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THREE RIVERS  
REGISTRATION

19 FEB 2009

Simon Pryce Arboriculture

PLANNING DEPT.

## Report

**Client:** Moor Park Golf Club, Rickmansworth, WD3 1QN

**Site:** Proposed new practice ground.

**Subject:** Arboricultural and ecological implications of the proposed creation of the practice ground.

**Inspection dates:** 1 and 16 December 2008, 12 January 2009

**Report date:** 25 January 2009

**Reference:** 08/141

**Author:** Simon Pryce, B.Sc., F.Arbor.A, C.Biol, M.I.Biol, MICFor  
Arboricultural Association Registered Consultant



## **1 Introduction**

- 1.1 This report has been prepared on the instructions of Moor Park Golf Club, in connection with the proposal to create a practice ground on land between two of the existing fairways. This report is to form part of the application to Three Rivers District Council.
- 1.2 I have been asked to inspect trees growing on or near this area and to provide a preliminary report on them, as set out in British Standard 5837: 2005, Trees in Relation to Construction. This report also makes an ecological appraisal of the proposal, with particular reference to the implications of any tree work on bats and birds.
- 1.3 This report is based on inspections carried out on 1 and 16 December 2008 and 12 January 2009. These were visual and made from ground level, with no climbing or test boring as these were not warranted.
- 1.4 The trees were measured, their maturity, health and structural condition assessed and they were assigned to one of the four retention categories [A,B,C,R] specified by BS5837. The individual descriptions and other relevant information are contained in the attached schedule.
- 1.5 They are shown on the site plan supplied Alexander Associates of Rickmansworth, their reference 055029, based on a survey by Ground Surveys of Maidenhead. This report does not cover all the trees in that survey, but uses the same numbering scheme in order to avoid confusion. This report also deals with the trees in order going round the proposed practice ground, so the numbering in the schedule is not sequential and there are gaps where trees that are not relevant have been omitted.

## **2 Background**

### **The site**

- 2.1 Moor Park Estate dates back to at least the 15<sup>th</sup> Century and has had numerous owners and varying fortunes since then. The existing mansion was built in the late 17<sup>th</sup> Century by the Duke of Monmouth and has been extensively altered over the years. There are records of a formal garden laid out by the Duchess of Bedford in the early 17<sup>th</sup> Century, but that fell into disrepair and was lost completely when Launcelet "Capability" Brown redesigned the grounds in the mid 18<sup>th</sup> Century. The grounds still retain much of the character of a typical Brown landscape.
- 2.2 The site for the proposed practice ground is a strip of land between the 14<sup>th</sup> and 15<sup>th</sup> fairways. This is aligned approximately east - west with the main access being by a hard surfaced track leading from the club house and associated buildings to the west. The land here has an overall slope down from south to north; there is a moderate slope down into the site from the south, the central part is level then it falls more steeply to the north. This is most pronounced near the centre, with the overall slope easing towards the ends.
- 2.3 The level central part of the site currently has a firm surface and is used for storage of sand, old turf and other materials. At the time of the survey some contractor's vehicles were also parked there.

### **3 Trees**

- 3.1 The trees concerned are growing predominantly along the southern and northern edges of the site. They are described individually in the schedule but some general observations are made below:

- 3.2 The most significant trees are a number of mature oaks and several veterans, most of them near the eastern end and on the northern slope. The majority of these are in fair or good condition, reflecting the natural longevity and resilience of the species. There are also several mature to over mature sycamores, none of them very vigorous and some in an advanced state of decline. There are also several mature parkland trees, including large lime, sweet chestnut, coast redwood and London plane.
- 3.3 Most of the steeper northern side of the site is wooded, predominantly with young and semi mature oak, sycamore and goat willow. Most of these are probably self seeded, but there are some planted red cedars about mid way along. The bank on the northern side is narrower and contains a number of the larger specimen trees with some well established young planting including wild cherry, birch and some exotic conifers such as Douglas fir and Monterey pine.
- 3.4 There are some signs of past pruning, some of it possibly repaired storm damage. Otherwise few of the trees show any signs of pruning or other work, but this not an area where intensive tree management would be warranted.

#### **Restrictions**

- 3.5 There are no tree preservation orders [TPOs], but the site is in a designated Conservation Area.

#### **4 Proposal**

- 4.1 This is dealt with on more detail by others but in summary it involves:
  1. Creating a teeing area at the western end of the site. This has a level base, slightly elevated above ground and wooden sides and roof.
  2. Removing the existing storage area in the middle and returning it to grass. This will involve some moderate level changes to create a more even surface to facilitate collection of balls.
  3. Felling some of the trees and pruning a few others to create a clear driving range along the centre of the site.
  4. Erection of fencing 10m high along each side and at the end to prevent balls leaving the range.
- 4.2 Initially the council and other bodies they notified raised concerns about the proposal, most connected with trees, landscaping and ecology. However the main concern was about the lack of information supplied at that stage, rather than opposition to the proposal on any specific grounds. Following a meeting with the council officers dealing with the case it was clarified that most of these matters could be dealt with by a suitable survey to assess the implications of the proposal and, if appropriate, method statements covering working methods.

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## 5 Appraisal and discussion - effects on trees

### General comments

- 5.1 The two main functions of tree roots are 1) physical support and 2) the supply of water and nutrients from the soil. Roots will grow wherever conditions are favourable i.e. there is a suitable supply of air and water, so most tend to be in about the upper 600mm of the soil and even shallow excavation can be damaging. Construction work near trees can be harmful in other, less direct ways, for instance soil compaction caused by heavy machinery and by spillage of toxic substances such as diesel oil and cement.
- 5.2 British Standard 5837: 2005, Tree in Relation to Construction – Recommendations, specifies measures to avoid or minimise damage to trees that are retained on or near construction sites. One of the more important recommendations is that root protection areas [RPAs] are established round retained trees and that no ground work takes place within them. The size of the RPA is based on the size of the tree concerned. The starting point is that for a single trunked tree it is a circle with a radius 12 times the trunk diameter at 1.5m, while with multiple trunked trees the area is equivalent to a circle 10 times the radius just above the root collar. In either case the shape and layout of the RPA can be modified, if this is deemed appropriate by a suitably qualified arboriculturalist.

### Tree removals

- 5.3 The impact of this proposal on the trees will generally be low. Some trees are removed to create a fairway, mainly from the central part of the site, but these are nearly all C or R category, i.e. they are not outstanding in any way or are trees that warrant removal in any event. The visual effect of this will be reduced considerably by the fact that most of the trees to each side are retained, so the appearance of the belt as a whole will not be greatly altered.

### Teeing area

- 5.4 The teeing area at the western end of the range was originally close to two of the larger specimens, trees 330 [redwood] and 334 [Japanese cedar], but has been moved farther from them. The location shown on the drawing is well outside the RPAs of both of those trees, but it is a lightweight structure that could be supported by piles, involving little ground disturbance. Therefore it could be moved back towards these trees and, as there is no ground disturbance on the other sides, they would tolerate moderate encroachment into their RPAs. The current location is satisfactory, but moving it back would increase the distance to tree 256, the veteran oak at the other end of the fairway.

