a depth of 100mm area sounded with acoustic mallet and variations in tone noted; of moderate quality and of long-term potential; but of low landscape value.	C (1)
91		Ash	14m	215mm (over ivy) 275mm (over ivy) 365mm (over ivy)	6m 7.25m SW	3m SW	3.5m SW	Semi-mature	Average	Indifferent	Three stemmed from base; growing from bank of roadside ditch; exposed roots and buttress roots growing alongside the ditch; dense ivy cover of stems extending into canopy; field boundary tree; growing adjacent to B4100; self seeded specimen; inessential component of the group in which it stands; of moderate quality and of long-term potential; but of low landscape value.	C (1)
92		Horse chestnut	13m	620mm	5m N 5m E 5.5m S 5m W	3m SE	1.5m	Mature	Average	Indifferent	Single trunk; field boundary tree; growing adjacent to B4100; inessential component of the group in which it stands; of moderate quality and of medium-term potential; but of low landscape value.	C (1)
93		Common lime	7m	270mm	3m	2m SW	0m	Semi-mature	Average	Indifferent	Off-site tree; single trunk; ivy on trunk extending into canopy extensive basal growth to the SW growing adjacent to the B4100; of moderate quality and of long-term potential; but of low landscape value.	C (1)
94		Horse chestnut	7m	est. 200mm	3.2m N 3.3m E 3m S 2.3m W	1.5m E	2m	Young	Below average	Indifferent	Off-site tree; growing on SE boundary of the site; leaves infected with leaf minor and appear to be smaller than would be expected, heavy on trunk extending into canopy, previously flailed back on site side to a height of 3m; of low quality, of low landscape value, and of short-term potential only.	C (123)
95		Common lime	6m	est. 250mm (over ivy)	2.75m	2.5m	2.5m	Young	Average	Moderate	Off-site tree; small planted specimen; much epicormic growth on trunk; canopy fully wind exposed; inessential component of group in which it stands; of moderate quality and of long-term potential, but of low landscape value.	C (1)

No.	TPO no.	Species	Height	Trunk diameter	Radial crown spread	Crown break	Crown clearance	Age class	Physio - logy	Structure	Comments	Category
96		Field maple	7m	est. 250mm	2.25m	3.5m	4.5m	Semi-mature	Average	Moderate	Off-site tree; small planted specimen; canopy fully wind exposed; inessential component of group in which it stands; of moderate quality and of long-term potential, but of low landscape value.	C (1)
97		English oak	6m	est. 170mm	2.7m	2m S	2.5m	Young	Average	Indifferent	Off-site tree; hedgerow field boundary tree; ivy-covered; inessential component of the group in which it stands; of moderate quality and of long-term potential; but of low landscape value.	C (1)
98		Ash	6.5m	est. 160mm	2.2m	1.5m NW	3.5m	Young	Average	Indifferent	Off-site tree; hedgerow field boundary tree; metal mesh tree guard still in place around trunk; of moderate quality and of long-term potential; but of low landscape value.	C (1)
99		Horse chestnut	7m	est. 200mm	3.2m	3m SW	3m	Young	Average	Indifferent	Off-site tree; hedgerow field boundary tree; inessential component of the group in which it stands; of moderate quality and of medium-term potential; but of low landscape value.	C (1)
100		Ash	7.5m	est. 185mm	4m N 4.25m NE 4m E 4m S 4m W	2.5m	4m	Young	Average	Moderate	Off-site tree; small self-seeded specimen; inessential component of group in which it stands; of moderate quality and of long-term potential, but of low landscape value.	C (1)
101-102		English elm	9m	#101 x5 stems est. 180mm #102 x5 stems est. 180mm #102 x5 stems est. 170mm #102 x5 stems est. 150mm	3.5m	2m NE	5m NE	Young	Average	Indifferent	Off-site trees; field boundary hedgerow consisting of young specimens; of moderate quality but of low landscape value, and of short-term potential only.	C (1)
G1		Horse chestnut	Up to 21m	Up to 1000mm	10m	3m	4.5m	Mature	Average	Indifferent	Off-site group of trees; aerodynamic group with meshing crowns providing companion shelter; growing adjacent to B4100; visible in views from B4100; of moderate quality and landscape value; of long-term potential.	B (12)

