WOLLATON PARK GOLF CLUB

Proposals for Course Improvement

April 2017

Written & compiled by Ken Moodie on behalf of:

Creative GOLF Design

Golf Course Architects & Consultants

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1) Introduction

Following an initial visit and meeting with the Greens Chairman, Jim Glazzard, and Course Manager, Martin Scotherm, we were invited to Wollaton Park Golf Club to carry out a course appraisal with a view to making recommendations for improving the golf course from both a strategic and aesthetic point of view. To this end we visited once more on the 14th February to walk the course again and to take photographs and notes.

Before we look at the individual holes in detail we will firstly provide at a brief history of the course, consider the balance and variety of length of holes, and some key issues of safety in the Chapter entitled *The Layout*. We will then outline the principles of strategic design and discuss issues such as bunker shaping and construction techniques under the chapter *Bunkers & Strategy*. A *Hole-by-Hole Analysis & Proposals* will follow in which we will consider the strategy and challenge present within each of the individual golf holes and identify potential areas for improvement. Some information on *Construction Costs* will then be provided in the final chapter together with a *Conclusion* offering suggestions on the way forward.

2) The Layout

Background History

The course was designed within the grounds of Wollaton Park in 1925 by Tom Williamson, the renowned golf professional at Notts (Hollinwell) who worked on the design and alteration of many golf courses in Nottinghamshire during his career. The estate was purchased by Nottingham City Council, from Lord Middleton of Willoughby, in May of that year which provided the opportunity for the founding members of the club to acquire the land. The course opened for play 2 years later in 1927 with an opening match played by a very distinguished group that included two of the "Great Triumvirate" Harry Vardon and J H Taylor, E R Whitcombe (an English International) and its architect, Tom Williamson.

The layout of the course has remained largely intact although there have been some significant alterations to a few holes in recent years including the 6th and 15th, where the greens have been pushed back, and there have been changes to the positions and shapes of the bunkers, tees and the and a few other greens over the years. There has also been a significant amount of tree planting over the last 30-40 years which is starting to spoil the fine parkland qualities of the original landscape. The imposing 16th century, Wollaton Hall, is a wonderful feature of the course and comes into view on a number of holes on the back nine and it is important that the trees are managed to protect the views to and from the hall. The fact that the course is also a deer park provides a remarkable experience for visitors who are almost certain to see deer during the course of their round, although it poses challenges when it comes to managing the course and the bunkers in particular.

Wollaton Hall viewed from 17th green

Deer at back of 13th green

However, both the Hall and the deer are what makes Wollaton so special and the Club should make the most of these in their marketing efforts. The free draining nature of the course and its generally fine layout provide a wonderful golfing experience but there are certain elements, such as the condition and varied style of the bunkers and areas where trees have become too tight to play, which need to be addressed if the course is to reach its full potential. The Club has recognised these weaknesses and commissioned this report in order to address them.

Current Course Layout

The layout of the course consists of two loops of nine holes, with the first in a flatter and slightly more wooded landscape and the back nine in a more typical parkland setting and with more significant changes in elevation. The scorecard replicated overleaf shows that the course is a good length for a members' golf course at 6461 yards from the back tees. The front nine is over 200 yards longer than the second nine, which is largely due to the fact that there is an additional par 3 in the par 35 closing loop. The course will play to a length equivalent to a par 72 of 6,680 yards.

Hole	White Yards	Yellow Yards	Par	SI	Red Yards	Par	SI
1	412	403	4	5	364	4	4
2	131	126	3	18	120	3	17
3	441	432	4	3	417	5	11
4	545	499	5	9	477	5	1
5	431	421	4	1	398	5	13
6	362	355	4	11	329	4	6
7	368	345	4	7	286	4	10
8	134	126	3	17	123	3	15
9	526	514	5	13	473	5	8
Out	**3350**	**3221**	**36**		**2987**	**38**	
10	518	512	5	10	469	5	3
11	176	167	3	16	143	3	18
12	376	363	4	4	337	4	5
13	173	165	3	14	127	3	16
14	423	414	4	2	386	5	12
15	494	488	5	8	456	5	2
16	348	338	4	12	304	4	9
17	183	172	3	15	146	3	14
18	420	411	4	6	344	4	7
In	**3111**	**3030**	**35**		**2712**	**36**	
Total	**6461**	**6251**	**71**		**5699**	**74**	

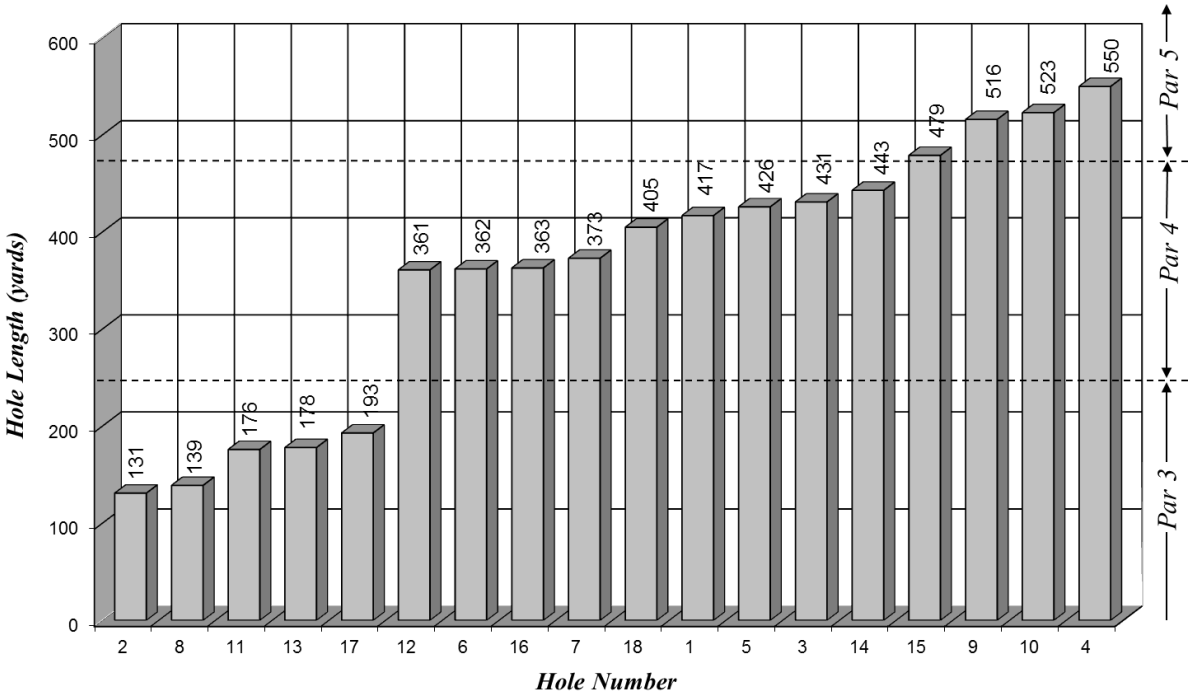
Spread of Hole Length & Par

The graphs, overleaf, provide a ranking of the hole-lengths from each of the tee markers. These have been adjusted to take account of the varied topography of the course to get a better understanding of the actual playing length of the holes which will then give an indication of the range of club selection required. We have not made any attempt at factoring in the effect of the wind, which will vary considerably throughout the course with the sheltering effect of trees, but this will have an effect on how the course plays on different days. However, the charts provide a useful start-point for a more detailed analysis. A good course will have a large range of hole-length and require the use of most clubs in the golfer's bag. Varied length on par 3's is particularly important since golfers will all be playing their approach shot to the green from pretty well the same length on each occasion, whilst on par 4's and 5's this will be influenced by the bunkering and the amount of risk the golfer feels able to take on a given day.

Looking first at the course as measured from the white tee markers, there is a reasonable range of length in the par 3's but holes 11 and 13 are very close in length. Given the problems of shading experienced by the 11th back tee, in its proximity to the mature trees behind, it would make sense to shorten this hole by around 15 yards to produce a hole of around 160 yards and thereby provide more variety of golfing experience. Looking at the par 4's, there are three holes of just over 360 yards in length – 6, 12 and 16 – and these could be targeted for improvement. The proposal to lengthen the 16th hole by around 30 yards, which will be discussed later in this report, could remove one of the holes from this group, and bridge the gap between the 373 yard, 7th hole and the 405 yard, 18th. However, it would make the drive to the plateau too challenging for many golfers and is probably best kept as an occasional tee for low handicapped and scratch events.

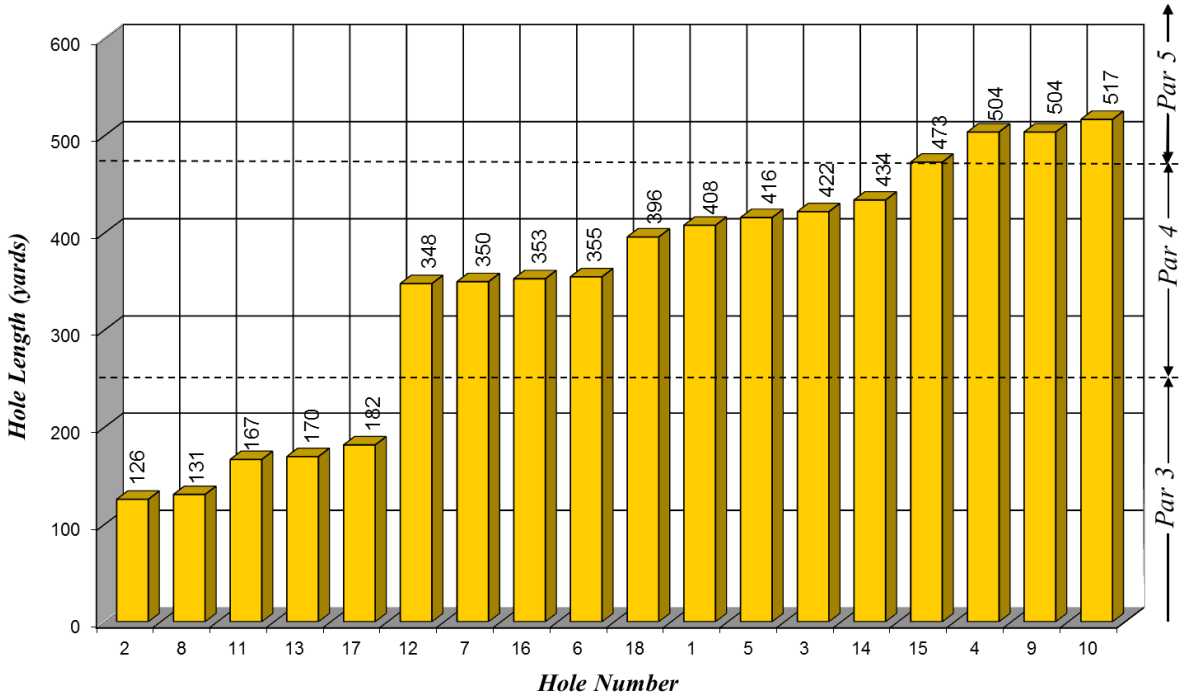
There is a good range of par 5 length for a course of this age, where typically most of the par 5's will be around or just under the 500 yards mark.

Hole Lengths from White Tees in Ascending Order (adjusted for topography)



Looking at the Yellow markers a similar picture appears. In relation to the par 3's the same similarity between holes 11 and 13 exists, which will be addressed by the proposal to shorten hole 11, but holes 2 and 8 are also very close in playing length and have the same yardage on the scorecard. Since the Yellow tee marker on the 2nd hole is very close to the White marker we would recommend moving it forward on the tee by at least 6 yards to help spread wear and make this challenging par 3 a little easier to play for the shorter hitter.