### Fence

- 5.5 The height of the fence means that the supports will be substantial structures, but these are well spaced and there is some scope of adjusting their positions in order to avoid ground disturbance within RPAs. Outside RPAs there is no need for any particular precautions. Within them disturbance to major roots can be avoided by making initial exploratory excavations by hand and either pruning roots carefully or adjusting the location slightly to avoid them. The bases can be concrete cast in small pits, which can be dug by hand, or the company can install purpose built anchors which screw into the ground with minimal disturbance.
- 5.6 In a few places some pruning will be needed in order to install the fence, but there is scope to adjust its location slightly, so this is generally minor, typically removal or shortening of lower branches. Where this is needed it has been indicated in the schedule.

- 5.7 Impact damage to trees from golf balls next to the driving range is to be minimised by having short spurs of fence to protect them. This involves some additional work and cost, but this can be offset to some degree by reducing the need for fencing beyond the trees. The inset in the main drawing illustrates the general principle, the precise layout can be determined by the contractor and arboriculturalist, ideally once trees scheduled for removal have been felled.

#### **Level changes**

- 5.8 Lowering ground levels damages roots directly, while raising them can be harmful by reducing the supply of air and water to the roots. The proposal involves some level changes, but most of this takes place in the central area well away from the RPAs of retained trees. Moderate changes within RPAs are unlikely to cause major damage, but it is important that this does not exceed the 20% limit specified in the standard.

#### **Restrictions**

- 5.9 As the site is in a designated Conservation Area, Three Rivers DC must be given six weeks notice of any proposed felling or pruning of trees over 75mm diameter at 1.5m. They can allow this either by confirming in writing that they do not object or by letting the six weeks elapse without making a tree preservation order [TPO], which is the only way they can prevent work of which they do not approve.
- 5.10 There are some relevant exemptions from the normal procedures:
1. Any work *immediately* required to implement a proposal that has *full* planning permission is deemed to be covered by the planning permission for the development.
  2. Removing or making safe any trees that are dead, dying or which have become dangerous does not need consent but in such cases the council must be given five days notice. There is a requirement to plant a new tree in the same place unless the council agree otherwise.
- 5.11 Most of the work specified here would come under 1 above, while the reduction of the veteran oak no.256 would come under 2.

### **6 Appraisal and discussion - ecological implications**

#### **Ground flora / fauna**

- 6.1 The storage area in the central part of the site has no particular ecological value. On the south side it is mainly unmanaged grass with bramble in places where the trees are sparser, while most of the northern side is woodland floor. The proposal will replace the storage area with mown grass which will extend slightly into the existing rough grass and woodland floor on each side. The course as a whole already contains large areas of this habitat, so the overall ecological effect of this will not be significant.
- 6.2 A badger sett has been recorded to the north east of the site. The survey for this report covered the entire area affected by the proposal and no setts were found.

#### **Bats and birds**

- 6.3 The wildlife most relevant to this proposal are bats, of which all species are protected and birds, of which most species are protected. The three tier ecological value category system in the survey schedule is based largely on the value of the trees for bats and birds. Younger trees and some of the larger ones, such as the two London planes are unlikely to be used to any degree by bats, but most of the other older specimens, especially the veteran oaks, have splits and decay cavities that are likely to be used. Many birds also nest in decay cavities. All the higher value trees are retained, where work is being carried out on them it is generally in order to increase their life expectancy, for instance the crown reduction of tree 256.

- 6.4 With these trees and any others of medium to high value it would be appropriate to take suitable measures to avoid or minimise any negative impact on bat or bird populations caused by any work. These could include:
1. Trees to be felled or pruned should be surveyed for bats or at least inspected to assess whether they are likely to be present. If any are present suitable mitigation measures should be taken, such as relocating bats or timing work to avoid breeding and hibernating seasons.
  2. Where any bat habitats are lost they should be replaced with bat boxes in nearby trees.
  3. Trees due to be felled or pruned should also be checked for nesting birds during the breeding season. If any are present it might be necessary to reschedule work to avoid them.
- 6.5 The netting is a 28mm mesh, available in black or green and the company advise that they have no records of birds or bats flying into it or getting trapped.

## **7 Appraisal and discussion - landscaping implications**

- 7.1 The grounds still retain much of the character of the Capability Brown landscape and the existing course fits unobtrusively into this. Many of the mature broadleaved trees probably date from about this period. The cedar near the mansion could also date from about this time, although the larger conifers, such as the redwood and Japanese cedar will be more recent. Most of these were not introduced until the early and mid 19<sup>th</sup> Century, following which they became highly fashionable with the Victorians and many of the older ones in Britain date from this period.
- 7.2 The only remnants of the pre Brown landscape are the veteran oaks scattered around the park, with four being in or near the proposed practice area [trees 220, 233, 256 and 257]. Trees become increasingly difficult to age accurately as they grow older, but the sizes and appearance of these indicate that they are at least 300 years old, possibly much more. They have short, stout trunks and wide spreading main limbs, indicating that they have been pollarded earlier in their lives. This ties in with the story of the Duchess of Monmouth having oaks in the park topped after her husband was executed, although pollarding is a traditional practice and there is not necessarily a direct connection. Pollarding will have slowed their growth, making them older than their sizes might suggest and often prolongs their lives by making them smaller and less susceptible to storm damage. Old pollards need careful management, typically with periodic moderate crown reduction to lessen the risk of major limb shedding, as specified for tree 256, also mentioned at 6.3 above. This does not materially alter their character or contribution to the landscape and there are specialised techniques, such as coronet cutting, where pruning cuts are made to mimic natural breaks.
- 7.3 The proposal leaves the belt on the north side more open about half way along, between sections 4-4 and 5-5 on the drawing. This is one of the areas where new planting is proposed and fill in this area will give new trees a start in creating a screen. A detailed planting schedule has not been prepared yet, but the most suitable species to fit in with the character of the existing belt would be predominantly deciduous broadleaves, not necessarily native species. Poplars are fast growing, but not suitable here as most species send up sucker shoots, which can be troublesome. Wild cherry can cause the same problem. Ash, beech and sycamore will establish rapidly, with hazel and field maple forming lower to mid level screening in time.

- 7.4 The belt of trees is a major feature of the course and readily visible from the mansion. Nearly all the tree removals and other changes take place in the central area, but the topography and the sizes of the remaining trees mean that this will not be obvious from most view points. The fence will be visible, but is coloured to make it unobtrusive and in most places will be screened by the trees retained along the edges of the group. A short section near the eastern end of the south side will have to extend towards the 15<sup>th</sup> fairway in order to go round trees 283 and 282, but the presence of the spur protecting the trees will obviate the need for it to be continuous at this point. The inset in the drawing illustrates this.
- 7.5 In summary the overall effect on the character and appearance of the grounds will be minor or neutral; from closer view points and within the tree belt the removal of the existing storage areas will be an improvement.

## **8 Summary and conclusions**

- 8.1 The proposal involves the removal of some trees and landscape work, including changes to ground levels. However the overall impact on the trees, ecology and landscape is low to moderate and adverse effects can be avoided or reduced with suitable measures, as outlined above.
- 8.2 Once the layout and other details are finalised these can be specified in a method statement covering the work and it could be a condition of consent that this is approved by the council before any work starts.