No.	TPO no.	Species	Height	Trunk diameter	Radial crown spread	Crown break	Crown clearance	Age class	Physio -logy	Structure	Comments	Category
G2		Various	Up to 14m	Up to 150mm	4m	0.5m	0m	Young	Average	Indifferent	Species include Field maple, English elm, Blackthorn, Elder, Horse chestnut, Ash, Hawthorn and Goat willow; hedgerow growing on the NE boundary of the site mostly overgrown into individual trees providing some degree of screening to the site for the B4100 individual trees within the group generally of low quality; of moderate quality and landscape value; of long-term potential.	B (12)
G3		Various	Up to 3m	Up to 50mm	0.5m	0.5m	0m	Young	Average	Indifferent	Species include English elm, Hawthorn, Field maple, Blackthorn and Elder Aerodynamic group with meshing crowns providing companion shelter; field boundary hedgerow consisting of mainly young trees previously maintained as a hedge growing adjacent to the B4100; provides low level screening to the site from this road; of moderate quality and of long-term potential; but of low landscape value.	C (1)
G4		Various	Up to 2m	Up to 50mm	0.5m	0.1m	0m	Young	Average	Indifferent	Species include English elm, Elder and Blackthorn; young hedgerow growing between two barbed wire fences, predominant species is elm, young trees very sporadic in nature; providing only low level screening to the site from the B4100; of moderate quality and of medium-term potential; but of low landscape value.	C (1)
G5		Various	Up to 4m	Up to 50mm	1m	0.2m	0m	Young	Average	Indifferent	Species include English elm and Blackthorn; blackthorn, elm, dogwood and hawthorn; young hedgerow forming a dense screen to the site when viewed from the B4100; of moderate quality and of medium-term potential; but of low landscape value.	C (1)
G6		Various	Up to 3m	Up to est. 70mm	1m	0.2m	0m	Young	Average	Indifferent	Species include Field maple, Hawthorn, English elm, Elder and Blackthorn; field boundary hedgerow growing along SE boundary of the site; young hedgerow forming a dense screen to the site when viewed from the SE; of moderate quality and of long-term potential; but of low landscape value.	C (1)
G7		Various	Up to 3.5m	Up to est. 50mm	1m	0.2m	0m	Young	Average	Indifferent	Species include Blackthorn and English elm off-site group of trees; field boundary hedgerow consisting of young specimens; of moderate quality and of long-term potential; but of low landscape value.	C (1)
G8		Various	Up to 6m	Up to est. 150mm	3m	0.5m	0m	Young	Average	Indifferent	Species include Blackthorn, English elm and Elder off-site group of trees; field boundary hedgerow consisting of young specimens; some of the elms within the group are dead; young individual specimens growing beyond height of hedgerow in which they are situated; of moderate quality and of long-term potential; but of low landscape value.	C (1)
G9		Various	Up to 9m	Up to est. 190mm	3m	0.2m	0m	Young	Average	Indifferent	Species include Blackthorn, English elm, Field maple and Hazel off-site group of trees; field boundary hedgerow consisting of young specimens; young individual specimens growing beyond height of hedgerow in which they are situated; some of the elms within the group are dead; of moderate quality and of long-term potential; but of low landscape value.	C (1)

No.	TPO no.	Species	Height	Trunk diameter	Radial crown spread	Crown break	Crown clearance	Age class	Physio - logy	Structure	Comments	Category
G10		Various	Up to 7m	Up to est. 150mm	2.5m	0.2m	0m	Young	Average	Indifferent	Species include Blackthorn, Elder, Ash, Hawthorn, Dogwood and Apple off-site group of trees; field boundary hedgerow consisting of young specimens; some of the elms within the group are dead; young individual specimens growing beyond height of hedgerow in which they are situated; recently flailed on off-site side; of moderate quality and of long-term potential; but of low landscape value.	C (1)
G11		Various	Up to 9m	Up to est. 250mm	3m	0.2m	0m	Semi-mature	Average	Indifferent	Species include Blackthorn, Dogwood, Ash and Field maple Field boundary hedgerow consisting of young specimens; young individual specimens growing beyond height of hedgerow in which they are situated; some of the elms within the group are dead; of moderate quality and of long-term potential; but of low landscape value.	C (1)
G12		Various	Up to 10m	Up to est. 300mm	4m	1m	1m	Semi-mature	Average	Indifferent	Species include English oak, Hazel, Field maple, Wild cherry and Ash; off-site group of trees; offsite wooded area growing adjacent to SW corner of the site; individual trees within the group mainly young specimens with some semi-matures; of moderate quality and of long-term potential; but of low landscape value.	C (1)
G13		Field maple	Up to 14m	Up to est. 370mm (over ivy)	5m	4m	5m	Semi-mature	Average	Indifferent	Off-site group of trees; aerodynamic group with meshing crowns providing companion shelter; hedgerow field boundary tree; SW most tree showing signs of decline with extensive die back and epicormic growth; of moderate quality and of long-term potential; but of low landscape value.	C (1)

