Strategic Review of the Golf Course

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Introduction

The golf course at Leongatha Golf Club is a course that punches above its weight. For the past 4 years the course has featured in Golf Australia magazine's Top 100 Public Access Golf Courses in Australia. No other course on the list has revenue, maintenance budget or greens staff numbers as low as Leongatha. The quality of the course design and the condition of the course is something that all members can not only enjoy, but be immensely proud of.

There are many reasons why the course manages to be so much with so little, including:

- The course is located on a site eminently suitable for good golf with soil that promotes good drainage and good growth of grass.
- The natural undulations of the site provide a variety of interesting golf holes.
- The club hired a good golf course architect to assist with the laying out and design of the golf course. Although the layout of the course is not without fault, the variety of interesting and natural locations chosen for the greens sets the course apart from the majority of golf courses.
- The course is a very natural golf course. This not only provides a great experience for the golfer but also aids in efficient maintenance.
- The culture of the golf club and the active participation of its members has ensured steady and cost effective improvement without forgetting the history of the golf course.

This Strategic Review of the Golf Course aims to provide direction for the next 10 to 15 years of capital works. The document should not be read as a scope of work. As has been the case throughout the history of Leongatha Golf Club, the ability to perform capital improvements to the golf course can be partly dependent on outside factors such as government grants, extraordinary fundraising and the availability of expertise at below market rates.

As such this document should be seen as a document to refer to so that when resources are available, there is a reference that clearly highlights what the strengths and weaknesses of the golf course are and provides information on how to carry out changes to the golf course that:

- Are Improvements and not just changes;
- Offer value for money;
- Are in line with the existing character of the golf course; and
- Are in line with principles of good golf course design.

In many instances at Leongatha Golf Club, the impetus to make changes to the golf course will be to improve the turf conditions. In these instances, the role of the document will be to ensure that any change to the course for turf reasons also considers the opportunity to improve the design of the course and the potential risk of harming the design of the course.

Following member surveys and forward planning by the greens committee, the following areas were deemed to be highest priority:

- Tees with poor drainage: 6th and 9th.
- Tees with uneven surfaces :11th, 13th and 16th.
- Paths throughout the golf course.
- Greens with excessive slope: 4th, 6th, 7th, 9th, 13th, 14th and 16th.

Course Design Principles

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Course Design Principles

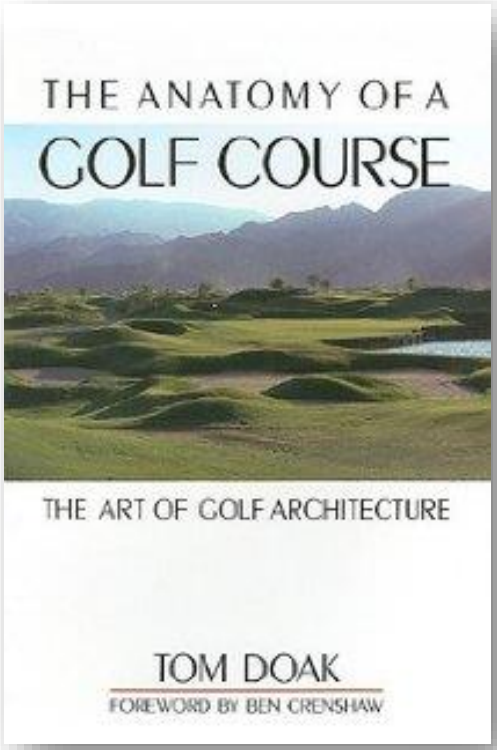
The golf course as it exists today generally reflects the design principles instigated by the course architect Vern Morcom in the late 1950s. It is recommended that any changes to the course generally follow these principles and this report has been prepared with this in mind. The reasoning for this is as follows:

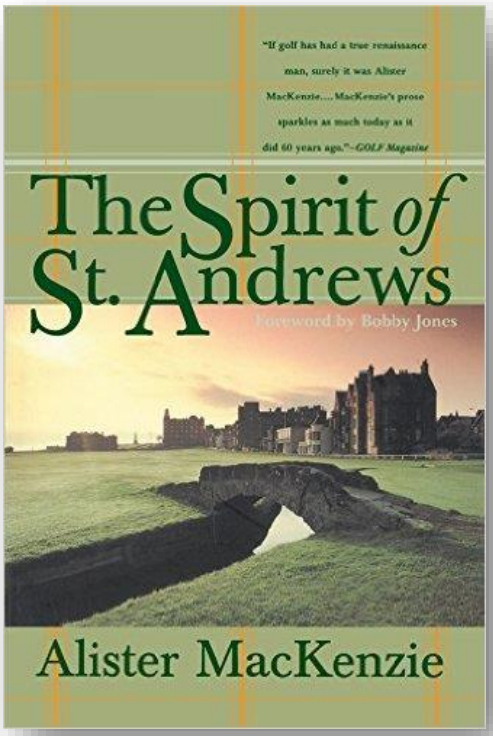
- It is important that the course has a coherent style across the full 18 holes and the club does not have the budget or ambition to change the style of the whole course.
- The style of the course is excellent. Morcom was a very good architect and his style has endured. His best courses (Long Island, Spring Valley, Grange West, Royal Hobart among others) have maintained their strong standing in the game since their time of construction, as have the courses of his mentor, Alister MacKenzie (Royal Melbourne, Cypress Point, Kingston Heath and others). Modern architects such as Tom Doak have also had great success building courses with similar design principles to those used by MacKenzie and Morcom.

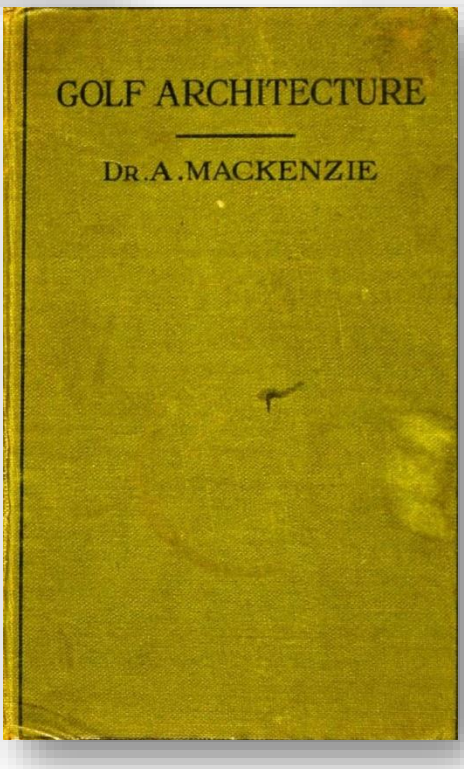
The following references have been used to understand Morcom's Design Principals and to assist in the preparation of this report:

- Morcom's original plan for the golf course at Leongatha Golf Club.
- Morcom's other golf courses. His 39 year career as builder and superintendent at Kingston Heath is of particular relevance, given the course's status as one of the Top 30 courses in the world. Although his designs have been altered over the years, the courses at Spring Valley, Long Island and Grange West are also of great relevance, as is Royal Melbourne, one of the World's great golf courses where Morcom assisted with construction. Whilst these courses have different topography, soil, vegetation and budget to Leongatha, there are common themes and design principles that provide a great indication as to what are the great qualities of Leongatha and what can be improved.
- A series of articles titled "*Making a Golf Course*" authored by Morcom in 1938 where Morcom briefly describes his principles of golf course architecture.
- Alister MacKenzie's two books – The Spirit of St Andrews and *Golf Architecture*. Vern Morcom worked under MacKenzie's direction at Royal Melbourne and Kingston Heath and MacKenzie's books generally offer more expansive thoughts of Morcom's views.
- Tom Doak's 1990 book "*Anatomy of a Golf Course*". This book updates some of Morcom and Mackenzie's ideas in the context of modern construction and maintenance techniques.