*Simon Pryce*

Simon Pryce B.Sc, F.Arbor.A, C.Biol, M.I.Biol, MICFor  
Arboricultural Association Registered Consultant

Site: Proposed practice area, Moor Park Golf Club, Rickmansworth  
 Inspection date: 16 December 2008, 12 January 2009 by Simon Pryce

Tree no.	Species	Age / vigour	Ht. m	Spread			Dia. mm	RPA rad m	RPA area m <sup>2</sup>	Crwn ht. m	Comments and recommendations	Cat	Eco
				N	S	E							
<p>The existing topographic survey is comprehensive and accurate, so the same numbering system has been used in order to minimise confusion. The trees are described in order, starting at the western end near the proposed teeing area, going along the line of the southern fence to the eastern end, then back along the north side, so the numbers below do not run in sequence.</p> <p>Comments about work to accommodate the net are based on the layout shown on the drawing and it is possible that there will be some scope for minor adjustment or re routing.</p>													
334	Japanese cedar <i>Cryptomeria japonica</i>	M/N	19	6	7	5	6	950	11.5	412	3	A I	L
330	Coast redwood <i>Sequoia sempervirens</i>	M/N	26	5	6	6	6	1530	15.0	707	2	A I	L
329	Tree of Heaven <i>Ailanthus altissima</i>	MA/N	18	7	6	7	5	750	9.3	253	3	R	L
332	Sycamore <i>Acer pseudoplatanus</i>	M/L	21	10	11	12	9	1490	15.0	707	4	C I	M
328	Helm oak <i>Quercus ilex</i>	M/N	12	8	11	7	7	1180	14.0	630	4	C I	M
325	Oak <i>Quercus robur</i>	MA/N	14	5	5	5	5	510	6.1	117	4	C 2	L
323	Oak <i>Quercus robur</i>	MA/N	16	7	7	7	7	640	7.6	183	3	C 2	L
314	Sweet chestnut <i>Castanea sativa</i>	MA/N	16	5	4	5	5	410 480	7.6	181	4	C 2	L
324	Hawthorn <i>Crataegus monogyna</i>	M/N	10	6	5	5	5	2 x 410	7.0	155	2	C 2	M

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				N	S	E							
The next trees, 317 - 321 are a group comprising a large over mature pine with the yews forming a thicket underneath it.													
317	Yew <i>Taxus baccata</i>	M/N	10	7	3	1	10	890	450	2	Leans very heavily due to the large Scots pine and other trees, but is shade tolerant and not unduly suppressed. <ul style="list-style-type: none"> <li>Removed as part of the proposal.</li> </ul>	C 2	M
318	Scots pine <i>Pinus sylvestris</i>	OM/L	22	5	5	5	6	1020	470	10	Old tree that is starting to decline and has minimal potential. No signs of decay cavities or potential nest / roost sites. <ul style="list-style-type: none"> <li>Removed as part of the proposal.</li> </ul>	C 1 [R]	L
319	Yew <i>Taxus baccata</i>	M/N	10	5	4	4	4	460	96	3	Reasonably vigorous but has a large decay cavity at the base on the east side where a major limb has been shed in the past. <ul style="list-style-type: none"> <li>Removed as part of the proposal.</li> </ul>	C 2	M
320	Yew <i>Taxus baccata</i>	M/N	10	4	4	4	3	570	145	2.5	One sided due to growing near the others, otherwise fair. <ul style="list-style-type: none"> <li>Removed as part of the proposal.</li> </ul>	C 2	M
321	Yew <i>Taxus baccata</i>	M/N	10	2	7	4	9	680	212	0	Leans heavily due to proximity of the others, low branch ends brush the ground. <ul style="list-style-type: none"> <li>Removed as part of the proposal.</li> </ul>	C 2	M
339	Sycamore Acer <i>pseudoplatanus</i>	MA/N	16	7	5	1	8	350 370	116	5	One sided due to growing close to the larger one. Has some old pruning cuts near the base, otherwise fair. <ul style="list-style-type: none"> <li>Needs some branches on the north side removed to accommodate the net.</li> </ul>	C 2	L
327	Sycamore Acer <i>pseudoplatanus</i>	M/N	22	8	8	10	7	450 510 570 540	488	5	Has narrow forks between the main limbs, probably due to growing from a cut stump. Healthy otherwise and not an imminent major threat. <ul style="list-style-type: none"> <li>Install braces between main limbs if kept.</li> <li>Would need lower branches on the north side removed up to about 1.0m to accommodate the net.</li> </ul>	C 2	L
274	Sweet chestnut <i>Castanea sativa</i>	M/N	24	7	8	8	9	1460	707	2	Large mature tree with some ivy and dead wood, otherwise healthy and is naturally long lived. <ul style="list-style-type: none"> <li>No work needed at present.</li> </ul>	B 1	M
311	Oak <i>Quercus robur</i>	Y/N	8	4	4	4	5	250	28	2.5	Leans due to proximity of the other trees and crown is misshapen. <ul style="list-style-type: none"> <li>Fell to accommodate net.</li> </ul>	C 2	L
310	Sycamore Acer <i>pseudoplatanus</i>	M/L	25	10	5	5	9	800	287	5	Old tree, declining naturally. It has a number of decay cavities, including a large one at 2.5m on the west side. Too old to be able to tolerate crown reduction. <ul style="list-style-type: none"> <li>No major work needed at present, one lower limb needs trimming to accommodate the net.</li> </ul>	C 1	M

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Tree no.	Species	Age / vigour	Ht. m	Spread				Dia. mm	RPA rad m	RPA area m <sup>2</sup>	Crwn ht. m	Comments and recommendations	Cat.	Eco
				N	S	E	W							
309	Sycamore <i>Acer pseudoplatanus</i>	M/L	27	9	11	8	0	1340	707	5	Has a large shattered stump on the north side and signs of other old storm damage. Also declining like the previous tree. <ul style="list-style-type: none"> <li>Thin dense shoots round the old cuts and broken stumps if retained.</li> <li>Will need lower branches on the south east side pruned to accommodate the net.</li> </ul>	C1 [R]	M	
295 - 302	European larch <i>Larix decidua</i>	M/N	15 - 18	0 - 6				350 - 550	136	4 - 7	Clump of 8 trees, planted close together and not thinned out. The more dominant ones are in fair condition but, as they have sheltered each other all their lives any attempt to thin them out at this stage would probably result in the loss of the entire group in high winds. <ul style="list-style-type: none"> <li>Removed as part of the proposal.</li> </ul>	C2 [R]	L	
294	Monterey pine <i>Pinus radiata</i>	Y/N	11	3	2	2.5	2	250	28	0	Healthy young trees with good potential. <ul style="list-style-type: none"> <li>No work needed at present.</li> </ul>	C2	L	
295	Monterey pine <i>Pinus radiata</i>	Y/N	12	3	1.5	2.5	2.5	25	29	0		C2	L	
270	Lime <i>Tilia x europaea</i>	M/N	26	7	7	7	7	1270	707	2	Has some ivy and minor dead wood, healthy and vigorous otherwise and is one of the better specimens. <ul style="list-style-type: none"> <li>No work needed at present.</li> </ul>	A1	M	
269	Sweet chestnut <i>Castanea sativa</i>	Y/N	9	4	4	3	3	220	22	0	Healthy, but the secondary stem at the base is competing with the main leading shoot and will spoil the tree is left. <ul style="list-style-type: none"> <li>Remove secondary stem at the base.</li> </ul>	C1	L	
283	Sycamore <i>Acer pseudoplatanus</i>	M/L	29	14	12	11	10	1490	707	3	Old tree that is starting to decline but is still in reasonably good condition for its age. <ul style="list-style-type: none"> <li>Heavy low limbs on the south side should be reduced by 20 - 25% to lessen the risk of snapping. This will also allow the net to be taken slightly closer to the tree, making it less noticeable.</li> </ul>	C1	M	
282	London plane <i>Platanus x hispanica</i>	M/N	25	6	12	8	9	1240	697	5	Carrying a heavy growth of ivy and is slightly one sided, otherwise good. <ul style="list-style-type: none"> <li>Needs some lower branch removal on the south side to accommodate the net.</li> <li>Cut ivy.</li> </ul>	A1	L	
260 & 259	Douglas fir <i>Pseudotsuga menziesii</i>	Y/N	9	2.5	2.5	2.5	2.5	210	19.4	0	Pair of healthy young trees growing among assorted other young ones, including wild cherry and birch. <ul style="list-style-type: none"> <li>No work needed at present, group will benefit from thinning in due course.</li> </ul>	C2	L	