Root Protection Areas (RPAs)

Root Protection Areas have been calculated in accordance with paragraph 4.6.1 of the British Standard 'Trees in relation to design, demolition and construction – Recommendations', BS 5837:2012. This is the minimum area which should be left undisturbed around each retained tree. RPAs are portrayed initially as a circle of a fixed radius from the centre of the trunk; but where there appear to be restrictions to root growth the circle is modified to reflect more accurately the likely distribution of roots.

Tree No.	Species	RPA	RPA Radius
82	Field maple	61.1m ²	4.41m
83	Ash	149.0m ²	6.89m
84	Ash	103.8m ²	5.75m
85	Ash	51.2m ²	4.04m
86	Ash	77.8m ²	4.98m
87	Ash	91.7m ²	5.4m
88-90	Field maple	102.5m ²	5.71m
		68.8m ²	4.68m
		72.4m ²	4.8m
91	Ash	115.4m ²	6.06m
92	Horse chestnut	173.9m ²	7.44m
93	Common lime	33.0m ²	3.24m
94	Horse chestnut	18.1m ²	2.4m
95	Common lime	28.3m ²	3.0m
96	Field maple	28.3m ²	3.0m
97	English oak	13.1m ²	2.04m
98	Ash	11.6m ²	1.92m
99	Horse chestnut	18.1m ²	2.4m
100	Ash	15.5m ²	2.22m
101-102	English elm	73.3m ²	4.83m
		189.6m ²	7.77m
G1	Horse chestnut	452.4m ²	12.0m
G2	Various	10.2m ²	1.8m
G3	Various	7.1m ²	1.5m
G4	Various	7.1m ²	1.5m
G5	Various	7.1m ²	1.5m
G6	Various	7.1m ²	1.5m
G7	Various	7.1m ²	1.5m
G8	Various	10.2m ²	1.8m
G9	Various	16.3m ²	2.28m
G10	Various	10.2m ²	1.8m
G11	Various	28.3m ²	3.0m
G12	Various	40.7m ²	3.6m
G13	Field maple	61.9m ²	4.44m

APPENDIX 2
Tree Protection Plan



SJA Protective fencing as per BS5837; see inset panel

SJA Construction Exclusion Zone (CEZ)

SJA Construction Exclusion Zone (CEZ)

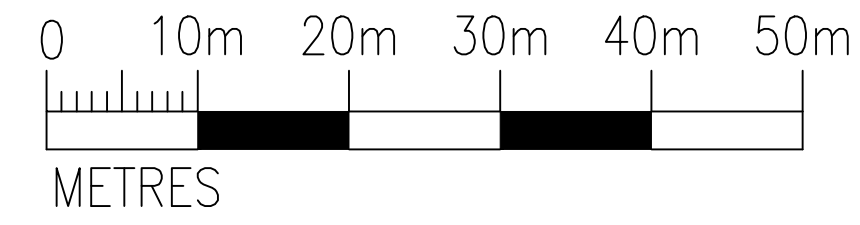
SJA Tree with bat roost potential (to be retained and protected during works)

SJA Protective fencing as per BS5837; see inset panel

SJA Site sales area

SJA Site compound and material storage area

SJA Protective fencing as per BS5837; see inset panel



1 : 500 @A1

Protective Fencing

To be erected prior to the commencement of all works on site, and retained in place throughout construction. To comprise either 2.4m wooden site hoarding; or a 2m high scaffolding framework, with uprights at maximum 3m spacings, every other one braced to the ground with 45 degree struts, supporting standard anti-climb 'Merax' welded mesh fence panels secured with anti-lift devices to concrete or plastic bases pinned to the ground by scaffold uprights sunk to a minimum depth of 600mm; individual panels fixed to each other with at least 2 clamps and to scaffolding with heavy-duty cable ties. 'TREE PROTECTION ZONE - KEEP OUT' or similar notices to be attached to every fifth panel.