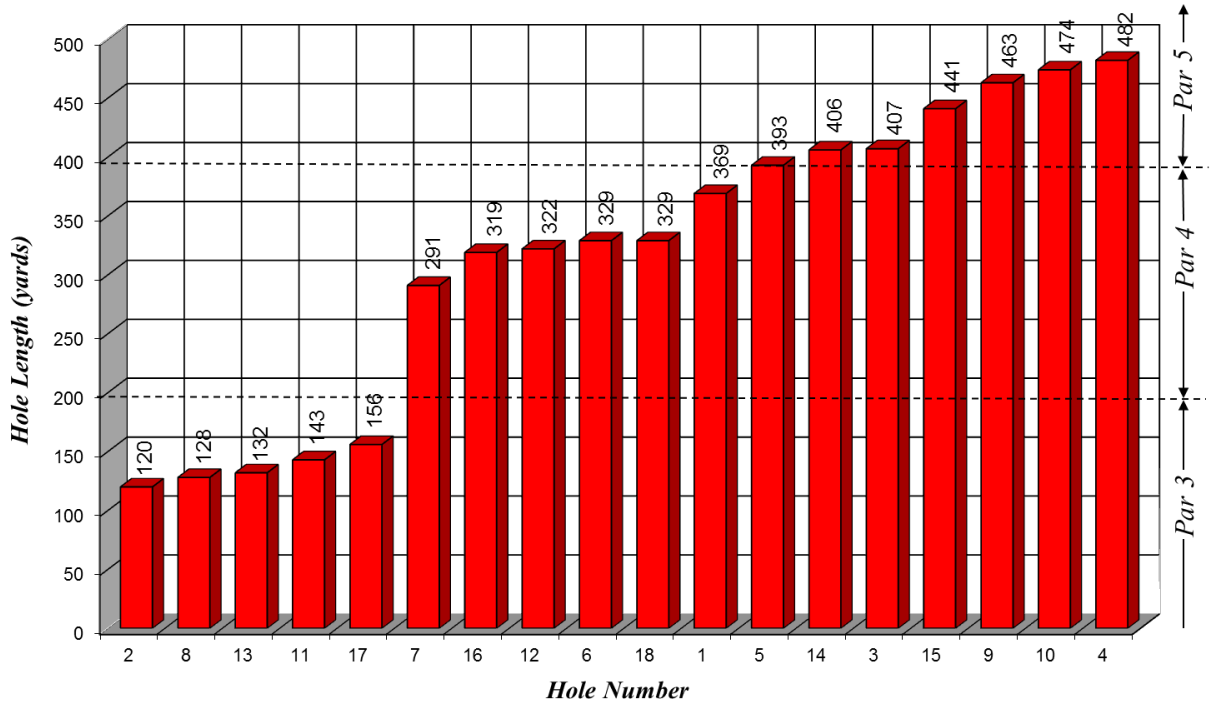
Hole Lengths from Yellow Tees in Ascending Order (adjusted for topography)



In relation to the par 4's there are more issues with similarity of length at the bottom end of the range, with four holes between 348-355 yards. The best way to address this would be to shorten the 12th hole by 8 yards, when the teeing areas are rationalised, as we will propose later, to reduce the number of separate tee platforms. Fortunately sequential holes 6 and 7 play in opposite directions so the wind will affect them both differently. There is more similarity in the length of the par 5's, compared to the chart for the White card, but since the strategy of the hole will dictate the ideal length of approach shot for each golfer, who will generally be taking three shots to reach the green, this will vary club selection.

The chart for the red tees, below, indicates a good range of hole length in most areas, although the par 3 holes, 8 and 13, are quite close in playing yardage. Since the spread of par 3's is quite limited, with no really short or long hole, it is difficult to provide a significantly better spread without shortening the 2nd hole or lengthening the 17th which could be considered.

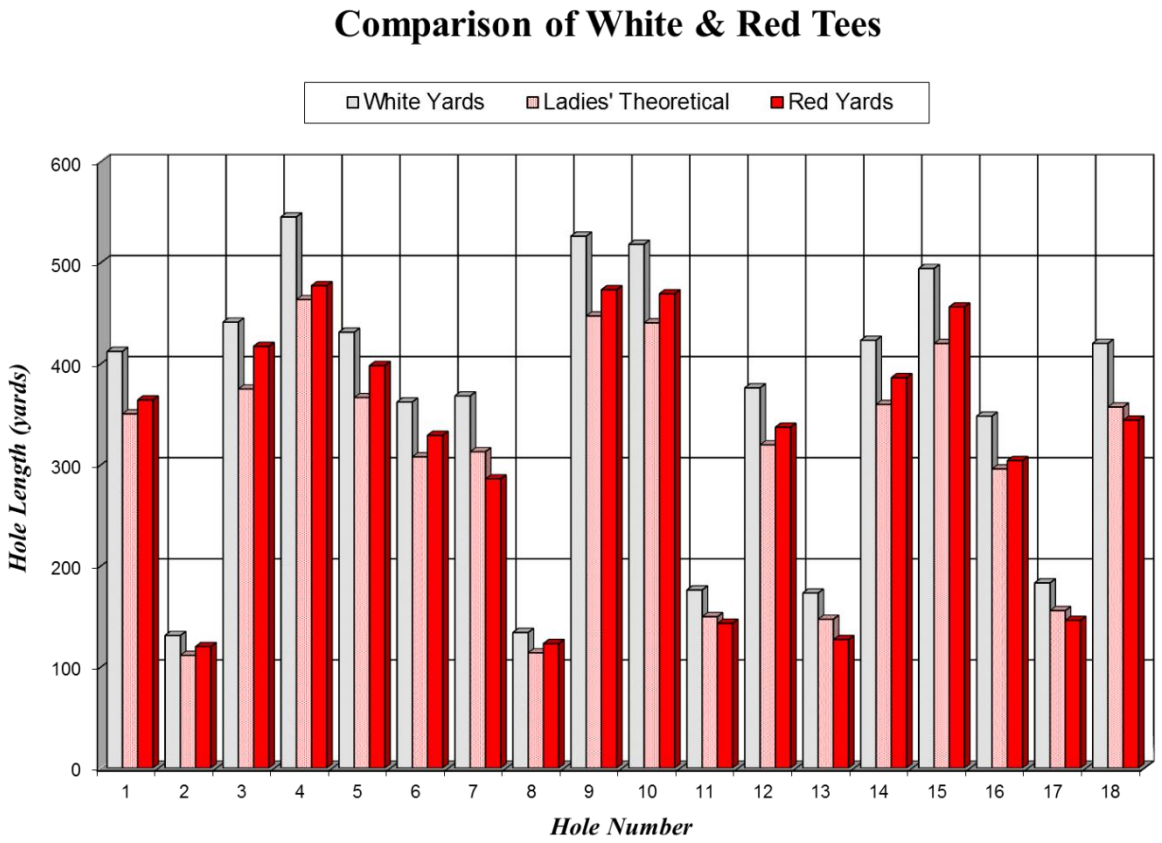
Hole Lengths from Red Tees in Ascending Order
(adjusted for topography)



Holes 6 and 18 are of equal playing length at 329 yards, and holes 3 and 14 within a yard of each other at 407 and 406 yards respectively. Given that they come at different parts of the round this is not a major issue, but should new ladies' tees be considered on these holes the spread of length could be improved at the same time.

The chart, below, provides a comparison between the length of the holes as played from the men's and ladies' medal tees. The stippled bar provides a theoretical length from the Red tees based on a ratio of 85% of the White tees which is the normal formula applied when designing a new golf course. It is interesting to note that on many of the holes ladies play a considerably longer length, in proportion to men, which makes many some of them more testing, although in three cases – the 3rd, 5th and 14th holes – long par 4's for men play as par 5's for ladies so they benefit from three extra strokes during the round with a total par of 74. Although this disparity in the way the courses play, and the high par for lady golfers, it is not unusual for courses of this age we would recommend that some discussions take place with the ladies' section to see if they would be interested in altering tee positions to shorten a couple of these holes to reduce the par to 72 or 73. Ideally at least the three

sequential par 5's – from holes 3-5 – should be reduced to no more than two with the 5th turned into a par 4 as we have proposed.



If our proposals for altering tee positions in this report were adopted, the following scorecard would result. This shows an increase of just over 50 yards with the introduction of new 'championship' back tees on holes 5, 14 and 16, which would take the course length to over 6,500 yards.

Hole	Blue Yards	White Yards	Yellow Yards	Par	SI	Red Yards	Par	SI
1	412	412	403	4	5	364	4	4
2	131	131	120	3	18	120	3	17
3	441	441	432	4	3	417	5	11
4	545	545	499	5	9	477	5	1
5	450	431	421	4	1	360	4	13
6	362	362	355	4	11	329	4	6
7	368	368	345	4	7	286	4	10
8	134	134	130	3	17	123	3	15
9	538	538	526	5	13	473	5	8
Out	**3381**	**3362**	**3231**	**36**		**2949**	**37**	
10	518	518	512	5	10	469	5	3
11	167	167	147	3	16	140	3	18
12	376	376	355	4	4	328	4	5
13	160	160	150	3	14	127	3	16
14	440	423	414	4	2	386	5	12
15	494	494	488	5	8	456	5	2
16	378	348	338	4	12	304	4	9
17	183	183	172	3	15	146	3	14
18	420	420	411	4	6	344	4	7
In	**3131**	**3089**	**2987**	**35**		**2700**	**36**	
Total	**6512**	**6451**	**6218**	**71**		**5649**	**73**	

Practice Facilities

The practice facilities consist of a putting green in front of the clubhouse and a couple of practice grounds; the main one of 240 yards in length located to the east of the 4th hole and a smaller one for short-game practice to the south-west of the 18th hole. Both the practice grounds require a walk of around 250 yards from the clubhouse to access them. There is also a short course of nine holes to the south and east of the clubhouse which provides a good practice facility for beginners and golfers wanting to practice chipping, and bump-and-runs in particular. However, the greens are very small and sloping which makes serious practice impractical. The facility could be improved by rebuilding the greens but they would need to have irrigation installed to make a significant improvement. Alternatively the greens could be converted to synthetic grass to negate the need for water and reduce the maintenance requirements.

It would be good to have a dedicated chipping green near the clubhouse, with a properly constructed green, so that golfers could practice their short-game prior to a round and it would be possible to integrate one, while retaining five or six holes on the short course, as illustrated below. Synthetic grass mats could be provided to cater for winter use and also provide a number of teeing positions for use during teaching sessions, while the grass areas could be used during the playing season. If six tee mats and three flag positions were provided it would be possible to play a fun competition over 18 holes with a friend or as part of a training session with the Pro.

3) Bunkers & Strategy

General Comments

Bunkers usually provide the strongest visual impact of any constructed element of the golf course and they offer the architect the most scope for manipulating the ways in which a player perceives and tackles a hole. The bunker style also gives the course its own distinctive character. If bunkers are to be utilised as a prominent feature of the course it is vital that they are presented in the best possible condition. This does not mean that they should be highly manicured but there should be some consistency of style, height of bunker lip, and depth and texture of sand.

Principles of Strategic Golf

Well-placed bunkers can encourage the golfer to work for his par (or birdie) but offer a more straightforward bogey. This is the principle of 'risk and reward' which is embodied in the theory of strategic hazard placement and embraced by architects such as George C Thomas who described the philosophy very well in 1927:

"The strategy of the golf course is the soul of the game. The spirit of golf is to dare a hazard, and by negotiating it reap a reward, while he who fears or declines the issue of a carry, has a longer or harder shot for his second, or his second and third on long holes; yet the player who avoids the unwise effort gains advantage over one who tries for more than in him lies, or who fails under the test."

A simple example of 'risk and reward' is a hole which contains a distinct dogleg around a hazard, such as on the 16th hole where the trees and bunker on the inside of the dogleg provide the hazard. The golfer who cuts the corner of the dogleg risks being caught in the hazard but can gain the reward of a shorter approach shot (or a chance to reach the green in two shots) if he succeeds in carrying or playing close it, without going in. Apparently straight holes can also provide a variety of target areas for the drive (and second shot on par 5's) which offer different levels of risk and commensurate reward. For example, the angle of the green and layout of greenside hazards can dictate a best angle of attack. For a strategically designed hole this will normally require a more accurate, and perhaps longer, tee shot to secure. We will propose certain improvements in the hole-by-hole section which will aim to impart a more strategic quality to some of the less challenging or less interesting holes.

Bunkers are normally positioned in relation to the drive distances of the low handicapped golfer and so fairway bunkers are usually placed at between 230-280 yards from the medal tees to entice the better player to drive over or close to them to achieve a reward in terms of a distance advantage or a better line into the green for the subsequent shot. The English Golf Union use a distance of 260 yards from the tee as an average landing area for the drive of a scratch golfer when evaluating the Standard Scratch Score, so hazards within 20 yards of this distance are considered most significant when rating the course and looking at the challenge for the top golfers. The positioning of the fairway bunkers should be considered in tandem with the shape and angle of the green and its surrounding hazards if the correct level of reward is to be provided for taking on the challenge which is presented to the golfer. Where there are proposals to remodel a green, or add new greenside hazards, these changes should preferably be carried out at the same time in order to reflect the strategy of the fairway hazard placement and allow golfers to appreciate the improvements from day one. This will also avoid the need to return to the same hole a year or two later to complete the improvements and cause further disruption to play. Approach bunkers in key locations can add foreground depth to the green, be used for the purposes of distance deception by hiding part of the approach (which will make it more difficult to judge the distance to the pin) or to simply challenge the golfer to carry the bunker, such as on a short par 5, in order to reach the green in two shots.