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				N	S	E	W							
258	Sycamore <i>Acer pseudoplatanus</i>	MA/N	18	6	6	6	6	11.0	380	1	Has a narrow fork at 2.5m but this is reasonably well formed. Some ivy growing into the crown. <ul style="list-style-type: none"> <li>• Would need crown lifting and shortening of lateral branches on the north side to accommodate the net.</li> </ul>	C1	M	
257	Oak <i>Quercus robur</i>	M/N	18	12	13	11	13	15.0	707	3	Exceptional old specimen, size consistent with an age of well over 200 years. Has some decay cavities and dead wood in the crown but the twig growth is reasonably healthy and even over the crown. <ul style="list-style-type: none"> <li>• No work needed at present, but should be monitored.</li> </ul>	A I,3	H	
To the north of this tree is a dense area of younger trees, mainly sycamore and oak saplings. Many have little or no potential and only the larger and more significant ones are described here.														
195	Oak <i>Quercus robur</i>	Y/N	10	2	2	1	5	2.7	22	5	One sided due to growing under the larger tree, otherwise good. <ul style="list-style-type: none"> <li>• No work needed at present.</li> </ul>	C2	L	
196	Oak <i>Quercus robur</i>	Y/N	12	3	2	2.5	3	2.7	24	5	Also one sided, otherwise good. <ul style="list-style-type: none"> <li>• No work needed at present.</li> </ul>	C2	L	
197	Oak <i>Quercus robur</i>	Y/N	12	4	2	3	4	3.0	29	5	Farther from 257, not as suppressed as the previous two. <ul style="list-style-type: none"> <li>• No work needed at present.</li> </ul>	C2	L	
198	Rowan <i>Sorbus aucuparia</i>	M/N	10	3	3	3	4	3.4	37	5	Has some sucker shoots at the base and on the trunk, otherwise good. <ul style="list-style-type: none"> <li>• No work needed at present.</li> </ul>	C2	L	
189	Birch <i>Betula pendula</i>	M/N	16	3	3	4	5	3.4	37	8	Drawn up due to growing among the others, otherwise good. <ul style="list-style-type: none"> <li>• No work needed at present.</li> </ul>	C2	L	
200	Hawthorn <i>Crataegus monogyna</i>	M/N	12	5	5	5	5	4.4	61	3	Has some ivy on the trunk and in the lower crown, otherwise good. <ul style="list-style-type: none"> <li>• No work needed at present.</li> </ul>	C2	L	
202	Elm <i>Ulmus procera</i>	Y/L	11	0	3	1	1	2.3	16	8	Drawn up through the oak and is severely suppressed. <ul style="list-style-type: none"> <li>• Remove.</li> </ul>	R	L	
220	Oak <i>Quercus robur</i>	M/L	19	10	10	8	7	15.0	707	3	Has some ivy growing into the crown, some large dead wood and fairly extensive die back although there is a reasonable amount of healthy live foliage. <ul style="list-style-type: none"> <li>• No work needed at present, but should be monitored.</li> <li>• The net is shown passing close to this tree but could be realigned to the west to increase clearance without impinging unduly on tree 233.</li> </ul>	A I,3	H	
221	Goat willow <i>Salix caprea</i>	MA/N	11	4	2	4	5	2.7	24	3	Leans over the path, otherwise sound and reasonably healthy. <ul style="list-style-type: none"> <li>• No work needed at present.</li> </ul>	C2	M	

Site: Proposed practice area, Moor Park Golf Club, Rickmansworth  
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Tree no.	Species	Age / vigour	Ht. m	Spread				Dia. mm	RPA rad m	RPA area m <sup>2</sup>	Crwn ht. m	Comments and recommendations	Cat	Eco
				N	S	E	W							
227	Birch <i>Betula pendula</i>	M/N	16	4	2	4	3	350	4.2	56	6	Lower trunk leans to the east, but the tree as a whole is well balanced. <ul style="list-style-type: none"> <li>No work needed at present.</li> </ul>	C 2	L
231	Oak <i>Quercus robur</i>	Y/N	7	4	4	0	6	290	3.4	37	3	Very misshapen due to the other, larger trees nearby, otherwise good. <ul style="list-style-type: none"> <li>No work needed at present.</li> </ul>	C 2	L
232	Ash <i>Fraxinus excelsior</i>	MA/N	15	4	6	6	6	600 [b]	6.0	112	5	Collection of stems growing from the stump of a felled tree. Healthy and sound. <ul style="list-style-type: none"> <li>No work needed at present.</li> </ul>	C 2	M
233	Oak <i>Quercus robur</i>	M/L	16	5	8	8	7	1430	15.0	707	3	Veteran tree with fairly heavy ivy, some major dead wood and signs of splits and cavities in the main limbs. <ul style="list-style-type: none"> <li>No work needed at present, but should be monitored.</li> <li>See comments about net under tree 220.</li> </ul>	A 1,3	H
236	Oak <i>Quercus robur</i>	M/N	15	9	9	7	10	2040	15.0	707	4	Veteran tree with a hollow trunk, major deadwood in the crown and heavy ivy. Has a reasonably full and healthy live crown and the ivy will also be increasing weight and wind loading on the decayed trunk. <ul style="list-style-type: none"> <li>Reduce crown by about 30%. Cut ivy to prevent it from overrunning the new growth, although the tree would retain considerable ecological value even if dead.</li> </ul>	A 1,3	H
The next trees are growing to the north of the existing yard / proposed driving range, some of them among dense groups of small saplings, which are not listed or described individually.														
119	Lime <i>Tilia x europaea</i>	M/N	25	7	7	7	7	1560 [b]	15.0	707	6	Old coppice stool that has been left to grow on. Healthy but there is some old bark damage on the south side, probably due to scorching from a fire lit nearby. <ul style="list-style-type: none"> <li>Net is shown going through this tree but the trunks are almost vertical and there are no sizeable low branches so a moderate amount of pruning would create enough clearance for it to pass nearby to the north or south.</li> </ul>	B 2	M
244	Field maple <i>Acer campestre</i>	M/N	16	8	8	7	6	830	8.3	215	4	Has a large decay cavity on the east side of the trunk and is carrying a heavy growth of ivy. <ul style="list-style-type: none"> <li>Removed as part of the proposal.</li> </ul>	R	M
243	Field maple <i>Acer campestre</i>	M/L	16	6	1	6	6	560	6.7	140	6	Heavily covered in ivy, and one sided due to proximity of 244, would be vulnerable to high winds with the other tree removed. <ul style="list-style-type: none"> <li>Removed as part of the proposal.</li> </ul>	R	M
240	Field maple <i>Acer campestre</i>	M/L	12	1	3	2	4	220	2.7	22.5	6	Severely suppressed, heavily covered in ivy. <ul style="list-style-type: none"> <li>Removed as part of the proposal, with the hawthorn stump behind.</li> </ul>	R	M
237	Field maple <i>Acer campestre</i>	M/N	16	7	4	6	6	350	4.2	56	1	Bushy specimen, some ivy but healthy. <ul style="list-style-type: none"> <li>No work needed at present.</li> </ul>	C	M