Vern Morcom was the superintendent at Kingston Heath from 1928 to 1967. His father was the long-time superintendent at Royal Melbourne and Morcom worked on implementing and constructing the designs of world renowned golf architect Alister MacKenzie at both Royal Melbourne and Kingston Heath. Today both courses are rated in the world's top 30 golf courses. Whilst superintendent at Kingston Heath Morcom was an architect and consultant to over 70 golf courses.







Three excellent books on the theory and practicality of golf course design and maintenance – an invaluable resource for all golf course staff and committees.

The Golf Course

General Design

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General Design Principles

Before reviewing the individual features and holes on the golf course, it is important to look at the general design themes that run through the course and their strengths and weaknesses.

An Enjoyable Challenge for all Golfers

One of the pillars of Alister Mackenzie and Vern Morcom's design style was to provide a test and pleasant experience for all level of golfers.

"As the club member of 27 handicap has equal claims with the club champion to the pleasures a round gives, it is of the greatest importance that every hole be susceptible to real playing by every type of golfer. The brain and brawn of the best must be provided for while even for the beginner the hole must have besides it's mere length, its problems."

Vern Morcom

"The cardinal principle in golf architecture is to design a links that will be extremely testing for the expert and yet relatively simple for the dub. Those apparently contradictory aims are not actually incompatible. It is entirely possible to build a course that will give the duffer a reasonable chance to enjoy golf and yet harry the top notcher savagely"

Alister Mackenzie

One of the greatest strengths of Leongatha is that it provides a challenge for the good golfer whilst being manageable for the lesser skilled golfer. Statistically this is exemplified by the course's high 'Scratch Rating' and relatively low 'Slope Rating'. The following features contribute to this:

- The fairways and playing corridors are generous enough in width to give the average golfer a reasonable chance of keeping his ball in play.
- The greens are generally open at the front, allowing the weaker golfer to bounce the ball onto the greens.
- Bunkers are used wisely but sparingly. Slopes around greens are not as daunting as bunkers for the lesser golfer, but not significantly easier than bunkers for the expert golfer to recover from.
- The greens and areas around the greens are significantly contoured. By providing challenge at the green end of the hole, there is less need to challenge the golfer with features such as hole length and narrow fairways that disproportionately challenge and dishearten weaker golfers.
- There are no long forced carries on the golf course.

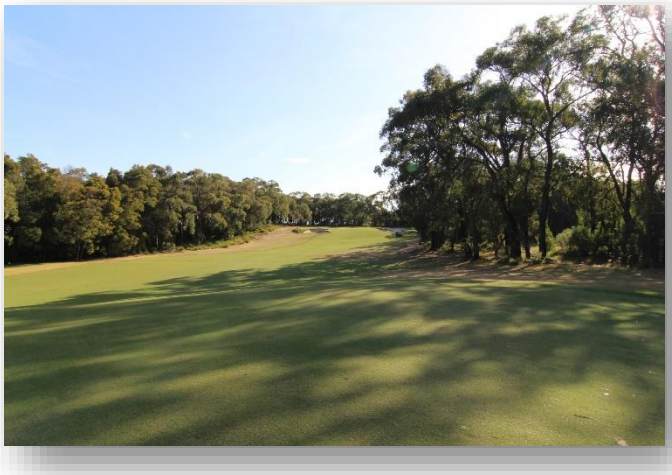
All future works at Leongatha should done with the thought of providing an enjoyable challenge to all golfers.

Practical Design

Practical Design is the design elements that ensure the safety of the golfer and the efficient maintenance of the golf course.

Famous American golf course architect Pete Dye is quoted as saying that "95% of the job is making drainage look good." Perhaps an exaggeration but the easiest way to have adverse playing conditions is to have excess water in areas of high foot and cart traffic, most notably on and around the greens, bunkers and tees.