Bunker Placement

We have summarised the current bunker numbers and positions in the table below:

Summary of Existing Bunker Numbers

Hole	Drive	Other fairway	Approach	Green	Total
1	2	-	1	1	**4**
2	(par 3)	-	-	4	**4**
3	-	1	2	1	**4**
4	2	1	-	2	**5**
5	2	-	-	1	**3**
6	2	-	1	1	**4**
7	1	-	1	2	**4**
8	(par 3)	-	-	3	**3**
9	2	-	-	4	**6**
Out	**11**	**2**	**5**	**19**	**37**
10	3	1	-	3	**7**
11	(par 3)	-	-	2	**2**
12	-	-	1	3	**4**
13	(par 3)	-	-	3	**3**
14	3	1	1	1	**6**
15	-	-	-	1	**1**
16	1	-	-	2	**3**
17	(par 3)	-	-	2	**2**
18	1	-	1	1	**3**
In	**8**	**2**	**3**	**18**	**31**
TOTAL	**19**	**4**	**8**	**37**	**68**

We have identified *green bunkers* as those which are generally closer than 5m from the green and *approach bunkers* as those which lie short of the green and will affect a running approach shot. The remaining bunkers are classified as *drive bunkers* which come into play for the tee shot and *other fairway bunkers* which are generally out of range for the drive. The table shows that there are a total of 68 bunkers on the course with 6 more on the front nine than the back nine. This is a reasonable number for a higher quality course, as the course at Wollaton Park undoubtedly is, but it places quite a large maintenance burden on the greenkeeping staff to maintain them in good condition. Anything that can be done in the construction of the bunker to reduce later maintenance requirements, such as using a liner as we will discuss later, will pay for itself in time.

The added bunkers on the front nine tend to come at drive range, where there are 3 more than on the back nine, and in approach bunkers where there are 5 compared to 3. This will be partly a function of the flatter terrain which the outward holes explore and so bunkers have been used more often to add challenge and visual interest. Of the drive bunkers on the course, a few are quite short by today's standards and could be considered for removal. However, care needs to be taken to avoid all of the bunkers being out of range for the average golfer and it is also good that there is some challenge for the tee shot of the shorter hitter, who can hit a reasonably straight ball, in order to provide them with some playing interest.

We believe that there is considerable scope for developing a more strategically interesting course by installing a few well-placed fairway bunkers, and drive bunker in particular, but this will mean removing trees in places to provide sufficient space to give golfers options to play over or around the new hazards. We will present our detailed recommendations in the accompanying *Hole by Hole Analysis & Proposals*.

Bunker Style

The bunker style varies throughout the course with some sand-faced bunkers, some grass faced bunkers and others with both sand faces and grass tongues, as shown below. The top two photos show large bunkers on the 1st and 16th greens with varied shapes and some sand rising in the bunker face. The third image is of the left drive bunker on the 4th hole, which is a fairly flat pan-bunker which has its long dimension aligned with the fairway and no real mounding to support the sand. It does not provide much of a hazard for the better player who will be able to play a long iron or rescue club out of it. If the bunker is to provide a significant hazard that will influence strategy for the low handicapper, it is better to orientate it at right angles to the line of play, and to form higher mounds at the rear, which will require a more lofted recovery shot. The fourth image is of one of the bunkers in front of the 2nd green which has been given a grass face in an effort to combat the risks of deer damage. The last photograph illustrates the two prevalent bunker styles on the course next to each other on the 5th hole. Although there are good reasons why many of the bunker faces have been turfed in places, it is a departure from the original style of the bunkers which would have been to have generally sand faces so that the bunkers were visible to the golfer when he was playing his shot. It would be preferable to find a way of protecting the bunker bases from deer damage, such as using a man-made liner, so that the sand can be maintained on the bunker faces since the turf is prone to damage by sand-splash, sun-scorch and also deer. We have illustrated our preferred bunker style for the course in the accompanying photomontages for holes 9, 13 and 18.

Right of green 1

Left of green 16

Left of 4th fairway

Front of green 2

5th fairway bunkers

Bunker Proposals

The following chart provides an overview of the status regarding bunker numbers on the assumption that all of our proposals were adopted:

Summary of Bunker Numbers if Proposals Adopted

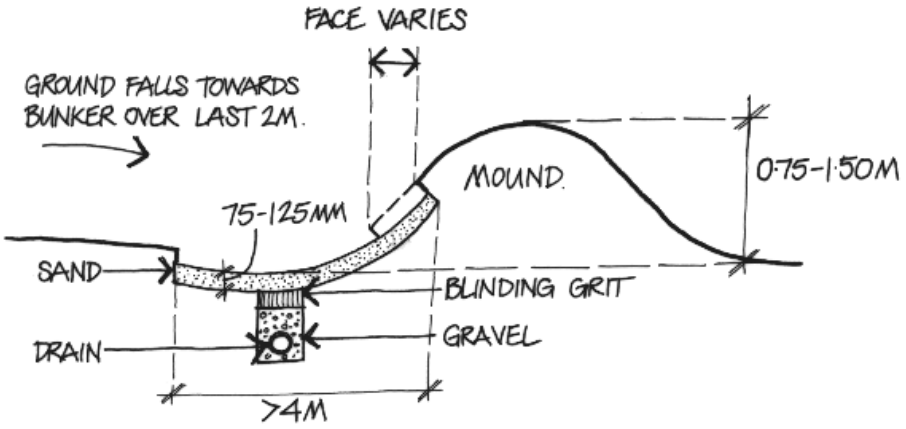
Hole	Drive	Other fairway	Approach	Green	Total
1	2	-	1	1	**4**
2	(par 3)	-	-	4	**4**
3	1	1	1	1	**4**
4	3	-	1	2	**6**
5	2	-	-	1	**3**
6	1	-	1	2	**4**
7	2	-	-	2	**4**
8	(par 3)	-	-	3	**3**
9	2	-	1	4	**7**
Out	**13**	**1**	**5**	**20**	**39**
10	3	-	1	3	**7**
11	(par 3)	-	-	2	**2**
12	-	-	-	4	**4**
13	(par 3)	-	-	2	**2**
14	3	1	-	1	**5**
15	-	1	1	1	**3**
16	2	-	-	2	**4**
17	(par 3)	-	-	2	**2**
18	2	-	1	1	**4**
In	**10**	**2**	**3**	**18**	**33**
TOTAL	**23**	**3**	**8**	**38**	**72**

This shows a small nett increase of 4 bunkers overall but the ones we have added will provide a better challenge and more golfing strategy for the better golfer. The additional bunkers are evenly split between the nines with two more on each.

Mounds and hollows have also been proposed in a number of areas as strategic playing elements of the golf course as alternative hazards to bunkers. During bunker reconstruction work there is generally a surplus of soil so there may be scope to add additional mounding in places using this material which we could identify later. However, tee construction will normally require additional soil and so there are other ways of using it.

Bunker Depth & Construction

The optimum depth of a bunker will depend on where it is to be placed and the degree of penalty which is appropriate to the strategy of the hole and the reward offered for successfully negotiating the hazard. However, it is the angle of the face that will have the greatest impact on the difficulty of the recovery shot since it will determine the steepest loft of iron that can be played successfully. Green bunkers will generally have a steeper face than fairway bunkers where a long recovery shot is normally required. However, it must be remembered that a bunker is intended to be a hazard and a fairway bunker should not always offer the opportunity of playing a shot to the green. The diagram below shows a typical profile and elevation for a bunker with varying sand line in the face.



For fairway bunkers it is relatively easy to obtain the height of bunker face since it can be built up by constructing an undulating ridge as shown above. Where drains are required, any cutting should generally be restricted to around 0.3m since an outfall must be ensured for a drain which will start in the bunker around 0.4m below final sand level. It is best to keep the bunker base below the surrounding ground level where possible since this will give a more natural appearance than one which is build up out of the ground. By cutting the bunkers into the ground, fill material can be excavated for the rear mounds of the bunker which avoids having to bring large amounts of material from elsewhere. This is the way in which the architects of the past had to work for practical reasons due to the difficulty of moving earth any distance with horse-drawn scrapers, and these tended to provide the most natural-looking results.

Not all bunkers can be formed by balancing the cut and fill quantities, particularly on flatter ground, and some subsoil will be needed for these instances. Sometimes a "borrow area" needs to be identified in an area of rough which can serve as the supply for subsoil for the project, rather than having to bring in material from outside, but in most cases the subsoil quantities will normally balance. Since the turf spoil which is removed from the existing bunkers cannot be used to form the bunker mounds, due to the risk of settlement, a suitable area in the rough will need to be found for its disposal. Up to 10m3 of spoil will be generated by each bunker so it will produce a significant volume of material. Normally the best solution is either to fill in all or part of the subsoil "borrow" area with the turf material or to form mounds where some settlement can be tolerated.

Sand Splash

Sand-splash in a bunker with a fairly high sand face will be less of a problem than on a grass-faced one since sand will tend to fall on sand rather than grass. This is especially true if the sand face is kept fairly compact so that the ball runs off it and back towards the bunker base. However, it is important that the correct construction profile is achieved, the designed sand depths are retained, and certain maintenance operations are carried out correctly if the shape and condition of the bunker is to be protected. Even in a sand-faced bunker, sand will gradually build up in the bunker face and will cause long-term problems of instability and poor grass growth if not brushed or blown back into the bunkers on a frequent basis and this needs to be a regular maintenance operation. Occasionally, poor areas of turf will need to be replaced and sand build-up removed on the most visited bunkers.

Sand retention

There are several factors which need to be considered when seeking to retain sand on bunker faces as listed below:

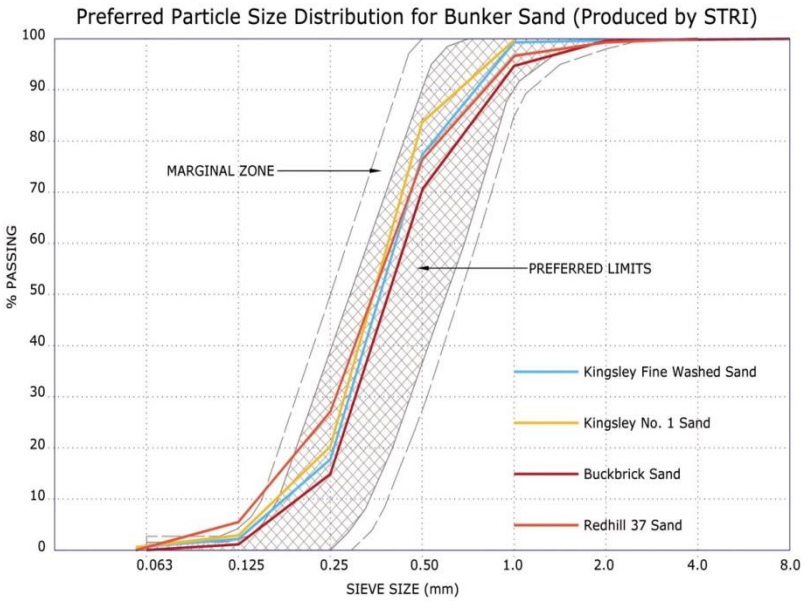
a) Sand type – it is important that the correct sand is chosen for the bunkers if it is to drain properly, pack reasonably well and sit on steep bunker slopes. In order to do so the particle

size distribution of the sand must conform closely with the hatched zone shown on the graph below but it must also have an angular, or sub-angular, particle shape to maintain its binding characteristics when it dries out. Some fine particles within the sand can help to bind it by assisting in moisture retention but they will impede drainage, to some degree, and will also be more prone to wind-blow when the sand dries out.

b) Moisture levels – moist sand will pack and retain better on bunker slopes than dry sand. Moisture can be maintained in the sand by minimising disturbance during raking and using the back of the rake, particularly on the faces, to smooth and firm the sand to avoid loosening and creating furrows with the rake teeth which will speed up the drying process and lead to instability. In the sand-belt courses of Australia they use a flat rake/board to prepare the bunkers as pictured below.

Some bunker liners, such as *Bunker Blinder*, create a perched water table and stop the moisture being sucked into the native soil below. Another option for a bunker on a south-facing slope, where the sand is more prone to drying out, is to install misting sprinklers on the bunker face to keep the sand damp, and this will also help to keep grass on the bunker face during prolonged drought periods.

c) Good under-drainage – this may seem to contradict the desire to maintain moisture in the sand but the two objectives can be achieved at the same time. The key is to remove any excess rainwater from the sand, when it reaches field capacity, and take it underground and into the drainage system as rapidly as possible so that it does not wash the sand off the bunker faces. This can be achieved by installing drains through the low areas of the bunker and ensuring that sand depth of at least 75mm are maintained in the bunker bases, but it can be improved by using some proprietary lining products, such as *Bunker Blinder*, which help to carry water laterally to the drains, below the sand.



d) A rough surface – a rough surface will help sand to adhere on slopes better than a smooth one. This is less of an issue on sandy soils such as at Wollaton Park and more of a probem on clay sites where a slip-plane is likely to occur between the two materials. On any clay areas on site, a vibrating plate can be used to force some sand into the surface of the soil will help to create better cohesion through the friction it will provide.

e) Sand depth – the sand should generally be between 75-100mm in the bunker bases, once consolidated, and this should reduce to 30-50mm on the bunker faces, depending on their steepness. The steeper the face, the less sand that is required. The deeper sand in the bunker base will provide a buttress to support the sand on the steeper slopes. If there is insufficient depth in the bunker base, the sand will not be deep enough to allow water to drain through its lower horizons which will cause drainage water to run on the surface and this will undermine any support for the sand above. It is best to rebate the gravel and grit blinding layers within the drainage trenches by at least 50mm to increase the depth of sand upon them so that water does not perch artificially high in the sand which cause the drain lines to remain damp on the surface for some time after rain.