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Tree no.	Species	Age / vigour	Ht. m	Spread					Dia. mm	RPA rad m	RPA area m <sup>2</sup>	Crwn Ht. m	Comments and recommendations	Cat	Eco
				N	S	E	W								
278	Sycamore <i>Acer pseudoplatanus</i>	MA/N	17	0	6	5	5	570	6.9	148	2	Pair of co dominant trees, heavily covered in ivy but reasonably healthy otherwise. <ul style="list-style-type: none"> <li>Removed as part of the proposal.</li> </ul>	C2	L	
279	Sycamore <i>Acer pseudoplatanus</i>	MA/N	18	6	0	6	6	570 540	9.5	281	2	Group of four trees, all scorched severely and either dead or dying. <ul style="list-style-type: none"> <li>Remove</li> </ul>	C2	L	
275 - 278	Scots pine <i>Pinus sylvestris</i>	D	14 - 17	3 avg.					300 - 440	-	-	5	Top has been snapped off in the past. Former heavy ivy has been cut and is dead but the tree is in decline. <ul style="list-style-type: none"> <li>Remove</li> </ul>	R	L
95	Field maple <i>Acer campestre</i>	M/L	14	5	5	5	5	290	3.4	37	2	Multiple trunked bushy specimen. <ul style="list-style-type: none"> <li>Removed as part of the proposal.</li> </ul>	C2	L	
285	Goat willow <i>Salix caprea</i>	MA/N	10	3	3	2	3	300	3.0	29	2	Leans and is heavily covered in ivy. <ul style="list-style-type: none"> <li>Removed as part of the proposal.</li> </ul>	C2	L	
286	Oak <i>Quercus robur</i>	Y/N	9	5	1	2	5	240	2.9	26	3	Also heavily covered in ivy. <ul style="list-style-type: none"> <li>Removed as part of the proposal.</li> </ul>	C2	L	
287	Oak <i>Quercus robur</i>	Y/N	12	5	5	4	4	250	3.0	29	4	Group of bushy trees all growing from cut stumps. <ul style="list-style-type: none"> <li>Removed as part of the proposal.</li> </ul>	C2	L	
288 - 291	Goat willow <i>Salix caprea</i>	MA/N	10	3 avg.					250 - 300	3.0	29	1	Two short rows of trees, possibly planted as a screen. <ul style="list-style-type: none"> <li>Removed as part of the proposal.</li> </ul>	C2	L
79 - 85	Red cedars <i>Thuja plicata</i>	MA/N	10 - 13	2.5 avg.					240 avg.	2.9	26	0	Multiple trunked specimen with severe squirrel damage. Would need to be removed in any event. <ul style="list-style-type: none"> <li>Removed as part of the proposal.</li> </ul>	R	L
87	Sycamore <i>Acer pseudoplatanus</i>	MA/L	12	4	4	3	3	410	5.0	77	0	Large broad crowned tree, dominant in this area. <ul style="list-style-type: none"> <li>Little scope for crown lifting, net might need to be realigned slightly to the south.</li> </ul>	B2	L	
78	Oak <i>Quercus robur</i>	MA/N	16	10	9	8	9	670	8.0	202	3	Drawn up due to growing among otherwise, otherwise fair. <ul style="list-style-type: none"> <li>No work needed at present.</li> </ul>	C2	L	
76	Oak <i>Quercus robur</i>	MA/N	15	5	5	3	2	370	4.4	61	7	Also drawn up, otherwise good. <ul style="list-style-type: none"> <li>No work needed at present.</li> </ul>	C2	L	
59	Oak <i>Quercus robur</i>	MA/N	18	7	4	6	6	410	5.0	77	7		C2	L	

**Site:** Proposed practice area, Moor Park Golf Club, Rickmansworth  
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Tree no.	Species	Age / vigour	Ht. m	Spread				Dia. mm	RPA rad m	RPA area m <sup>2</sup>	Crwn ht. m	Comments and recommendations	Cat	Eco
				N	S	E	W							
60	Sycamore <i>Acer pseudoplatanus</i>	M/N	14	0	8	6	5	600 [b]	6.0	115	3	Group of three multiple trunked trees, growing close together and all leaning heavily outwards from the centre. 61 and 62 are carrying heavy ivy and 62 has fractured branches resting on the ground. <ul style="list-style-type: none"> <li>Remove / coppice all three.</li> </ul>	C 2 [R]	L
61	Sycamore <i>Acer pseudoplatanus</i>	M/N	14	8	0	9	0	830	8.3	215	0			
62	Sycamore <i>Acer pseudoplatanus</i>	M/N	14	9	3	5	9	920 [b]	9.2	267	0			
58	Oak <i>Quercus robur</i>	MA/N	16	7	6	5	5	400	4.8	72	6	Drawn up, otherwise good and one of the more dominant trees in this area. <ul style="list-style-type: none"> <li>Removed as part of the proposal, with two smaller ones, 56 and 57.</li> </ul>	C 2	L
73	Oak <i>Quercus robur</i>	MA/N	16	5	5	3	4	260	3.1	31	5	Drawn up, otherwise good. <ul style="list-style-type: none"> <li>No work needed at present.</li> </ul>	C 2	L
72	Oak <i>Quercus robur</i>	MA/N	16	5	5	5	2	310	3.7	42	6	Drawn up and slightly one sided, otherwise good. <ul style="list-style-type: none"> <li>No work needed at present.</li> </ul>	C 2	L
71	Oak <i>Quercus robur</i>	MA/N	16	6	6	5	5	320	3.8	46	6	Similar to the previous one. <ul style="list-style-type: none"> <li>No work needed at present.</li> </ul>	C 2	L
74	Oak <i>Quercus robur</i>	M/N	24	8	9	7	7	1180	14.2	628	4	Fairly heavily covered in ivy, otherwise good. <ul style="list-style-type: none"> <li>No work needed at present.</li> <li>Net passes close to the tree but could be realigned slightly to miss the crown and to pass between it and trees 40, 48 and 11.</li> </ul>	B 2	M
303	Hazel <i>Corylus avellana</i>	MA/N	7	4	4	4	4	350 [b]	3.5	38	0	Healthy specimen growing near the top of the bank. <ul style="list-style-type: none"> <li>Removed as part of the proposal.</li> </ul>	C 2	L
341	Ash <i>Fraxinus excelsior</i>	Y/N	9	2	2	2	2	180	2.2	15	3	Sapling, healthy, but not a significant specimen. <ul style="list-style-type: none"> <li>Removed as part of the proposal.</li> </ul>	C 2	L
304	Goat willow <i>Salix caprea</i>	M/N	14	6	6	6	6	600 [b]	6.0	115	2	Bushy tree, multiple trunked from near ground level. <ul style="list-style-type: none"> <li>Removed as part of the proposal.</li> </ul>	C 2	L
40	Oak <i>Quercus robur</i>	M/L	18	5	5	6	5	910	11	373	6	Upper foliage is sparse and there is some large dead wood in the crown, otherwise fair. <ul style="list-style-type: none"> <li>No work needed at present.</li> <li>See comments about net for tree 74.</li> </ul>	B 2	H