TREE PROTECTION FENCING as shown in BS 5837: 2012, Section 6.2.2 & Figure 2.

Arboricultural Supervision

The arboricultural consultant will directly supervise all construction works that have to be undertaken within root protection areas. These include:

1. Location of protective fencing.

Arboricultural Impacts: Summary
(For details, see below)

Impact	No. of Trees
Individual trees to be removed	0
Groups of trees to be partially removed	4
Trees where manual excavation needed within RPAs	0
Trees where above soil surfacing needed within RPAs	0
Trees with proposed underground services within RPAs	0
Trees that will require pruning	0

Trees or groups of trees to be removed

No	Details	Category
82	Field maple	C (1)
G3	Various species; partial removal only	C (1)
G5	Various species; partial removal only	C (1)
G9	Various species; partial removal only	C (1)
G11	Various species; partial removal only	C (1)

Rev. a 13/02/2018 Storage compounds moved to north of site; trees with bat potential indicated; landscaping works to W of site entrance

SJA trees ARBORICULTURAL PLANNING CONSULTANTS

Project: Bicester Eco Town Exemplar Site, Banbury Road.

Client:

Drawing: TREE PROTECTION PLAN

Drawing No: SJA TPP 17313-01a Revision No:

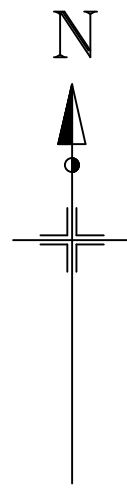
Based On: AA2699(3)_2001

Drawn By: TCW Date: Feb 2018 Scale: 1:500 @ A1

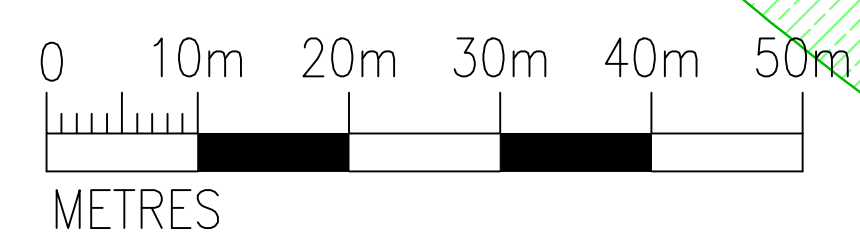
Tel: (01737) 813058 Fax: (01737) 816140 sja@sjatrees.co.uk

Tree nos.: ● 93	Canopies of trees to be retained:	Trees to be removed:	G10
Category 'A' RPA:	Category 'B' RPA:	Category 'C' RPA:	
Protective fencing:	Indicative pruning lines:	Ground protection:	
Above soil surfacing:	Manual excavation:		