Protection from Deer Damage & Sand Contamination

As can be seen from the photos below, foot-printing of the sand and damage by deer is a significant problem at Wollaton Park. Some bunkers are more prone to deer damage than others, since the deer have habitual routes they take across the course, with bunkers on the 3rd and 13th holes particularly prone. We would recommend that one or two bunker lining methods are trialled on the proposed new bunkers on the 13th hole to judge whether lining is likely to provide the solution.

Deer footprints on 17th green bunker

Deer damage on 3rd approach bunker

Protection after turfing

Deer on course

The lower left picture shows herras-type fencing installed around a fairway bunker on the 14th hole which had just been turfed to protect it from deer that will investigate and damage any areas of new turf. If acceptable to the Council, electric wires which are used to control livestock should be trialled for this purpose since they will be less visually intrusive although they will not stop golfers trying to retrieve their balls.

Subsoil and stones will find their way into the sand in a number of ways, but typically through erosion of the face of the bunker and the bunker lip. Stones do not generally come from the bunker base, unless the soil is very gravelly so that there is not enough soil for the stones to bed into, or sand depths are reduced to a level where raking will catch the stones and bring them to the surface. Stones and soil is more likely to come from the sand faces due to the force of gravity combined with disruption due to erosion by wind, rain, animals, golfers, and regular raking. The impact of golfers can be largely eliminated if the sand is kept firm so that the ball rolls off the face and down to the base of the bunker.

In order to stop stone ingress from the bunker lips a band of stone-free soil needs to be provided around the perimeter of the bunker. This can be achieved in a couple of ways during renovation but we would recommend the revetting turf method, pictured below, as the simplest and cheapest method to follow which involves digging a flat shelf on the edge of the bunker and laying 3 revetted turves, which are low in thatch content and cut at 4cms thickness, to form the bunker lip.

Installation of revetted turf lip on prepared shelf

This will create a defined lip of 12cms which will reduce to 10cms after thatch breakdown. If a lip with an upstand above sand level, of at least 2-3cms, is not provided the sand will migrate over the edge of the turf which will scorch the grass and create a ragged and untidy edge very quickly. It is often possible to cut suitable turf from some of the working areas on the golf course since the top few centimetres of the soil tends to be stone-free.

Stone ingress and soil contamination from the bunker bases is best prevented by lining the bunker with a protective layer or barrier. There are a number of man-made lining products on the market but few that we would recommend. *Bunker Blinder* is one that we have most faith in and is a product composed of rubber chips which are bound together using a special resin. The material is spread to a depth of 25mm throughout the sand area of the bunker, and onto a prepared shelf of 20-30cms width, as shown in the photo from The Berkshire Golf Club, below, which we have copied from the website of the company that supply and install it. This product has been used successfully at Moortown Golf Club, where it has been tested in a few bunkers, and has been installed elsewhere including Burford, Richmond, and Wimbledon Park, amongst others listed on the website http://www.theblinder.com/. There are virtually identical products available from other suppliers including an asphalt material provided by Tarmac Sports.

Bunker blinder installation at The Berkshire

Sand Selection

Before embarking on a major bunker renovation and construction programme it would be wise to consider whether you are happy with the way the current bunker sand performs and what alternative bunker sands might be available. The Mansfield sand, which we understand is used at the moment, is local to the area but has poor retention characteristics on bunker faces and there are better sands available.

4) Hole-by-Hole Analysis & Proposals

Hole 1

General observations
This is an attractive opening hole but one which is quite challenging for the average golfer who will find two bunkers lying in wait on either side of the fairway at drive distance.

Tee shot
The total tee area is quite large but it is split into various sections, including a tee on the right offering an alternative angle into the fairway, as pictured in the lower of the two photos opposite. There are a couple of small tees located further forward which would be best rebuilt on one level to increase the useable area.

The fairway slopes from left-to-right and drives will naturally kick to the right unless they are played with a draw. The trees on the left have been planted too close to the preferred line from the tee for the average golfer looking to land on the left side to end up in a central fairway location. We would recommend that some trees are removed to allow the fairway to be cut further left in a flattish area which lies beyond some mounds. These mounds are probably the remnants of an old bunker which shows how much the fairway has moved across.

Drive Landing Area
A bunker lies to each side of the fairway. While the right one, opposite, is quite visible the left one, shown below, is largely hidden from view due to its sunken nature. Since the bunkers are equidistant from the tee there is little space to thread a ball between them due to the sloping nature of the fairway.

We would recommend that the left bunker is removed and replaced with one further down the fairway, where it appears an old bunker once lay, to challenge the better golfer rather than penalise the shorter hitter.

Approach shot

The approach shot is played to a green which sits on a slight shelf located just beyond the brow of a gentle ridge. An approach bunker sits in the face of the ridge, on the right, and creates an illusion that it is closer to the green than it actually is. Golfers who have played the course before will know that the ground then falls gently down to the front of the green beyond the bunker, but the shot needs to be played further left than one might think in order to run the ball on due to the cross-fall on the approach.

Approach bunker

The ground is slightly ramped at the front of the approach bunker due to the build-up of sand here over the years. The ground should be lowered at the bunker mouth to open up a better view of the bunker and allow a ball to run in, while taking care to avoid increasing surface water collection from the surrounding ground significantly.

Green

The hollows to the left of the green could be brought more into play by lowering the ground in front of them and extending a swale from the hollow closer to the front of the green.

The right greenside bunker has become a little detached from the green edge and is largely hidden from the fairway. We would propose that it is rebuilt 2-3 yards closer to the green, with the base built up a little as it is moved to the left to avoid the face becoming too steep.

Hole 1 - Proposals

Rebuild bunker up to 2 yards closer to green and raise base by around 20cms

Extend green by a few yards to the front right

Extend hollow as a swale towards front of green

Lower ground in front of bunker, reduce in size by 2 yards from front & remodel

Reinstate bunker to challenge long hitter

Remodel bunker for enhanced visibility

Remove bunker

Cut back trees and widen fairway to left beyond mounds and short of first bunker

Par 4, SI 5/4

412 403 364

Hole 2

General observations

Par three second holes are often a source of hold-ups on the golf course, particularly if they are tough. This hole, although short, does possess some challenging elements including a shallow green which is difficult to hold and bunkers and hollows creating a continuous hazard around the front and sides of the green.

Tee shot

The tee shot from the left tee is attractively framed by trees and the green is quite well defined. More visibility of the sand in the bunkers would help with the definition of the green and give the golfer a better understanding of the challenge facing him.

From the right tee the line is less attractive since trees impinge on the view to the right side of the green. We would recommend that the trees are removed. The left tee should be rebuilt and extended to the right to encompass part of the lower right tee area.

The Yellow markers should be moved 6 yards or so further forward, as discussed earlier in this report, to shorten the hole and provide a better spread of par three length.

Green

The green sits on a slight plateau and we understand that it was recently rebuilt to make it more receptive to play into.

We would propose that the bunkers are reconfigured around the front of the green, as shown on the hole plan overleaf, to provide a small gap on the right side where an accurate shot can be run onto the green surface.

The bunker at the rear of the green is rather penal and cannot be seen from the tee so we would propose that it is removed. The bank at the back of the green can be softened a little at the same time to make the recovery shot a little easier to play to minimise hold-ups to play.

Hole 2 - Proposals

Remove bunker & soften slope

Remodel bunker with higher face

Rebuild bunker a little deeper in green

Replace grass hollow with bunker

Build bunker left of grass hollow and fill remainder of hollow to provide small gap for running ball

Mow as fairway

Remove trees

Extend tee to right and move Yellow and Red tee markers forward

Par 3, SI 18/3

131	~~126~~ 120	~~120~~ 115

Hole 3

General observations
This is a good driving hole, with its elevated tee position, but is challenging for the shorter hitter who will not be able reach the green in two shot.

Tee shot from right tee
The two tee positions offer quite different angles into the fairway which adds variety to the golfing experience for members to enjoy. The large central tree is a little intrusive on the line if play from each tee a limits the effective width of each. It could be considered for removal.

Tee shot from left tee
The shot from the left tee plays more into the right-to-left slope of the fairway which makes the hole a little easier to play from this angle for most golfers. The public footpath, which lies just beyond the boundary of the course on the left, is a little more at risk from drives from this tee, particularly in the winter when the leaves are off the trees. A new bunker could be positioned to the left of the fairway, at around 255 yards from the tee, will encourage golfers to play a little further right and to be more accurate, rather than simply going for distance.

Drive landing area
The proposed bunker could be sited in the upslope of a slight ridge which runs diagonally across the fairway to enhance this feature and fit in quite naturally.

Approach shot
The large bunker on the right of the fairway is out of range for all but the longest drives, and so could be considered redundant, but it does add some framing qualities and visual depth for the shot to the green so on balance we would prefer to keep it.

Green

The bunker to the left of the approach is short, by today's standards and should be replaced by one around 10 yards further back and a little right.

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The right approach bunker, which is largely hidden from view and suffers from deer damage, could be removed to provide a better view of the right green bunker. It covers the line for a long approach shot into the green which makes it a very penal feature of the hole. A gentle roll could be left in the fairway where the left mounds lie to retain some playing interest and feature here.

The bunker to the right of the green could then be rebuilt up to 5 yards further forward, and extended to the left at the front, and with a shoulder formed at the rear of the bunker so that the sand-line can be raised in the face of it to make this a more prominent feature of the hole.

The hollow to the left of the green is unnecessarily deep and has a small base as a result which receives a lot of divots. This base could be raised by up to 20cms to broaden the bottom which will make it easier to maintain and less likely for a ball to come to rest within a divot hole. The hollow could be brought more into view and play by excavating a swale in front of it so that a clear dish in the ground is visible from further back on the fairway.

Hole 3 - Proposals

Rebuild bunker a few yards further forward

Remove bunker & create gentle grass mounds on left and remove right bunker banks

Raise base of hollow by around 50cms and extend as a swale towards left of approach

Rebuild bunker further back and closer to the line of play

Rebuild bunker 2 yards further back in face of mounds

Build a new bunker in the face of a slight ridge which runs diagonally across the fairway

Par 4/5, SI 3/11

441 432 417

Hole 4

General observations

This hole is rather bland and could be transformed with better fairway bunkering. The corridor-feel to the second half of the hole could be improved by selective tree clearance to both sides of the fairway and particularly on the right-hand side.

Tee shot

The view from the back tee has been improved by raising the teeing area but this looks rather artificial since the banks are so steep. The banks could be softened to look more natural, using soil from excavations elsewhere, and the banks allowed to grow rough where golfers do not need to walk onto the tee.

The ladies' tee offers a different angle of play from the right and also a better view of the fairway ahead. The drive bunkers need to be positioned in a way which presents the right challenge from both angles of play.

Drive landing area

The bunkers which lie to each side of the fairway are almost entirely hidden from the tees. The ground in front of the right one is high and could be lowered to make the bunker more visible but we would also like to see it moved further back by 15-20yards, to provide a more challenging carry from the tee.

The left bunker is a flat-pan one which runs laterally with the line of play and is not in keeping with the original design of the golf course. We would recommend that it is replaced by a pair of bunkers, sitting on a left-to-right diagonal, which narrows the fairway with distance as shown on the accompanying hole plan.

Trees have been planted to the left of the fairway to separate it from the practice ground, and to screen the local houses, but this has given the hole a corridor feel, and wooded character, which is not in keeping with the style of the golf course which should be more open parkland with a heathland charaacter. Selective thinning to create separate copses and favouring the retention of the pine trees would be beneficial. The screening effect of the trees for a golfer looking down the hole would not be lost if the gaps between the copses was kept relatively small.