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Tree no.	Species	Age / vigour	Ht. m	Spread			Dia. mm	RPA rad m	RPA area m <sup>2</sup>	Crwn ht. m	Comments and recommendations	Cat	Eco	
				N	S	E								W
48	Oak <i>Quercus robur</i>	M/N	20	6	6	5	5	720	8.6	234	5	Contains some dead wood, healthier and more vigorous than the previous tree. <ul style="list-style-type: none"> <li>No work needed at present.</li> <li>See comments about net for tree 74.</li> </ul>	B 2	H
11	Oak <i>Quercus robur</i>	M/N	22	6	5	6	6	1190	14.2	644	2	Has some major dead wood, otherwise healthy. <ul style="list-style-type: none"> <li>No work needed at present.</li> <li>See comments about net for tree 74.</li> </ul>	B 2	H
49	Sycamore Acer <i>pseudoplatanus</i>	MA/L	11	5	5	5	5	210 240	3.8	45	0	Poor specimen with major decay in the base of the smaller stem, would need to be removed in any event. <ul style="list-style-type: none"> <li>Removed as part of the proposal.</li> </ul>	R	L
312	Sycamore Acer <i>pseudoplatanus</i>	OM/L	26	3	7	5	5	930	11.0	385	5	Heavily covered in ivy and declining rapidly, safe useful life is minimal and would need to be felled for safety in any event. <ul style="list-style-type: none"> <li>Removed as part of the proposal.</li> </ul>	R	M
51	London plane <i>Platanus x hispanica</i>	M/N	30	9	12	10	10	1620	15.0	707	4	Large healthy tree with some lower limbs on the south side extending over the practice range. <ul style="list-style-type: none"> <li>Remove two lowest branches and smaller ones above that on the south side to clear the range.</li> <li>Net shown passing under the north side of the crown, could be realigned slightly to miss it entirely.</li> </ul>	A 1	L
38	Tree of Heaven <i>Ailanthus altissima</i>	MA/N	19	2	6	5	5	410	5.0	77	4	Pair of co dominant trees growing close to each other. Neither of them has much potential and their useful lives would have been limited. <ul style="list-style-type: none"> <li>Removed as part of the proposal.</li> </ul>	C 2	L
39	Tree of Heaven <i>Ailanthus altissima</i>	MA/N	19	4	0	3	5	370	4.4	61	5	Removed as part of the proposal.		

*Simon Pryce*  
 Simon Pryce, B.Sc., F.Arbor.A., C.Biol., M.I.Biol., M.I.C.For  
 Arboricultural Association Registered Consultant

**Site:** Proposed practice area, Moor Park Golf Club, Rickmansworth  
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**Notes**

Observations are made from ground level unless stated otherwise.

Trunk diameters are measured in millimetres at 1.5m above ground or at the narrowest point between the root buttresses and branch flare in multiple trunked trees; in such cases this is indicated by [c].

Crown spreads are taken from the trunk centre to the end of the longest live branches in the directions indicated [usually the four cardinal compass points]

Crown height is the clearance under the lowest significant branches.

Tree ages are estimated as below, based on the normal life expectancy of a tree of the species concerned on the site:

Immature.	[M]	Newly planted or self-set tree.
Young	[Y]	Young tree that is established but has not yet attained the size or form of a fully developed example of its type.
Middle aged	[MA]	Between one third and two thirds of its estimated lifespan.
Mature	[M]	Over two thirds of its estimated life span.
Over mature	[OM]	Declining and/or approaching the end of its natural lifespan.
Dying/Dead	[D]	Dead/dying or so badly decayed that it should be removed without delay if a potential threat.

Vigour is assessed on the basis of what is normal for that the species concerned as:

High	[H]
Normal	[N]
Low	[L]
Dead / dying	[D]

Ecological value [eco] is assessed as and summarises the tree's value as wildlife food / habitat. This is based mainly on species particularly associated with trees, such as bats, birds and fungi.

High	[H]
Medium	[M]
Low	[L]

Site: Proposed practice area, Moor Park Golf Club, Rickmansworth  
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Tree categories – based on BS5837: 2005, Trees in relation to Construction - Recommendations

Trees for removal		Identification on plan
<b>Category R</b>		Dark Red
Tree so poor that any existing value would be lost within 10 years and which should, in the current context, be removed as sound arboricultural management	<ul style="list-style-type: none"> <li>Trees that have a serious, irremediable structural defect and are likely to collapse in the foreseeable future, including any that would become unstable after the removal of other R category trees.</li> <li>Trees that are dead or showing signs of significant immediate and irreversible decline.</li> <li>Trees infested with pathogens significant to the health and/or safety of other trees nearby, or low quality trees suppressing better ones nearby.</li> </ul> NOTE: Habitat reinstatement might be appropriate, e.g. bat boxes in other trees nearby.	
Trees for retention		
Category and definition	Criteria – sub categories	
	1 – mainly arboricultural values	2 – mainly landscape values
	3 – mainly cultural / conservation values	
<b>Category A</b>		Identification on plan
Trees of high quality and value, capable of making a positive contribution for at least 40 years	Particularly good examples of their species, especially if rare or unusual. Essential components of groups or arboricultural features, whether formal or semi formal.	Trees that provide a definite screening or softening effect to the locality in relation to views in or out of the site or those of particular visual importance
<b>Category B</b>		Light green
Trees of moderate quality and value, capable of making a significant contribution for at least 20 years.	Trees that might be A category but are downgraded due to impaired condition such as remediable defects including poor past management and minor storm damage.	Trees present in such numbers or in groups or woodlands such that they form distinct landscape features, attracting a higher rating than they might as individuals, e.g. moderate quality trees in avenues with other A category trees, or trees that make little contribution to the wider area outside the site.
<b>Category C</b>		Mid blue
Trees of low quality and value, currently in adequate condition to remain until new planting could be established [useful life of at least 10 years] Trees under 150mm diameter	Trees not qualifying in higher categories	Trees with clearly identifiable conservation or other cultural benefits.
	NOTE: While C category trees will not usually be retained where they would impose a significant constraint on development young trees with a stem diameter of less than 150mm diameter should be considered for relocation.	Trees with limited conservation or other cultural benefit.
		Grey

**Site:** Proposed practice area, Moor Park Golf Club, Rickmansworth  
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**Root protection areas [RPAs] – BS5837:2005**

These are normally set out and enclosed by protective fencing, generally sectional welded mesh panels anchored firmly to scaffolding or similar supports.

This is calculated as below:

**Single trunked trees**

An area equivalent to a circle with a radius 12 times the trunk diameter at 1.5m

**Multiple trunked trees [from below 1.5m]**

An area equivalent to a circle with a radius 10 times the diameter of the trunk just above the root flare. Where there is not a clear single trunk at any height either 1) the crown spread is used or 2) 12 x the diameter of a single trunk with the same cross sectional area as the combined trunks of the tree, measured at 1.5m.