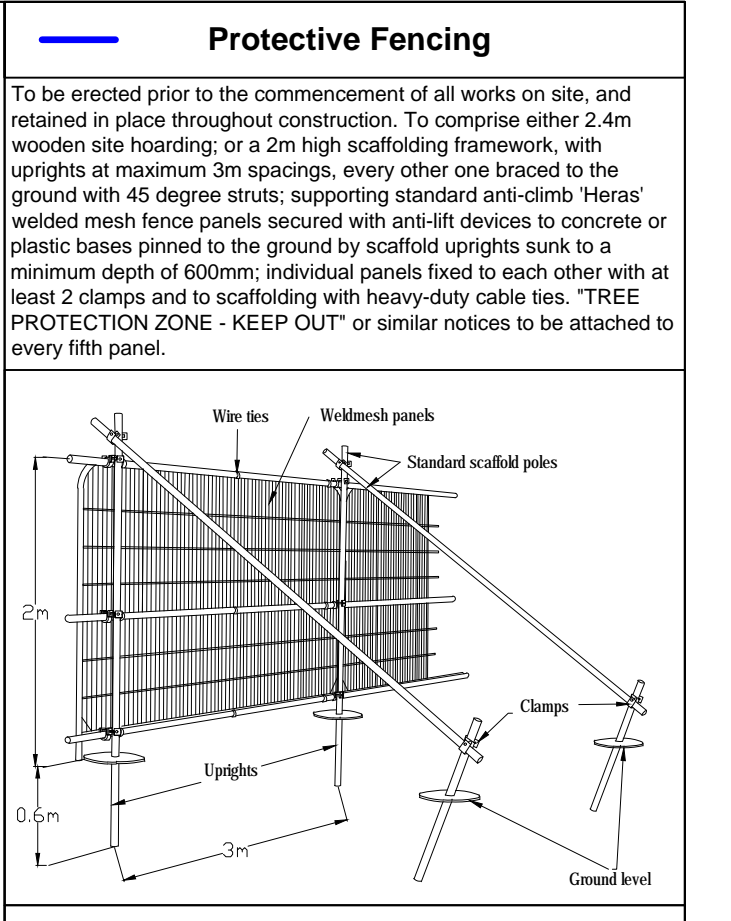
For further information refer to the SJA Tree Survey Schedule. Do not scale from this drawing; please check all dimensions on site, and notify us of any discrepancies. Simon Jones Associates cannot be held responsible for inaccuracies in the topographical plan on which this drawing is based. © Simon Jones Associates Ltd 2018. This drawing is copyright and may not be used or changed without the written consent of Simon Jones Associates. This drawing is designed to reflect only the principles of layout and/or design insofar as these relate to the protection of trees to be retained, and should NOT be read as a definitive engineering or construction method statement. Reference should be made to the architect or structural engineer, as appropriate, over any matters of construction detail or specifications, or any engineering standards or regulatory requirements relating to proposed structures, hard surfaces or underground services.



SJA Tree with bat roost potential (to be retained and protected during works)



1 : 500 @A1



TREE PROTECTION FENCING as shown in BS 5837: 2012, Section 6.2.2 & Figure 2.

Arboricultural Supervision

The arboricultural consultant will directly supervise all construction works that have to be undertaken within root protection areas. These include:

1. Location of protective fencing.

Arboricultural Impacts: Summary
(For details, see below)

Impact	No. of Trees
Individual trees to be removed	1
Groups of trees to be partially removed	4
Trees where manual excavation needed within RPAs	0
Trees where above soil surfacing needed within RPAs	0
Trees with proposed underground services within RPAs	0
Trees that will require pruning	0

Trees or groups of trees to be removed

No	Details	Category
82	Field maple	C (1)
G3	Various species; partial removal only	C (1)
G5	Various species; partial removal only	C (1)
G9	Various species; partial removal only	C (1)
G11	Various species; partial removal only	C (1)

Rev. a	13/02/2018	Storage compounds moved to north of site; trees with bat potential indicated; landscaping works to W of site entrance
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SJA trees ARBORICULTURAL PLANNING CONSULTANTS

Project: Bicester Eco Town Exemplar Site, Banbury Road.

Client: **Crest Nicholson**

Drawing: TREE PROTECTION PLAN

Drawing No: SJA TPP 17313-01a Revision No:

Based On: AA2699(3)_2001

Drawn By: TCW Date: Feb 2018 Scale: 1:500 @ A1

Tel: (01737) 813058 Fax: (01737) 816140 sja@sjatrees.co.uk

Tree nos.:	● 93	Canopies of trees to be retained:	○	Trees to be removed:	○ G10
Category 'A' RPA:	○	Category 'B' RPA:	○	Category 'C' RPA:	○
Protective fencing:	—	Indicative pruning lines:	—	Ground protection:	▨
Above soil surfacing:	▨	Manual excavation:	▨		

For further information refer to the SJA Tree Survey Schedule. Do not scale from this drawing; please check all dimensions on site, and notify us of any discrepancies. Simon Jones Associates cannot be held responsible for inaccuracies in the topographical plan on which this drawing is based. © Simon Jones Associates Ltd. 2018. This drawing is copyright and may not be used or changed without the written consent of Simon Jones Associates. This drawing is designed to reflect only the principles of layout and for design insofar as these relate to the protection of trees to be retained, and should NOT be read as a definitive engineering or construction method statement. Reference should be made to the architect or structural engineer, as appropriate, over any matters of construction detail or specification, or any engineering standards or regulatory requirements relating to proposed structures, hard surfaces or underground services.