Second shot & approach

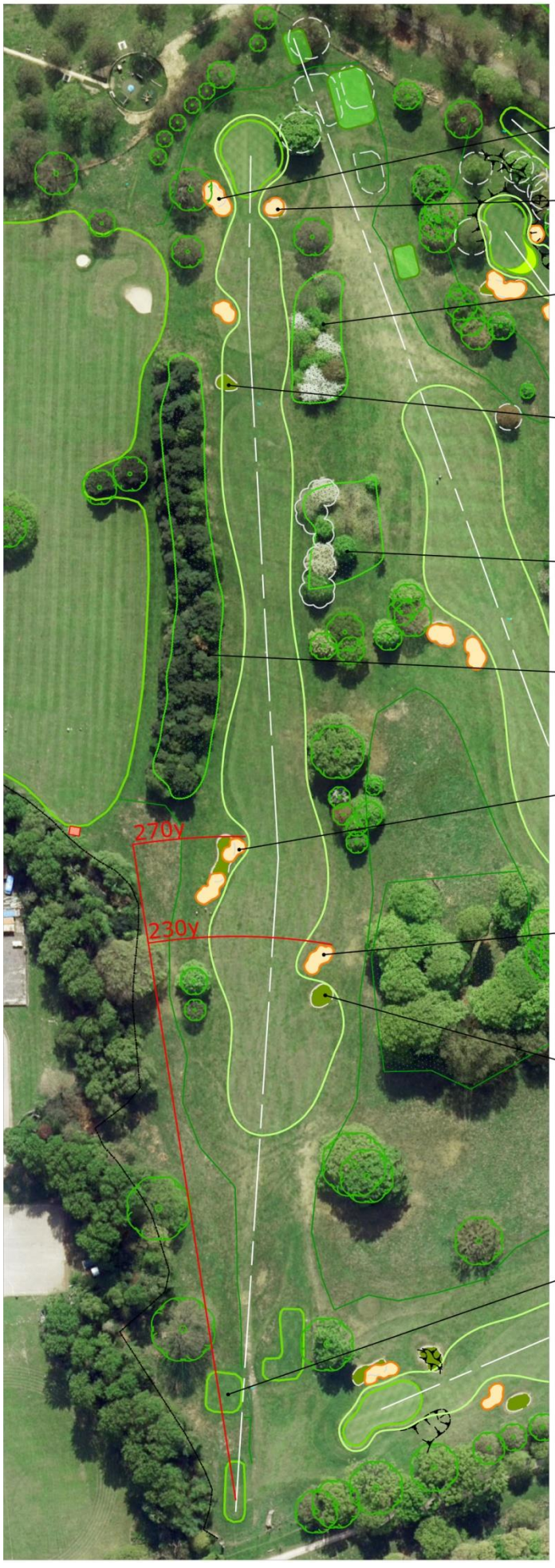
The trees on the right-hand side add to the corridor feel of the hole and there is no reason that it shouldn't be more open. We would recommend heavily thinning the trees to leave just a few good and well-spaced parkland oaks and maybe a small copse at the beginning of the line. There is some nice mounding which is currently covered in trees and we would like to clear around them to bring them back into view.

The single bunker to the left of the fairway guards the landing area for the second shot of the average golfer who is unable to reach the green in two shots. We would like to see this removed and replaced with one closer to the green.

Green

The green is raised above fairway level which means that a running shot as to run up a bank at the front of the green. The bunkers which flank the green are quite well positioned but we would propose that they are remodelled with higher sand faces and to provide more variety of size and shape to give a less symmetrical appearance. The left bunker could be extended 3 yards forward to achieve this and to narrow the green entrance a little.

Hole 4 - Proposals



Extend bunker to 3 yards to right

Remodel bunker with higher sand face

Thin out trees

Replace bunker with one further back

Remove most of trees

Thin out trees to leave mainly pines

Replace bunker with pair set on a slight diagonal narrowing the fairway with distance from tee

Build new bunker

Remove bunker and mounds in front which hide it from view

Level bumpy tee

Par 5, SI 9/1

545 499 477

Hole 5

General observations
A lovely hole with plenty of playing interest but some odd mounds and hollows near the green need to be addressed.

Tee shot
The tee shot is attractive but the trees to each side have become linear in form. Some selective removal of trees on each side will restore the parkland character and allow the copses further down to stand out.

The tree between the tee and the 4th green casts shade on the tee and limits the use of the right side. There would also be scope to add up to 20 yards to the length of the hole, for special tournaments, if it were removed and this would also benefit the walk-off area from the 4th green which gets worn at times.

Drive landing area
The two bunkers which sit on the right of the fairway pinch the landing area in nicely at long drive distance, although they are a bit short to challenge the better golfer from the current White tee. The new tee will bring them more into play for the elite golfer.

The copse of the left could be thinned heavily to just a few of the better parkland specimens which would make more of a feature of the hollow in which they lie.

The bunkers have a different character, with the first one mainly grass-faced and the second sand-faced. They should be remodelled in a similar style.

Approach shot
The mature copse which sits to the right of the approach to the green lies in wait of a sliced second shot and is a fine feature of the hole.

It appears that there may have been a bunker on the right of the approach, close to the copse, which was converted to a grass feature some years ago. The mounding which is left still provides a feature and stops a ball running into the trees as easily.

Approach

There is some interesting featuring on the approach to the green but the mounds and hollows, on the left side, are too sharp to maintain properly and are rather penal for the golfer. The hollows could be broadened and possibly linked together and the mounding softened a little, and also lowered on the left to provide a better view of the left green bunker.

Green

The hollow to the right of the green is a lovely feature but its impact is spoiled by the presence of a large mound in the low point. The mound should be removed and the hollow extended a couple of yards closer to the front of the green.

The left green bunker should be remodelled in its current position.

Hole 5 - Proposals

Remodel bunker

Extend hollow closer to front of green and remove mound within it

Soften mounds and hollows

Remodel bunkers in similar style

Heavily thin out trees to left of fairway

Build new ladies' tee

Build new ladies' tee to turn into a par 4

Remove tree

Remove right tee & enlarge left one

Build new Blue tee for low handicapped competitions if tree removed

Par 4/5, SI 1/13

450 431 421 ~~398~~ 360

Hole 6

General observations
This has the makings of a good short par 4 but it is spoiled by problems around the green.

Tee shot
The first drive bunker, at 225y from the back tee, is hidden from view and too short to trouble the better golfer so we suggest that it is removed.

The next bunker sits on rising ground so can be seen from the tee, and is at a better distance at around 260 yards from the back markers. We suggest it is widened, to make a bigger statement from the tee, and shortened from front-to-back so that the ball tends to run closer to the face to provide a more testing recovery shot.

Drive landing area
The tree which stands out from the copse on the left is a sycamore at approximately half its mature size. It is already impinging on the shot to the green so we propose that it is removed before it gets any bigger.

The copse short and left of it could be thinned out to give some of the better specimens more space to develop and perhaps find a single tree which can be separated from the rest as a parkland specimen.

Approach shot
The approach shot plays to a green guarded by a bunker some 30 yards short of the green. This is too short to trouble the better golfer. A bunker also covers the front left side of the green and trees to the right narrow the width of the target and cast shade on the green surrounds.

Approach
The hollows at the base of the mounds on the right of the approach to the green are too sharp and we would suggest they are filled in to just leave the mounds with a gentle slope back into the fairway.

The diagonal feature created by the approach bunker and left green bunker creates an interesting feature but both bunkers would benefit from remodelling to give them more visual impact and the front bunker should be moved back, by around 10 yards, to bring it more into play for the better golfer while retaining the diagonal feature.

Green

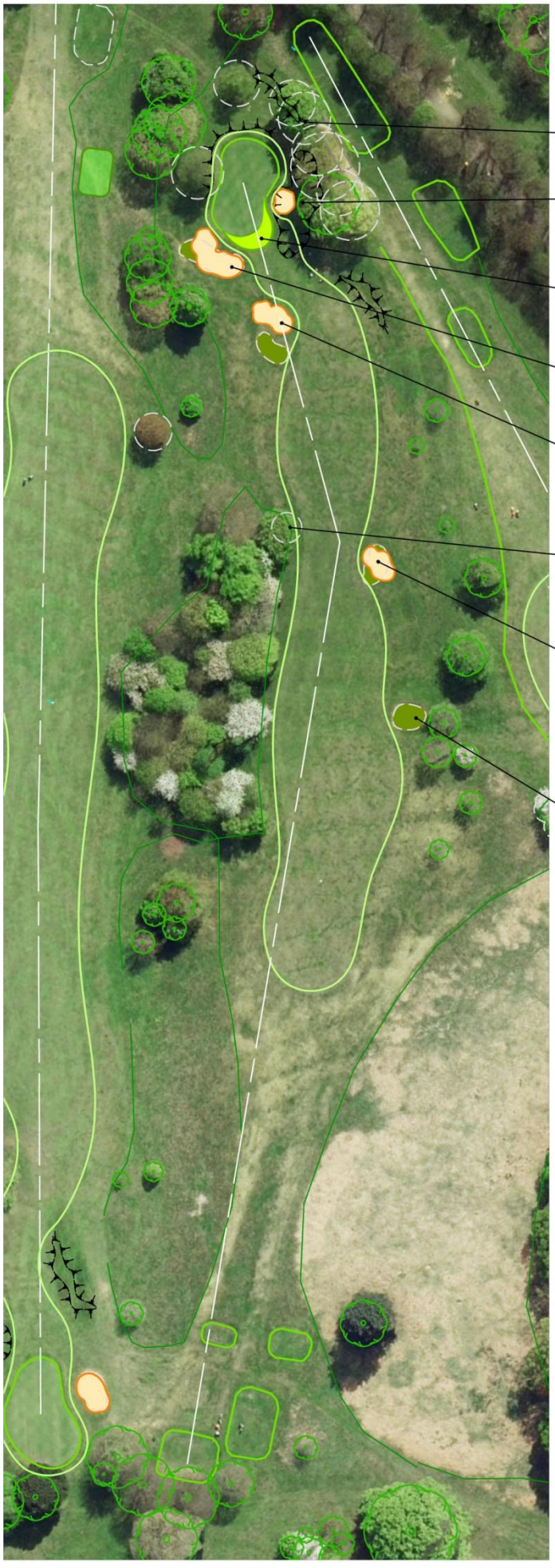
The green is rather uninspiring and should ideally be rebuilt with some more interesting contours to create two or three distinct pin areas given the relatively short approach that most good golfers will be facing. However, it would be possible to make some significant improvements to the green by remodelling the surrounding banks and extending the putting surface by a few yards at the front. The left green bunker has a low sand profile and this should be raised and tied in better with the green bank when it is remodelled.

The trees to the right of the green cast shade on the surrounds and make the area between the green and the 7th tees difficult to maintain. The area also lies wet in the winter. We would recommend removing most of the trees in the line and creating a broad swale through the wet area which can be drained. A small bunker could then be installed at the centre-right of the extended green to guard the back-right pin position.

The ridge where the trees currently stand could be shaped and enhanced to contain, and provide, a hazard for a wayward shot.

A few other trees need to be removed around the green, as we have indicated on the plan overleaf, and the banks at the rear and left of the green would benefit from softening and re-sculpting to make them easier to maintain and less penal for a shot which goes long.

Hole 6 - Proposals



Remove most of trees between green and tee 7 form gentle mounding.

Form broad, drained hollow to right of green and small bunker to cover back-right pin positions

Extend green 5 yards at front and soften back-left banks

Rebuild bunker closer to green at rear

Rebuild approach bunker 5-7 yards further back

Remove sycamore

Reshape bunker with long axis at right angles to line of play

Remove bunker & replace with mounds

Par 4, SI 11/6

362 355 329

Hole 7

General observations
The axis of the dogleg, which is formed by the copse on the left, is quite long for most golfers to reach from the tee and would benefit from softening.

Tee shot
The tee shot plays to a fairway that slopes slightly from left to right. This is contrary to the dogleg but helps the golfer to find the right side of the fairway if they can avoid the drive bunker which lies at some 230 yards from the back tee.

The two trees which lie to the front-right of the tee make the right side of the teeing area uncomfortable to use and they should be removed.

Drive landing area
A bunker on the left of the fairway would provide a better hazard on the inside of the dogleg than trees which make the hole tough for the shorter hitter. We would recommend that the trees on the right edge of the copse are removed and the rest thinned to allow space for a drive bunker to be installed some 40 yards beyond the existing fairway bunker.

Most of the smaller trees, which include cherries, Norway maple and lime, should be removed to the right of the fairway so that only 2-3 parkland specimens are retained short of the mature copse further back.

Approach shot
The greenside bunkers and right approach bunker are largely hidden from view. The approach bunker is out of play for the better golfer and could be replaced by mounding.

Green
The greenside bunkers are mostly grass-faced and they should be remodelled with more visible sand faces. The ground could also be lowered at the mouths of the bunkers to aid visibility and improve the gathering effect of the bunkers.

Hole 7 - Proposals

Reshape bunker with higher sand face

Lower ground at mouth of bunker, reshape and cut sand higher on bank on side of green

Remove sand and reshape as softer grass bunker

Remove edge trees and thin out rest of copse

Retain beech tree and remove most of other trees in copse (cherries, Norway maple and lime mostly)

Build a new bunker to left of fairway if enough trees are removed from copse

Reshape bunker with more sand visibility

Rebuild bumpy tee on one level

Retain one tree and remove surrounding ones which impinge on line of play from right of tee

Par 4, SI 7/10

368 345 286

Hole 8

General observations
A good, slightly uphill par 3.