In all design decisions, the long term health of turf (and bunkers) should be considered, along with creating efficient maintenance practices. The safety of the golfers should also be a practical consideration.



Balance of Holes

Vern Morcom wrote that the "course should not be laid out with any dictation of par or standard scratch score but in such a way that a player will get the greatest variety of shots possible from the country". At Leongatha he largely succeeded in doing this.

There is a good variety in hole lengths as well as uphill, downhill and sidehill shots. The locations of the greens are on varied terrain and each hole is memorable in its own right.

The one weakness in his design is the proliferation of left to right doglegs on the course. As well as being repetitive, the doglegs often turn sharply at a distance more suited to 1950s golf and this can be restrictive and provide too much incentive for conservative play.

There are a few opportunities on the course to lessen the effect of the left to right doglegs. An examination of Morcom's original plan shows that the 6th and 13th holes were not originally designed to bend significantly around trees and instead had rough ground and hazards on the corner of the dogleg that the player would be challenged to carry. It is possible to re-introduce these features from the original design and lessen the severity of the left to right doglegs on these holes.

Par 70 courses are relatively uncommon amongst top Australian courses however it should be noted that 14 of the World's Top 40 courses have a par of 70 (Golf Digest 2016) and there should be no need to ever change the par of the course for any reason other than to make holes more interesting.

Strategic Design

Strategic design is the ability of a golf course to give a golfer a variety of options on how to play a hole based on the golfer's strength and confidence on the day. A well designed strategic golf course not only punishes and rewards the golfer for their execution but also their decision making. The course will be more interesting and rewarding to play over time as it allows each golfer to take on challenges that suit their playing ability.

There is much strategic merit in the golf course at Leongatha. The tilted greens not only challenge putting but influence approach and recovery shots and sometimes drives. Often the golfer will have to choose how aggressive or conservative they will be with an approach shot depending on their confidence on the day.

A well-executed aggressive shot may set up a chance of birdie whilst a slightly miscued shot might make par difficult, especially if missing the green above the hole.

Whilst the golfer at Leongatha is often making decisions as to where to hit their approach shot, there is less emphasis on where to hit drives. Often the well treed doglegs will inhibit an aggressive shot from the tee and the number of realistic options available to the golfer will be reduced. This is a weakness that can be addressed in a few instances.

Natural Beauty

"It should be taken as a general principle that no matter what work is done on a golf course, it should have in addition to playing point a beauty that fits in with the scene. Any feature that can be put on a golf course can be beautifully put there. Make easy natural slopes and curves, and keep to the straight line principle as far as practicable. In addition to providing a pleasant appearance, this will reduce the cost of maintenance."

Vern Morcom

The minimalist construction of the golf holes at Leongatha generally enhance but do not overpower the natural beauty of the site and this principal should be kept in mind for all future works.

Greens

The heart of any golf course is the green complexes. That is the greens and the areas around the greens where short game shots are played. The greatest design strength at Leongatha Golf Club is the green complexes. Each green complex has its own challenges and character but they work together as a set with a similar style.

One of the great features of the greens is the significant slope and tilt of the greens. This not only tests putting but also execution and decision making on all other shots as they often provide a safe miss below the hole and a bad miss above the hole, giving the golfer a chance to play aggressively or conservatively. This is a feature that is common to almost all the world's great golf courses.

The reconstruction of the greens is one of the major tasks facing Leongatha Golf Club over the next ten years. The reconstruction is predominantly to replace the soil mix and improve the health of the turf but there will be holes where alterations can be made to the greens to reduce slopes that are unsuitable at current green speeds and increase the number of possible pin positions.

When the greens at Leongatha are rebuilt great care must be taken to not soften the greens any more than is needed. The greens are very well designed and the character of all greens should be preserved. It should not be underestimated how difficult it is to achieve this and care must be taken in the rebuilding process. It would be wise to start by rebuilding one of the simpler greens on the course that required little change of slope so that the methodology can be perfected before attempting to rebuild more difficult greens.