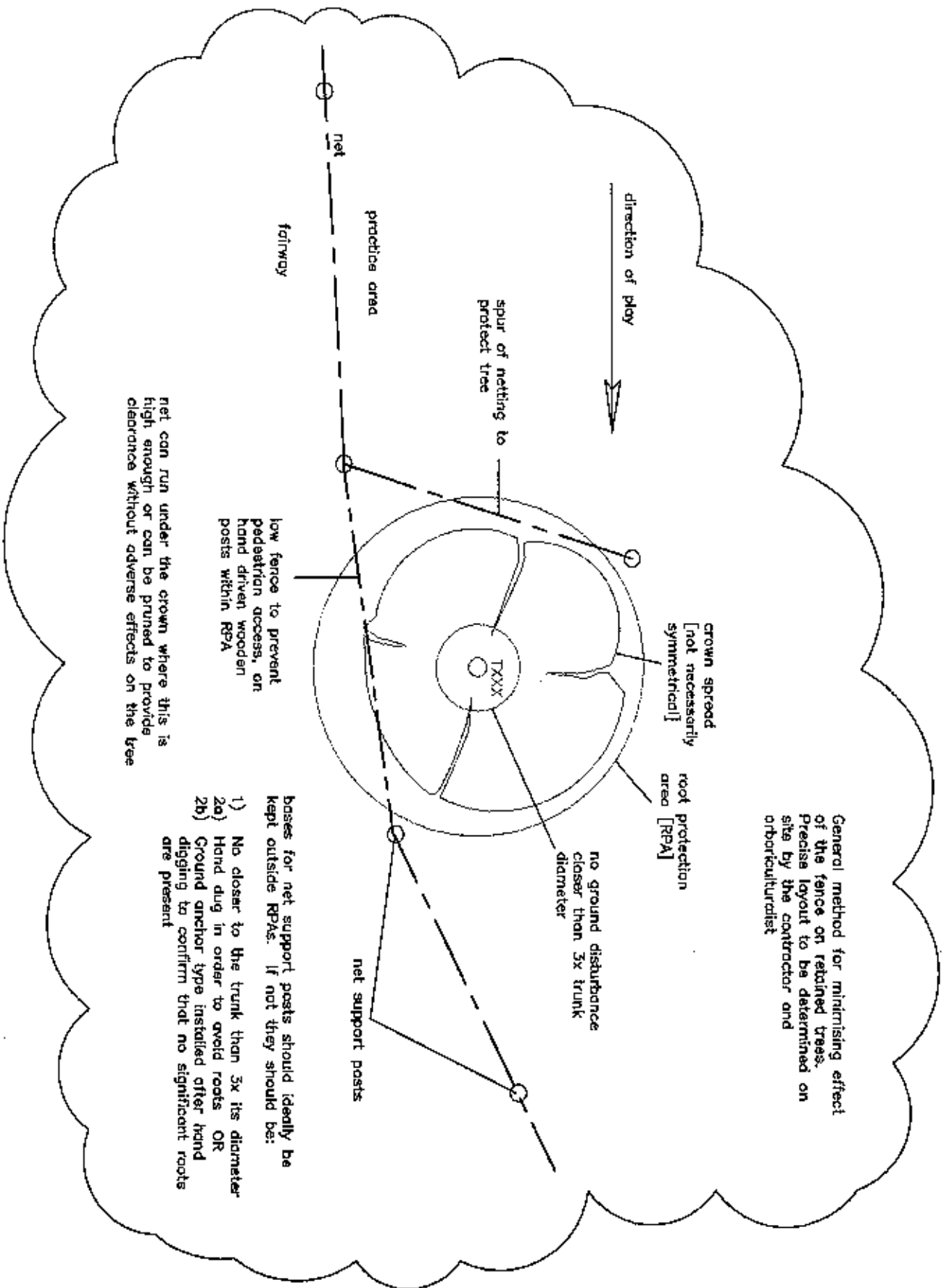
This is capped at 707m<sup>2</sup>, which is equivalent to a circle with a radius of 15m or square with sides of about 26m [equivalent to a tree with a diameter of 1250mm].

This is to be assessed by an arboriculturalist taking into account the following factors. It may change its shape but not the overall area, whilst still providing adequate protection to the root system.

- The likely tolerance of the tree to root disturbance based on factors such as species, age and condition and the presence of other trees. [For individual open grown trees it may be acceptable to offset the distance up to 20% in one direction]
- The shape and disposition of the root system when known to be influenced by past or existing site conditions, such as the presence of roads, structures and underground services
- The soil type and structure
- Topography and drainage.

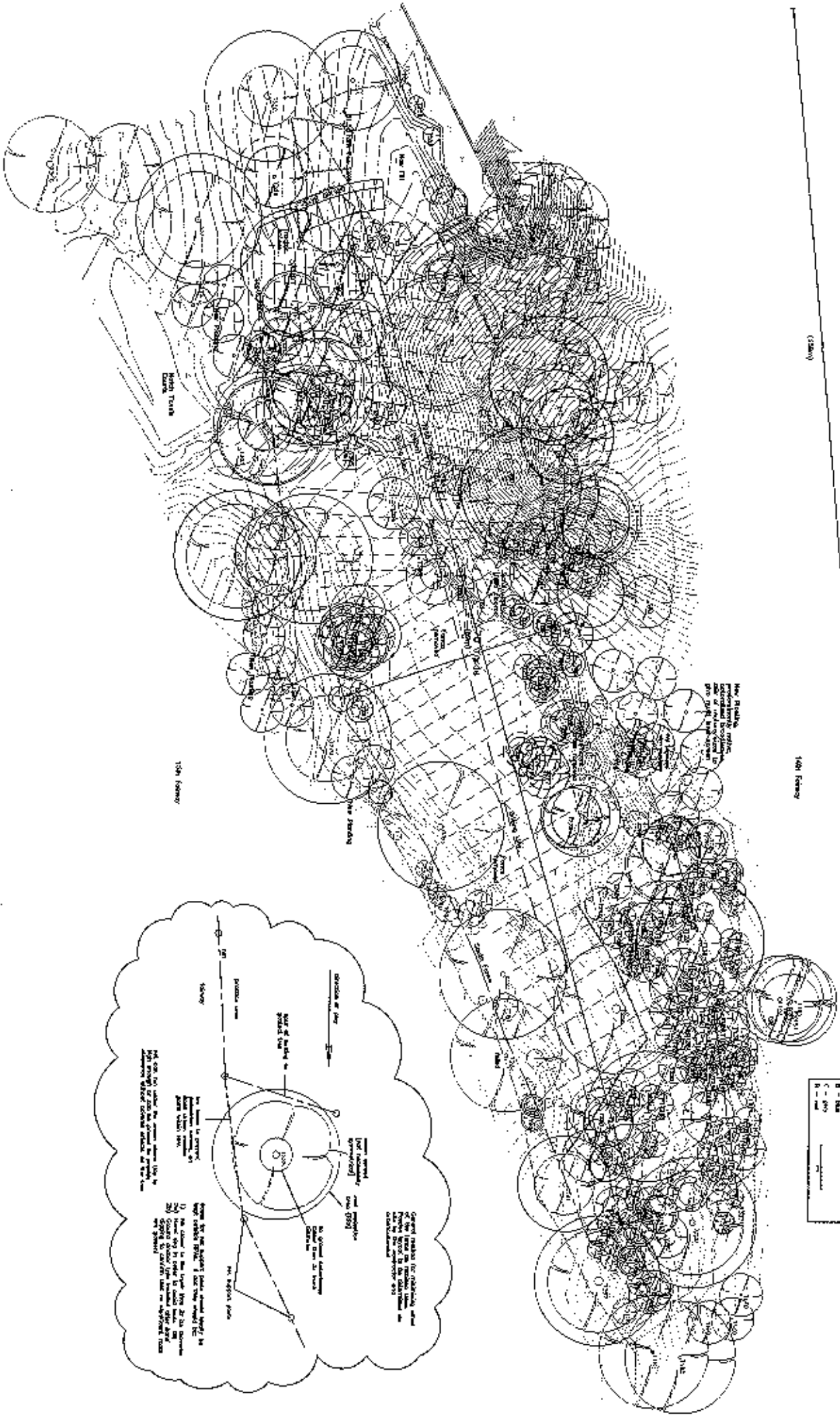
[The previous version of the Standard contained a table giving distances between the tree and the fencing based on the size, age and vigour of the tree. Alternatively, if arboricultural advice was not available, fencing was to be erected under the edge of the crown or at a radius equal to half the height]