Tee shot
The tee is very large and wide which helps to spread wear and divots. The single tree on the right side of the fairway poses a challenge for the weaker golfer from the right side of the tee while the longer hitter is able to play over the top of it with ease.

Green
The ground is high in front of the right greenside bunker which means that little of the bunker face can be seen from the tee. If a low ridge, which seems to be the remnant of an old bunker bank, were lowered more of the bunker would be seen from the tee which would make playing to the right pin position look more intimidating. The bunker just requires fairy minor reshaping work with the face raised a little on the right side so that there is a bigger penalty for being further off line.

The left green bunker is rather shapeless and has a largely grass face. This should be reduced in size from the left, to contrast with the larger right bunker, and given a higher sand face to improve framing from the tee. A new bunker could then be added beyond it, in the side of the bank next to the green, to provide more visual depth to the shot into the green and a hazard further back.

The existing left greenside bunker, which is hidden from view, should be removed.

Hole 8 - Proposals

Par 3, SI 17/15

134 126 123

Hole 9

General observations

This short par 5 provides a gentle conclusion to the front nine, although the drive must be pretty straight and played down the right side of the fairway, or faded a little, to stay on the shorter grass due to the right-to-left cross-fall on the fairway.

Tee shot

The right-to-left slope of the fairway and narrow corridor between the trees on each side makes the drive pretty demanding. The bunkers which lie on the right of the fairway at longer drive distance sit close to the ideal driving line for the better golfer but are a little short by current standards. Adding 12 yards or so to the length of the hole, by moving the tee back, will bring them into a better location for the elite player and out of range of the average golfer. Even so the first bunker is too tight to the centre of the fairway and we would recommend that a tree is removed on the right of the fairway, and the bunker pushed back and a little right, to give more space for a golfer to use the shape of the fairway to find a central fairway position with his drive.

Drive landing area

Too many trees have been planted to each side of the fairway so that the hole has lost its original parkland character. We would recommend thinning the trees and providing more width where the shorter hitter is likely to land to make it less penal for those who will be taking at least three shots to get to the green.

Approach shot

The green is attractively set in front of the clubhouse and is fairly receptive to a long second shot, making it very reachable in two for many decent golfers. We would propose that a new approach bunker is built on the top of the ridge, short-right of the green, to make this more challenging to accomplish.

Green

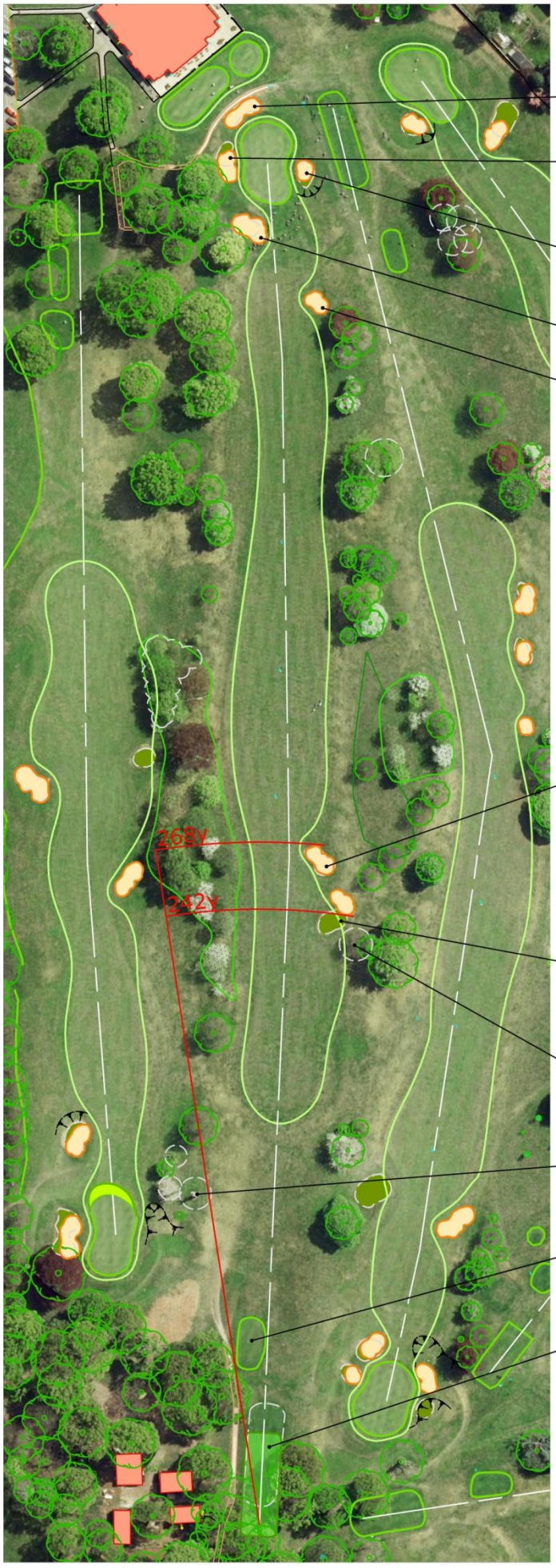
Both greenside bunkers would benefit from remodelling and the face of the left one needs to be cut into the greenside bank. It could also be extended 2 yards further into the fairway.

The left bunker is largely hidden from view and it should be rebuilt a couple of yards further forward with a shoulder at the rear to allow the sand to be raised in the face of it.

The back bunker is completely hidden but serves to catch a running ball which would otherwise end up on the putting green and adds golfing interest to the view from the clubhouse. It could be reshaped to look more attractive.


Green 9 - proposed new & remodelled bunkers

Hole 9 - Proposals



Remodel bunker

Rebuild bunker closer to front of green

Lower ground in front of bunker and renovate

Extend bunker 2 yards to right

Build a new bunker

Reshape bunker with higher banks on right

Rebuild bunker further back and right to provide more space for lay-up shot short of next bunker

Remove tree and widen fairway in this direction

Remove dead and dying trees

Level slopey tee

Rebuild bumpy tee 12 yards further back, thinning trees as required

Par 5,SI 13/8

~~526~~ ~~514~~ 473
538 526

Hole 10

General observations
Many golfers will be playing a blind second shot over the ridge on this hole, although they will not be able to reach the green if they cannot make the crest of the hill.

Tee shot
The drive is an attractive one and we liked the sequence of bunkers on the left side which guard the preferred line of play for those seeking to use the sloping ground to bring the ball back to a central fairway position. The trees further up pinch the drive and present a greater hazard for the longer hitter who will be able to drive past the end bunker.

Drive landing area
The drive bunkers are a little too regular in form, and too evenly spaced, and we would recommend that both aspects are addressed during renovation. The bases of each bunker are also quite small and they could be enlarged a little at the same time.

Approach shot
The longer hitter will get a clear view of the green if they manage to stay out of the trees.

The bunker to the right of the fairway is rather penal since it merely serves to catch a poor shot. We would propose that it is removed but that some mounding is retained in its place to maintain a feature here.

Approach
A bunker would be better positioned on the left of the fairway, a little further down than the existing bunker, which will cover the better line into the green and provide some protection for golfers on the nearby 17th tees.

Green

The two right greenside bunkers should be remodelled in their current locations, with the first one extended a couple of yards in front of the green.

The bunker to the left of the green is a little detached from play and we would propose that it is rebuilt a few yards further forward and with a swale in front of it to gather a ball towards it. The hollow behind the green can be extended into the area of the existing bunker when it is removed.

Hole 10 - Proposals

Remove bunker, extend hollow into this area. Build a new bunker closer to front of green and form swale in front of it

Remodel bunker

Extend bunker to front-left

Build new bunker

Remove bunker and replace with gentle mounds

Form 'gather' into bunkers by lowering ground in front and vary size of bunkers during remodelling

Level very bumpy tee

Par 5,SI 10/3

518 512 469

Hole 11

General observations
Another nice par 3 although less dramatic than some of the others on the course.

Tee shot
The back tee is very shaded which makes it extremely difficult to maintain a good grass surface on it. It would be best to shorten the hole by around 10 yards since this will eliminate the problem and provide more variety of par 3 length. The new back tee would lie near the centre of the current tiered tee and a new Yellow/Red tee should be built in front of it as shown on the hole plan.

Green
There is a strange sharp swale in front of the green which may have been installed to divert surface water run-off away from the bunkers. However, it looks contrived and the bank at the front of the green is too sharp as a consequence. The swale should be broadened and reshaped to allow the slopes to be softened.

The mouth at the front of the bunker, on the right side of the green, could be lowered if the swale in front of it was deepened and widened and we would recommend that it the bunker is extended 2 yards to the left to cover more of this side of the green. The left bunker just needs remodelling and the ground lowered at the bunker mouth if the swale can be deepened sufficiently to take surface water past it.

Hole 11 - Proposals

Remove bunker

Widen green by 2 yards

Cut 'hanging' bunker deeper in slope and reshape front section closer to green front, lowering ground before it

Widen and soften sharp swale at front of green

Remodel bunker in current location

Build one tee for Yellow and Red tee markers

Rebuild centre section of tee for White markers

Par 3, SI 16/18

~~176~~	~~167~~	~~143~~
167	147	140

Hole 12

General observations

This hole is devoid of bunkers on the drive and the tee shot is all about finding the right fairway position for the subsequent shot into the green. We would like to keep it this way and do not see the need for fairway bunkers. The right side of the fairway is the preferred position for most golfers to try to find with their drive which means risking the out-of-bounds and trees down the right. The high tee position allows the visiting golfer to see the green and approach bunkers which allows them to appreciate the strategy from the tee.

Men's tee shot

The tees are set on various levels and each one is quite small which limits their useable area. This has been done partly to avoid blocking the view with the front of each tee but some increase in the size of the tees would be beneficial. The range of par 4 length from the Yellow tees could be improved if the tee markers were moved 8 yards forward and so we would propose that the centre tee is removed and the front one enlarged to accommodate them.

Ladies' tee shot

Ladies face a different angle of play for their tee shot with the slope of the fairway running more away from them which brings the left trees into play for the longer hitter. We would recommend removing the right-hand tree, which is a birch, to leave the acacia tree and possibly also the old cherry. The central tee on the left would provide a better length of hole for ladies and so we would suggest that the Red markers are moved onto it.

Approach shot

The second shot is played over a ridge to a hidden green. Golfers have to rely on local knowledge, or their memory of the view when standing on the tee, when they play their approach shot.

Green

The green and approach is quite nicely bunkered and we did not see much need to change the configuration much. The approach bunker could be filled in by a yard or two from the front-left and the back-left green bunker moved 2-3 yards forward during remodelling but the others could be reshape where they sit.

Hole 12 - Proposals

Rebuild bunker a few yards further forward

Renovate bunkers

Reduce size of bunker from mouth

Remove birch trees to widen entrance to fairway and open up acacia to view

Rationalise tees to reduce number to 4 larger teeing areas. Move Yellow tee 8 yards forward and consider using middle tee on left for Red markers

Par 4, SI 4/5

376	~~363~~ 355	~~337~~ 328

Hole 13

General observations
This is a challenging, gently uphill par 3 to a raised green with frontal bunkering. There is no route to run a ball onto the green and so it is a tough hole for the shorter hitter.

Tee shot
At 173 yards from the back tee the single-figure handicap golfer will only be playing a 6 iron to the green but many shorter hitters will be hitting a wood or rescue club to a green which is set on a slight angle and quite a narrow target. We would like to re-bunker the green to provide an entrance to the putting surface on the left side to give them the option of running a ball onto the putting surface.

Ladies play the hole at a proportionately shorter length of 127 yards (which equates to 150 yards for men) with a tee forward and slightly left of the men's tee which makes the hole a little easier to play, although it is still very challenging for the high handicapper.

The bracken which had grown up at the time of the photo to partially hide the green from the right side of the men's tee has now been treated. This area should be managed as low maintenance rough in the future, with just one or two cuts per year.

Green
As indicated above, we feel that the current bunker arrangement is too penal and we believe it could be made fairer, while still presenting a challenge (particularly for those playing for birdie) by providing a gap where the ball can be run into the left side of the green. This will mean removing the front bunker.

A new large bunker can be installed to the right of the front bunker to create a diagonal feature which describes and enhances the angled nature of the green and provide some tough right green pin locations.

The central bunker banks partly screen the left bunker and so removing it will enable the ground to be lowered so that the bunker beyond can be seen.

The left bunker could be reshaped so that it extend further to the right at the front and ties in closer with the green banks. The far left section could be removed.

There are too many similar sized mounds beyond the green, which gives a slightly contrived appearance, and they should be reduced in number to allow the hollow to be broadened.

There are some humps and hollows to the side of the right bunker in an area which used to contain sand. These should be removed to allow the new bunker to be cut closer to the edge of the green collar.