In determining a suitable slope for a pin position a general rule of thumb should be a stimpmeter reading of 10.5 and that the hole should be cut on a slope of no more than 3%. Some greens at Leongatha have large areas that slope at 5-7% that would have been suitable for the much slower green speeds of the 1960s but are close to un-pinnable at green speeds expected by today's golfer. Whilst some clubs will have green speeds higher than 10.5, it is not recommended that the greens at Leongatha ever role much faster than this because it is costly to prepare, stresses the grass more and would require the greens to be flatter and less interesting.

Vern Morcom wrote "Green surfaces should have slight undulation, with the main work of this nature done around the edges, with plenty of flat spaces for the pin. These flat spots need not by any means be level, but of the one plane"

This is especially true at Leongatha where the small greens leave little room for rolls and ridges within the green. To reduce the slope on greens the earthworks should start on the edge of the green and work it's way into the middle so as to avoid the creation of ridges within the green. On a green such as the 9th, which slopes severely from back to front, the options for reducing the slope of the green would be to lower the back of the green or raise the front of the green. Given the length of the hole and the number of long running approaches played into the green it does not make sense to raise the front of the green significantly and therefore the reduction of the slope of the green should primarily be achieved by lowering the back of the green and flattening the slope of the green from there.

The gentle changes in slope within greens such as the 12th and 17th are an ideal model for what variations of slope are practical to design within a green.

It is currently proposed to rebuild the greens using the same specifications as used in the practice putting green as the results of this rebuild have been very pleasing. This will require the removal and replacement of approximately 300-400mm depth of material at each green site.

The following methodology is proposed.

1. Map the current green taking levels and slope readings at regular intervals
2. Take copious photos of the current green from all angles.
3. Identify areas of the greens where any design changes are required.
4. Strip the turf off the green.
5. Reshape the existing green to proposed design where desired and check that the character of the green is not lost and that slopes are acceptable.
6. Remove 400mm of soil (depth to be confirmed) from the top of the green.
7. Install drainage.
8. Place 400mm of growing medium on green.
9. Lay turf or seed green.

Bunkers and other Hazards

The number of bunkers at Leongatha is close to optimum. It is difficult to think of a green that could be improved with an additional greenside bunker. The variety of slopes around the greens provide ample challenge and variety for the golfer and it is generally unlikely that a bunker could improve the challenge. Throughout his career Morcom encouraged the use of mounds, slopes, and hollows as a substitute for bunkers and Leongatha is a great example of how these features can be used effectively on a course with a low maintenance budget.

There are places on the course where fairway bunkers could improve a hole however they are not currently a priority of the club and are not focussed on in this report.

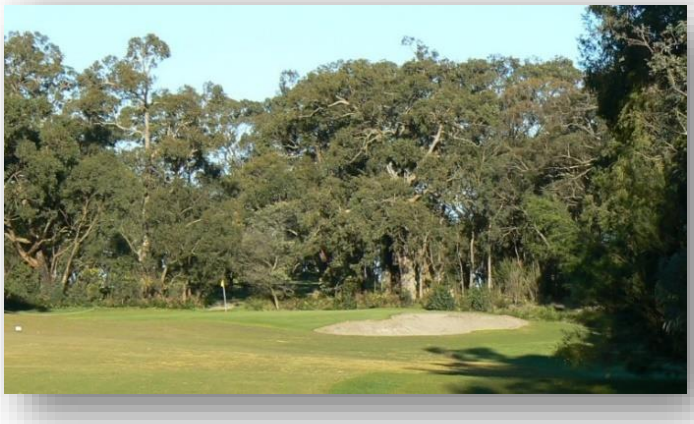
All the bunkers at Leongatha have recently been rebuilt. The rebuilding process has been largely a success with a significant improvement in the appearance of the bunkers. The following recommendations are made with regard to the ongoing design and maintenance of the bunkers.