General method for minimising effect of the fence on retained trees. Precise layout to be determined on site by the contractor and arboriculturist



net can run under the crown where this is high enough or can be pruned to provide clearance without adverse effects on the tree

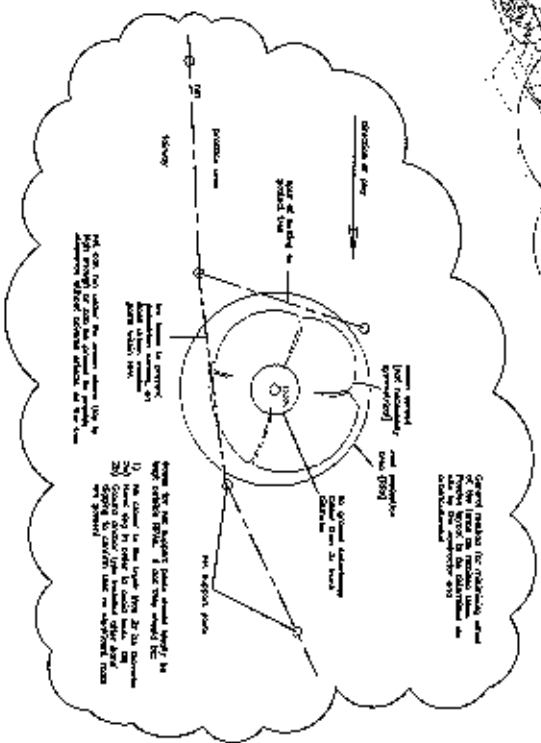
- bases for net support posts should ideally be kept outside RPAs. If not they should be:
- 1) No closer to the trunk than 3x its diameter
  - 2a) Hand dug in order to avoid roots OR
  - 2b) Ground anchor type installed after hand digging to confirm that no significant roots are present



(13/10)

10th Foremast

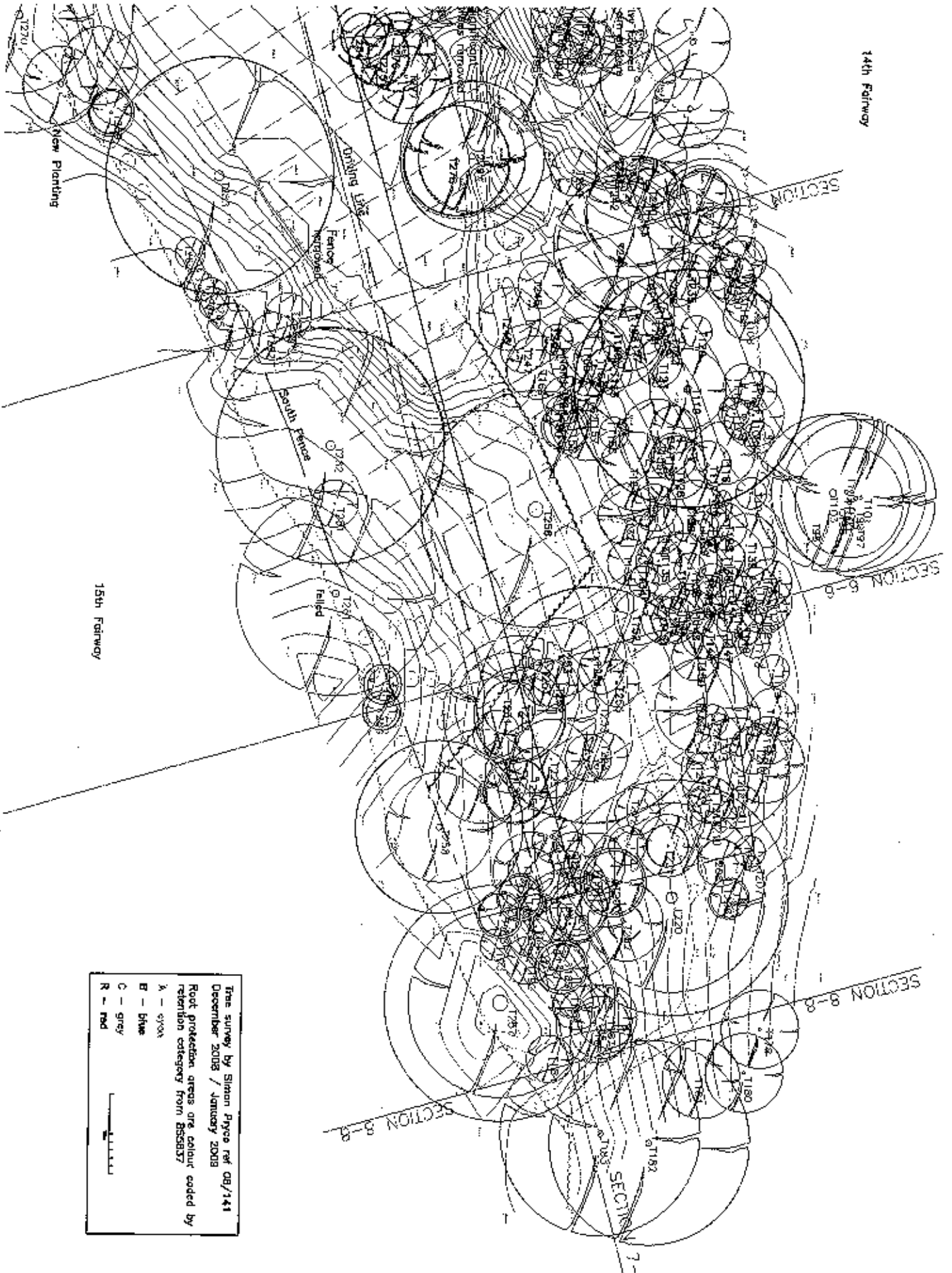
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14th Fairway



15th Fairway

Tree survey by Simon Poyce ref OB/141  
 December 2008 / January 2009  
 Root protection areas are colour coded by  
 retention category from BS5837

A	- green
B	- blue
C	- grey
R	- red