Green 14 - proposed bunker alterations

Hole 13 - Proposals

Reduce number of mounds and broaden hollow at rear of green

Replace bunker witjh large one which runs on a diagonal close to the green and enhances its diagonal axis

Remove bunker and mow fairway/apron to allow ball to be run onto the green

Lower ground in front of bunker, alter bunker shape and extend to front-right

Maintain as long grass rather than bracken

Par 3, SI 14/16

173 165 127

Hole 14

General observations
A lovely driving hole which plays slightly uphill through a gentle valley.

Tee shot
There is scope to lengthen this hole by 15 yards or so for men's low-handicapped competitions but for most the hole is already challenging enough.

The bunker configuration on the drive works well but the two on the left have recently been remodelled with grass faces. We would like to make them much more visual features of the hole by reshaping them with raised sand-lines.

Drive landing area
The copse of trees on the left of the fairway come a little too tight to the line of play and we would recommend thinning them to remove the closest trees and retain the better specimens and more appropriate species.

The large purple beech tree on the right provides an attractive prominent parkland specimen and, while we would not advocate planting any more purple beech, it provides some memorability to the hole, especially given the face-like form of the trunk which has been enhanced by adding eyes in the hollows!

The bunkers to the left had more presence when they had some sand on their faces as shown in the photo opposite. The far bunker is partly covered by the front one and we would propose extending it a few yards into the fairway which will make the drive more challenging for the better golfer who may have to consider trying to carry the edge of it with his ball to avoid it running in.

Approach shot
The right drive bunker sits at just over 300 yards from the back tee, and so is out of range of most, but it provides a good driving line and adds shape to the fairway.

The green presents a tough target for the length of shot which most golfers will be playing into it, although it has more depth than it first looks. The left approach bunker is in play for a golfer playing the hole in three shots, as many will, and makes them think about position for a lay-up shot.

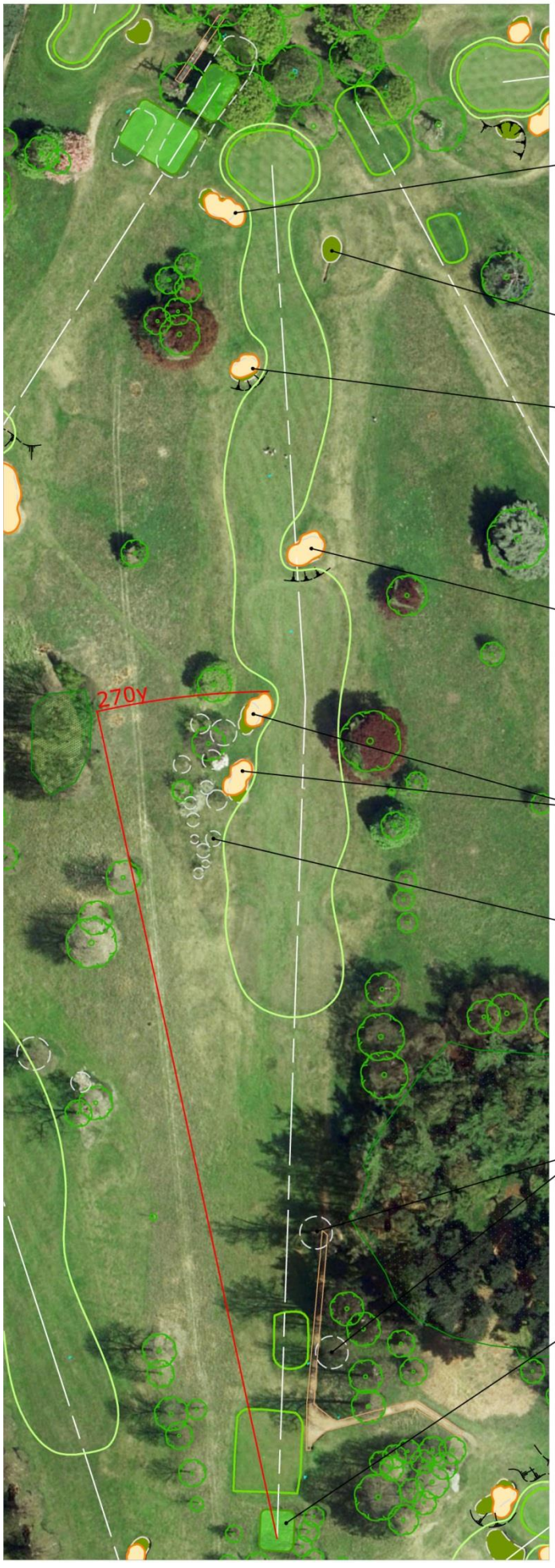
The bunker to the right of the approach will not trouble a better golfer and the hollow which it sits in provides sufficient challenge, particularly since it will be difficult to judge distance with a recovery shot from here since the green will be blind. We would recommend that the bunker is removed and the hollow enhanced by deepening and broadening its base.

Green

The front of the green drops away sharply which makes it very difficult to run a ball onto it. At stroke index 2 most golfers will have an extra stroke on this hole so will essentially be playing it as a bogey 5.

The entrance to the green is very wide and the left green bunker should be moved a few yards to the right when it is remodelled to reduce the width a little and cover more of the left side of the green.

Hole 14 - Proposals



Rebuild bunker a few yards further right

Remove bunker and enhance hollow

Lower ground in front of bunker and reshape

Remodel bunker with higher sand-line on right and lower ground at mouth

Reshape bunkers with more sand visibility from tee and create a better stagger between them to narrow fairway with distance

Thin trees heavily to just 2-3 of the better trees which lie further left

Remove lime trees

Consider building new tee for new Blue championship markers

Par 4/5, SI 2/12

440 423 414 386

Hole 15

General observations
This hole has been extended in the past with a new green further back and a long way right of the original green. The current green does not feel connected to the hole and the right-angled second dogleg needs to be softened to overcome this issue and also to give golfers a sporting chance of reaching the green in two shots which may well entice them into making mistakes.

Tee shot
The two cedar trees which flank the tee shot narrow the vista. We would propose raising the canopy on both by removing their lower branches in order to open up the view.

The landing area for the drive is hidden from view for most from the tee and so it would be unfair to install bunkers here. The main challenge on this hole should be reserved for the shot into the green.

Drive landing area
The fairway slopes from left to right and the challenge is to keep the ball up the left side to see a little further up the fairway for the second shot.

Second shot
The trees which guard the inside of the second dogleg make it very tough to reach the green in two shots and only the longest hitter who positions his ball well will have a try. The option to go for the green will disappear if the young trees on the inside of the dogleg are allowed to grow.

For the vast majority of golfers who are unable to take on the shot to the green, the only option is to play to the corner of the dogleg to try to find the optimum position for a wedge into the green which takes away some of the fun of the hole since there are no optional lines of play when one feels brave.

We would much rather that the dogleg was softened by removing most of the smaller trees which have been planted and by using bunkers to cover the direct line of play. The first bunker could be sited in the face of the hollow which the last trees stand within, but eating closer to the fairway. A second bunker can be sited just over halfway between this one and the green. The fairway should be cut up to 10 yards further right when the trees are removed and the bunkers installed.

Approach shot

The figures in the photo opposite are standing just to the left of where the second new bunker would be located. The plateau could be built out a little to the right with a shoulder to encompass the rear of the bunker.

Green

The greenside bunker covers too much of the front of the putting surface and we would propose that it is moved about 5 yards to the right and rear to provide a wider entrance and give the chance of running a ball onto the front of the green.

Hole 15 - Proposals

Rebuild bunker further right and deeper in green

Construct new approach bunker and soften odd mound in centre of fairway

Remove trees and build new bunker in hollow

Remove small trees but keep large limes further back

Remove lower branches from cedars

Par 5, SI 8/2

494 488 456

Hole 16

General observations

This is an attractive driving hole but it has lost its challenge for the better golfer who can blast a drive over the trees on the left of the fairway and will easily carry the fairway bunker. There is scope to extend this hole by around 30 yards which will reinstate the challenge for the better golfer and also make the hole quite different in playing length to the 6th, 7th and 12th which are quite similar as identified earlier. However it would probably make the hole too tough for the average golfer who would struggle to reach the plateau and so we have proposed that the new tee is used for Blue markers and just reserved for special competitions.

Tee shot

The group of trees on the inside of the dogleg would benefit from thinning and we would propose removing all except for the lime tree. The lime tree is better positioned to grow to maturity than the acacia, which was another potential tree to retain, being located a little further left. There are other acacias on the course, including one to the right of the fairway, so on balance we would favour retaining the lime.

The hollow which lies beyond the existing drive bunker probably contained sand at one time and we would like to reinstate it as a bunker. The existing bunker should be remodelled and could be filled in from the front-left by 2 yards at the same time.

Approach shot

The greenside bunkers are well positioned but lack presence due to the low sand lines they possess and we would like to raise them.

Green

The left bunker looks detached from the green and we propose that it is moved 2 yards closer and extended a couple of yards to the right at the front.

The right green bunker just requires minor reshaping and renovation.

Hole 16 - Proposals

Remodel bunker

Rebuild bunker 2 yards closer to green and extend to front of green

Reinstate old bunker

Reshape bunker and reduce in size from mouth

Clear trees around lime tree and remove lower branches so bunkers beyond can be seen

Build new back tee (Blue) for occasional use in low handicapped competitions

Par 4, SI 12/9

378 348 338 304

Hole 17

General observations
This is the longest of the par 3's with a playing length of around 195 yards from the back tee when its uphill aspect is taken into account. It will require a rescue club for most golfers and a wood for some.

Tee shot
The ladies' tee is very bumpy and could do with levelling.

The green sits attractively near the top of the hill. A bunker fits well on the front right of the green but the one on the left is partly hidden from view. The left bunker could be extended around 3 yards forward and right to narrow the entrance to the green a little, bringing the bunker more into play and making it more visible.

Approach
The old bunker mound which lies on the approach to the green looks rather artificial and hides some of the ground leading up to the green. We would propose that it is either reshaped to break up its dome-like form or replaced with a hollow or grass bunker which will not impede the view of the approach to the green as much.

Green
The ground could be lowered in front of the right bunker to remove sand build-up here and the sand area can be filled in by a yard or so at the mouth.

The back-left of the left green bunker should be filled in by 2 yards where it has been expanded through years of erosion and edging.

Hole 17 - Proposals

Lower ground to front left of bunker to form 'gather', reduce bunker by 2 yards from front and reshape

Extend bunker 3-4 yards at front and reduce in width by 2 yards from the back-left

Remove mound where bunker used to lie and form broad hollow instead

Level bumpy tee

Par 3, SI 15/14

183 172 146

Hole 18

General observations
This has all the ingredients of a good finishing hole – an elevated tee from which the complete hole can be seen and challenging length, at 420 yards from the back – but it lacks the visual drama that one would expect.

Tee shot
The single bunker on the left of the fairway is largely hidden from view since it has a low sand-line. It sits at quite a challenging distance from the tee but the downhill aspect and prevailing wind bring it well into range for the bigger hitters to carry it.

We would like to add another bunker longer and left of it to create a range of distance which the golfer can attempt to carry with the longest carry required to take the direct line to the green. The fairway should be extended further left beyond the second bunker to reward a golfer who carries it. A few trees need to be removed on this side to provide space for the altered fairway shape.

Drive landing area
The existing bunker should be moved 3-4 yards to the right and remodelled with a higher sand-line.

Approach shot
The trees to the left of the approach should be thinned to just a few trees, removing the acer and lime trees and leaving just the beech trees.