The bunkers lips should have an appearance of grey soil along their edges. Where reddish clay fill is visible along the edge of the bunker this should be replaced with sod or dark soil.

Where alterations are made to bunkers, the priority should be to improve the playability and ease of maintenance of the bunker. There are bunkers that could be improved aesthetically with reshaping however the level of improvement is unlikely to outweigh the cost unless the bunker is also being improved for maintenance or playability reasons.

The bunkers on the right of the 2nd hole, the left of the 6th, the 13th fairway, and the left of the 15th hole should have rough grown on the side of the bunker away from the hole to connect the bunker to the rough line and soften the appearance of the bunker. The west course at The Grange is a good example of a Morcom course where many bunkers are surrounded by fairway but bunkers closer to the rough line are connected to the rough.

The deeper, more dramatic bunkering of the 14th hole below and the older, flatter bunker above.



The improvements to the bunkers on the17th hole are evident in the before (above) and after (below) photos.

Fairways

There are very few areas where improvements could be suggested for the fairways. The selection of Santa Ana couch grass has been a great development for the club and the implementation of the planting was excellent.

The fairways are of generous width without being excessive, the fairway edges follow sensible lines and the turfing of short cut Santa Ana couch around many of the greens is excellent and a standout feature of the course.

The only major issue with the fairways is the slope of the fairways on the 6th and 8th holes where the Santa Ana fairway grass has been allowed to grow higher than fairway height so as to stop balls rolling off the fairways along the right hand side of the holes.

Whilst this is a cheap solution to the problem of excessive slope on the fairways it is not a satisfactory long term solution, and alternatives should be considered in the medium term. These are discussed further in the individual hole recommendations.

Top: Short cut Santa Ana grass around the 17th green is an excellent feature, as are the gentle curves in the fairway.

Middle: The generous 10th fairway allows plenty of room to keep the ball on the short grass, the gentle curves of the edge of the fairway look uncontrived and appealing.

Bottom: The fairway line of the right hand side of the 6th hole looks and plays poorly. The underlying issue is the excessive slope of the fairway.

Vegetation

The native vegetation is one of the great strengths of Leongatha Golf Club. The benefits that a naturally vegetated course provide are obvious to all that play the course and need little explanation.

Wise management of the vegetation is essential and improvements to the vegetation is potentially the easiest way to improve the course.

Undergrowth

One area of improvement is the reduction of undergrowth close to the playing areas on many holes. Morcom wrote that "any undergrowth should be cleared away so that unplayable lies and ball hunting may be kept to a minimum." This same theme was expressed a little more dramatically by MacKenzie when he wrote in 1920 "There should be a complete absence of the annoyance and irritation caused by the necessity of searching for lost balls." A more practical tact was taken by Doak who wrote "There should be a certain amount of secondary clearing in any wooded setting where small trees and understory are cut back 30 feet (10 metres) from the edge of the trees. This facilitates the finding of wayward shots at the edge of the woods and gives the golfer some opportunity to play the ball back into position."

Whilst there will always be many places to lose balls at Leongatha, the clearing of undergrowth in key locations to facilitate the potential finding of slightly wayward drives would be a significant improvement to the golf course. Whilst there may be those that bemoan that this will make the golf course "too easy", it is rare to see a player who has driven in to the trees on the right of the 12th hole, to take one example of where the undergrowth is light and the golf ball findable, not facing some penalty for their wayward shot, even if the ball is easily located.

Clearing of undergrowth so that balls may be found easier would have the benefit of making the golfing experience more enjoyable and speeding up the pace of play.

The current area to the right of the 3rd fairway (drive zone) is a good example of cleared undergrowth where the golfer is able to find their ball and this look should be replicated in other areas of the course. Priority should be given to locations where lost balls are most common such as around greens, in the driving zone (150-250 metres from the tee) and the inside and outside corners of doglegs.