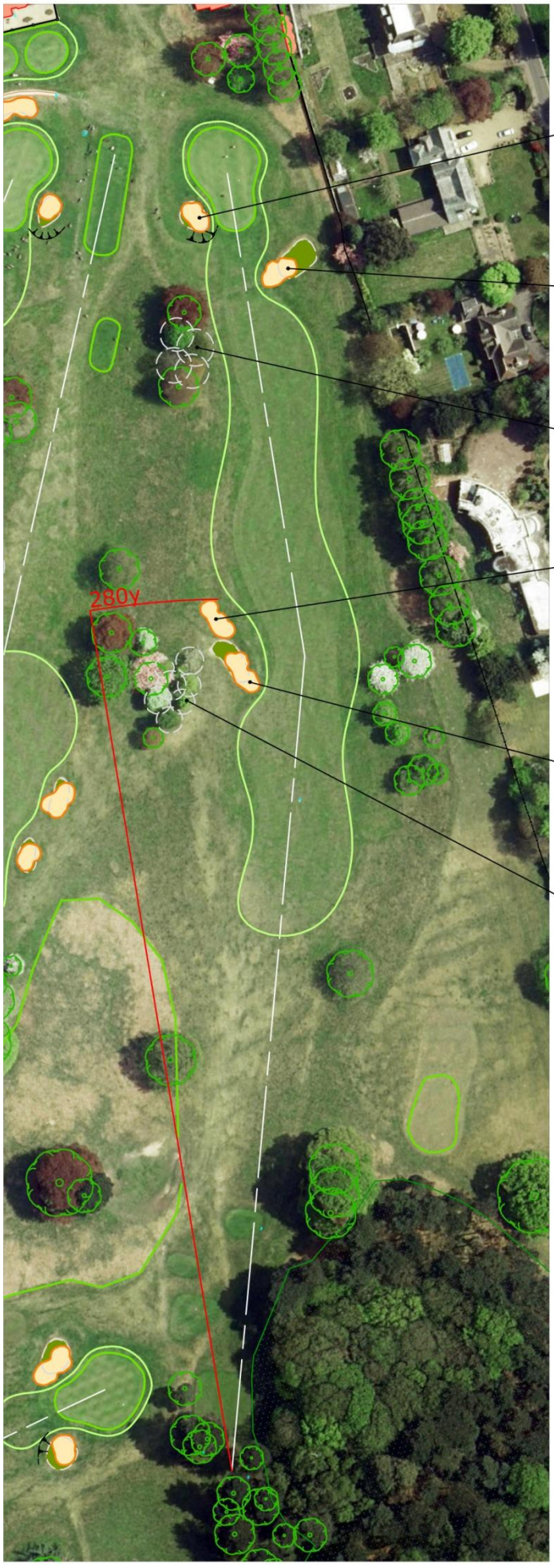
The right approach bunker is quite wide to challenge the better golfer and we would propose that it is moved 4 yards or so further left. This will cover the right side of the green for a golfer playing from the right of the fairway, having avoided carrying the drive bunkers, and give them some uncertainty about the length of the shot to the flag.

Green
There is a nice hollow beyond the approach bunker which provides a good alternative form of hazard for a wayward shot.

The ground could be lowered in front of the left green bunker to form a better ‘gather’ into it. The width of the bunker could be reduced by a yard from the left side when it is reshaped.


18th tee shot - proposed new bunkering

Hole 18 - Proposals



Lower ground in front of bunker and remodel

Rebuild bunker 5-6 yards further left

Remove cherry and acer trees

Build new bunker in face of mounds and widen fairway to left beyond it

Rebuild bunker 3-4 yards further right

Remove trees on edge of copse

Par 4, SI 6/7

420 411 344

5) Construction Costs & Conclusion

Implementation

We do not expect that the proposals contained within this report will be adopted and implemented straight away but will instead provide the basis for a long-term strategy to guide the Club on the future development of the golf course and related practice facilities over an extended period. If finances were not an issue, a period of 2-3 years would be the optimum for carrying out a bunker construction and remodelling programme, if the work was carried out by contract, but we would recommend extending it to 5 years or more if a significant amount of the work is to be done in-house in order not to drain resources from normal maintenance operations which are vital to ensure that the course remains in good condition. Implementation of the other proposals will depend on their popularity and the work involved with each. Some of the improvements proposed, such as small scale tree removal and alterations to fairway mowing lines, which are not dependent on new bunker positions, could be started almost straight away. Larger scale tree removal will require a woodland management plan and felling license to be put in place first. Extensions to greens which can be achieved simply through mowing, topdressing, hollow coring and verticutting can be built into the maintenance programme and achieved over a period of 2-3 years, while green extensions which need turf-lifting and levelling will need to be tied in with bunker work around the green since it will be more disruptive and requires specialist machinery.

Once the Club has had time to review the proposals contained within this report we would propose that a meeting is arranged to discuss the implementation and phasing of the work which is to be carried out and to define more accurate budgets. However, we have provided some initial guide prices for each type of golfing feature, below, to give you an idea of the magnitude of the costs involved so that some initial thought can be given to what the Club might be able to afford.

Construction Costs

In relation to construction costs, there are two options available:

1) To carry out the work largely in-house, with just the assistance of an excavator and experienced golf course operator for the earth-shaping.

2) To employ a contractor for the work.

Option 1) is undoubtedly the most cost-effective way of doing the work but it will limit the amount of work which can be tackled in any one year and prolong the period of disruption on the course. By contract the work could be completed more quickly.

Bunkers

If the bunker construction work was handled largely in-house, we would expect the cost to be around £1,500-£2,500 + VAT for an average bunker depending on whether it was lined or not, but the cost will vary considerably depending on the size of the bunker. The figures would include the earthmovement, turf, drainage materials and sand purchase costs but may not cover any overtime pay required for the greenkeeping staff. An allowance also needs to be made for removing existing bunkers and constructing grass hollows and areas of mounding in their place. A typical bunker might cost around £750-£1,000 + VAT to fill based on the machine time and turf requirements. Grass hollows and mounds will vary significantly depending on the size of the disturbed area. Alternatively, if the work were done by contract and the cost would be approximately £4,000-£5,000 per new or remodelled bunker and £1,500-£2,000 per bunker removed (ex Vat).

Tees
Tee construction costs will vary considerably depending on the construction specification, the quantity and proximity of suitable subsoil for raising the tee, and whether drainage is required. Assuming that suitable fill material can be generated from other construction work on site and drainage is not needed due to the sandy nature of the site, the cost for a new back tee of around 100m2 would be around £7,500 + VAT by contract if tied in with a larger project. In-house the cost may be as little as £2-3,000.

Greens
We have only proposed one green for possible reconstruction, namely the 6th, and also put forward the possibility of building a chipping facility at the bottom end of the short course. In terms of the 6th green, if it were rebuilt to USGA specification rather than just being extended and remodelled we would estimate that it would cost around £40,000-45,000 + VAT by contract including the two greenside bunkers and proposed grass hollow. We would not recommend doing much of the work in-house other than perhaps the turfing work which would save around £3-4,000.

In relation to the proposed new chipping facility this would cost in the region of £40,000-£50,000 + VAT by contract depending on the size of the green and the number of tee mats provided.

Green extensions would probably be done using a tee method of construction which would mean using a depth of around 200mm of sandy soil rootzone on top of drains, where required. Turf for the green would be best taken from one of the practice ground greens, or the putting green, where the grasses match those on the other greens of the course rather than buying it from a turf nursery. The cost of a green extension would be proportional to its size and would in the order of £4,000-£5,000 + VAT by contract for an extension of around 50-60m2, which the ones we have shown on holes 1, 6 and 11 would equate to, and £2,000-£3,000 in-house.

Design & Fees
The proper realisation of the design proposals can only be made via the development of detailed design drawings and construction visits to advise on shaping and specification issues. We can produce detailed design plans for the bunkers, tees, greens and areas of mounds/hollows using the topographic survey supplied by the Club. The survey may need to be supplemented with some more detail in certain areas but we can advise on that at a later date once we have had time to review it properly. From these we will be able to derive earthmovement and material quantities which will help in both budgeting and organising the work We can also provide a Specification, Bill of Quantities & Contract Documents for tendering any elements of the project which are to be carried out by contract.

During the construction phase we would normally visit at least once per week, where an experienced shaper or contractor is involved, to approve the earth shaping and make any necessary amendments in the subsoil state. We would also inspect drainage work, the formation levels for tee and green construction, and approve the final topsoil levels prior to turfing. After turfing, we would check that it has been properly laid and that the turf is carefully married in on the edge of the working area. We would provide reports from site meetings and certify applications for payment by the contractor when the work is done by contract.

Our fees are normally based on a percentage of the construction budget for the project and this is between 10-15% for the full service where the construction work is carried out by contract, depending on the amount of work carried out in a single phase. Almost two-thirds of the fee is for the detailed drawings, contract documents and tendering the work, and the remaining sum for contract administration. Alternatively we can charge a fee for the design of each component and these would be as follows:

1) New green and associated bunkers/mounds - £1,500
2) New or remodelled bunker - £300
3) Small area of mounding, hollows, single tee or green extension - £300
4) Bunker removals where old landform to be reinstated - £100

Further costs are involved in the preparation of Bills of Quantities, Specifications and Contract Documents, and site meetings prior to and during construction.

Conclusion

The original design of the golf course has been compromised by well-intentioned, but inappropriate, tree planting in the past which is gradually changing the character if the landscape from parkland to woodland. This is compromising the options for play on certain holes and views are also in danger of being lost. We have recommended some areas of tree removal within this document but we would recommend that a proper Woodland Management Plan should put in place in order to provide a framework for the long-term management of the trees on the golf course which will involve removal of inappropriate species a d trees planted in the wrong areas but will also include planning ahead for the replacement of key trees when they reach the end of their lives. If the WMP can be agreed with the Council who own the land, it will allow the golf club to seek a felling license based on it and carry out the work more quickly and economically without having to discuss the removal of individual trees on each occasion.

The other key change which has happened in recent years is the change in the character of the bunkers which has meant that there are two significantly distinct styles on the course; sand and grass faced bunkers. While we understand the problems of the deer and the decision to address this by turfing the bunker faces we believe that it would be worthwhile trialing a couple of bunker liners – probably the Bunker Blinder and Tarmac Topsport asphalt bunker liner – to see whether they work in a couple of bunkers which have received most attention from the deer in the past. If the trail proves successful this would allow the fine framing qualities that bunkers can provide to be reintroduced.

We feel that there is great potential at Wollaton Park to improve the visual character of the course and develop a more interesting and challenging playing strategy. We look forward to assisting the Club with this exciting project.

6) Appendix

Planning Factsheet

In planning law, new golf developments require planning permission due to the *Change of Use* of the land, even if the golf course were just mown out of existing grassland and there were no other issues such as the construction of a clubhouse, maintenance buildings or road access to consider. The same rules apply to golf course extensions which could be construed as being beyond the current golf course limits which may not be the same as the boundaries of the land you own or lease.

Once the golf course is in operation, and assuming there were no conditions on the original planning permission which prevent it, normal maintenance activities including refurbishment work (such as rebuilding bunkers in their current locations) can normally be carried out without planning permission unless it breaches the law or another area of planning legislation, such as damaging sites of conservation value. In terms of constructing new golf course features within the managed area of the existing golf course, this is a little more complicated and will depend on the attitude of the relevant local authority. Normally they will not ask for a planning application to be made when greens, tees, or bunkers are being rebuilt close to their current locations or levels but will do so if the feature is to be moved significantly or raised/lowered substantially and they therefore classify it as "*engineering operations*" which do require permission. High, angular tee banks or visually intrusive greens or bunkers which can be seen from neighbouring residences, public footpaths or roads will be the main areas of concern.

Good communication with the planning authority normally yields positive results. It is always prudent to contact your local planning authority for a view before starting such work and to make a planning application if they advise you to do so.

If you decide to proceed with work without planning permission you may be asked to reinstate the original ground levels and vegetation if the authorities notice and are unhappy with what they see, or if they receive an objection from an interested party. You may be able, in such situations, to successfully apply retrospectively for planning permission even if an objection is received but it won't be as easy to do as applying in advance and could prove to be a costly mistake. If you damage a site of ecological or archaeological interest, remove a tree with a *Tree Preservation Order,* or exceed the 5m3 of timber removal in any one quarter without a felling license, you may also be fined quite heavily.

Tree Removal
Small scale tree removal is possible without a felling licence if it does not exceed 5m3 of timber in any one quarter and does not breach a Tree Preservation Order. Records of TPO's, which may be applied to individual trees or groups of trees, can be viewed at your local planning authority's offices. Breach of TPO's or exceeding the timber quota can result in hefty fines. Felling licences can be obtained from the Forestry Commission and these often require to be accompanied by a management plan to outline the long-term proposals for the landscape.

Environment Agency Licenses
In addition to planning permission, licenses may be required from bodies such as the Environment Agency for projects such as culverting or diverting water courses, installing new drain outlets into ditches and streams, or working close to habitats of protected species.

Special Designations
In some area of the country, there may be additional protection given to areas of the landscape such as *Areas of Outstanding Natural Beauty*, *Heritage Coastlines*, *Conservation Areas*, *National Parks*, where restrictions on permitted development will be greater than normal. Any changes which adversely impact on the visual character or amenity of the area, or its environmental quality, may be restricted.

Sites of Special Scientific Interest and *Special Areas of Conservation* are given a high degree of protection and work is often very restricted in these areas. However, even in these sites (and many heathland and links courses have these designations) if a good relationship can be developed with the planning authority and English Nature and the golf club can be seen to be positively managing the landscape in the interests of conservation then more flexibility can often be achieved to allow certain course improvements to be made.

Public Footpaths & Bridleways
Many golf courses have public footpaths and bridleways running through or around them and they normally co-exist quite happily. Great care needs to be taken however when considering extending the golf course or making other alterations not to block rights of way or to alter lines of play so that they endanger walkers or riders. Although we try to take account of footpaths and bridleways in our proposals where know they exist, this information is not always readily available or obvious when we visit the course.

Gaining permission to reroute or close a footpath is normally and extremely difficult procedure since it will almost always raise an objection from interested parties and it is best to avoid doing so if at all possible. Re-routing a path is more likely to be successful than closure and could be considered as an option if no other alternative is available.