The management of undergrowth can be achieved with targeted clearing of places where balls are often lost or by targeted or by controlled slow burns over large areas. It is recommended that if feasible, controlled burns are trialled in areas of the course that are relatively self-contained, such as the area between the 1st and 18th fairways.

The cleared undergrowth on the 3rd hole (above) is an example that could be implemented in other locations on the course.

The rough between the 1st and 18th hole (below) is an example of an area that would benefit from significant reduction in undergrowth.

Trees

The tree lined fairways of the golf course are one of the highlights of the course. Whilst careful management should ensure the health of the forests, it must be remembered that the growth of trees is unpredictable and over time trees can grow and influence the play of a hole, health of turf, or the health of other trees in a way that was not anticipated. As such, the removal of trees and limbs is an essential part of the maintenance of the golf course.

Morcom wrote that the golf course should have priority over trees.

> *"Tree beauty on a course is a great asset, but the trees should be made to fit into the course, not the course into the trees. With careful study this can be done. Links are made for golf, and if some trees have to come out during construction, others elsewhere may re place them".*

Tree and tree limb removal has been recommended on several holes with the following general reasons.

- To improve the playability of a golf hole;
- To improve the safety of golfers; and
- To improve the health of turf and vegetation on the golf course.

In every instance the quality of the tree, the health of the tree, and the quality of other vegetation in the area has been considered.

In general terms it is important that the player is given room to swing freely off the tee without the crowding of a narrow chute of trees close to the front of the tee. This is currently a problem on the 15th hole but may become a problem on other holes.

It is important that health of the forests at Leongatha is monitored and indigenous trees should be planted away from the playing lines as required to ensure the ongoing health of the forests.

The 3rd hole is a good example of a hole where natural bushland provides a great backdrop for the hole but does not unnecessarily impede the playing of the hole.

Paths

As cart traffic increases, the role of paths on the golf course becomes a more prominent issue.

The following principals should be used in the design, construction and maintenance of all paths.

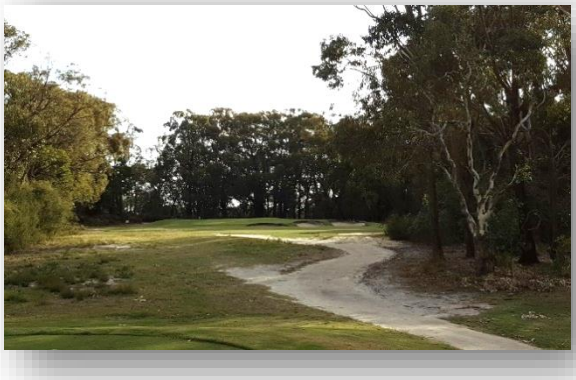
Paths should be kept out of playing areas as much as possible. There are many opportunities to run paths in or close to the existing tree line.

Paths should be kept as narrow as possible and not allowed to spread in an ad hoc manner. Temporary ropes should be used in problem areas whilst vegetation re-establishes.

Paths should be covered with Koonwarra Gravel. This is a fantastic product that provides a good all weather surface whilst enhancing the natural appearance of the course. The gravel gives the appearance that the ground is sandier than it is in reality and well maintained paths on holes with red clay base (such as the 3rd and 4th holes) improve the look of the holes and should be a considered a priority.

When visible, paths should be constructed with gentle curves and on a diagonal line to the hole. The reconstruction of the 14th hole path, pictured opposite, show the improved look that results from a path moved off the centre of the hole and constructed with a gentle curve.

Where paths end or start there will always be areas of uneven ground and spread wear. There is no way around this. The best way to limit the effect of this is to try to have the end of paths out of site and as close to out of play as possible.



The 14th hole shows the improvement made with a well defined path offset from the centre of the hole and featuring gentle curves.

The Golf Course

Hole by Hole Recommendations

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1st Hole

The first hole is a perfect opening hole. Not overly long or difficult but with plenty of challenge and a good length to get the field away without delay. The hole is well routed over the land with a downhill tee shot and the hole then rising to the green built up on a gentle natural rise. The amount of space around the green and the fairway to the left of the green is a stand out feature that is consistent with what is found on many of Australia's best courses. The slope of the green is challenging without being over the top with the bunker on the right and the closely mown banks on the left and front providing interesting recovery shots. The reconstructed bunker is a dramatic feature however very minor edging work is required.

Hole recommendations & considerations:

- The undergrowth on the right-hand side of the hole is thicker than ideal. Whilst in general it would be good to thin out undergrowth where practical across the course (see Section on vegetation) the 1st hole should be prioritised so as to provide some relief on the 'first shot of the day'. Morcom's preference was for the first hole of the day to be "an easy 2 shotter" and whilst not all play starts at the first hole these days, the clearing of undergrowth on this hole should be a priority.
- An improvement to the first green would be to slightly enlarge it by mowing closer to the bunker, allowing pin locations closer to the bunker. This could be done when/if the green is re-turfed.
- The edging of the bunker should be improved to eliminate orange clay fill from the lip of the bunker and improve bunker maintenance.
- The cart path behind the green should be re-routed through the bushland and the existing wear remediated.

The 1st hole features an expansive fairway, a dramatic bunker and an abundance of short cut couch grass around the green – all great features of the course.

Undergrowth between the 1st and 18th fairway is overgrown and should be reduced to improve playability and promote the regeneration of native plants.

2nd Hole

The 2nd hole is one of several medium length par 4s on the course that doglegs to the right.

Whilst the blindness of the drive is not ideal in a practical sense, the hole provides a sense of satisfaction to the golfer who manages to get their ball bounding down the hill about 170m off the tee. The shape of the hole and contour of the land is relatively unique which provides a relatively memorable and original experience. The tee shot is narrower than ideal with encroachment from trees over the fairway, particularly on the right side of the hole. This is made worse by a narrow tee box where the right half is rarely used and the left side well worn. The uphill approach shot is challenging and the well bunkered green is visually appealing.

Hole recommendations & considerations:

- The tee box is one of the narrowest on the course (approx. 6-7 metres) and the right hand half of the tee box is barely used due to the trees on the right side of the fairway. This creates more than ideal wear on the left hand side of tee box. There are no immediate plans to re-turf the tee but if the tee is returfed in the future it should be widened by 2-3 metres on the left hand side. This would bring the width of the tee box closer to others on the course and provide a better angle for the drive. If the tee box is lowered slightly in the widening process that is fine.
- Tree branches that extend out over the fairway about 100-150m from the tee on the right hand side should be removed, allowing a bit more space on the tee shot. Some trimming of branches overhanging the tee on the left is also recommended if practical.
- If or when the green is resurfaced it is recommended to extend the right edge of the green closer to the bunker by about 1 metre to allow more interesting pin positions.
- Rough should be grown to the right of the right hand greenside bunker to simplify the grassing in the area. The transition from bunker to fairway, to rough to path within a short space is busy looking.

The 2nd tee is narrow, and wear is focussed on the left hand side of the tee box due to the tree branches on the right of the hole intruding close to the line of play.

If the second green is rebuilt, extending the right edge closer to the bunker by about a metre would make for more interesting pin positions and spread wear on a small green.

3rd Hole

The 3rd hole is a brilliant short Par 4 that provides multiple ways of playing the hole, each with their own risks and rewards. The good player will consider clearing the hill with a driver and reaching the green. However a well hit but slightly offline strike leaves an extremely difficult recovery shot from a difficult angle to a narrow green. Some will settle for a ¾ wedge shot in, with the ideal angle or approach being from the right side of the fairway.

The green contouring is perfect for the length of the hole and the orientation of the green.

The clearing out of undergrowth on the right hand side of the fairway is a good example of what could be done on other areas of the course.

The clearing to the right of the green is an improvement with regards to playability of the hole. It is a narrow green that slopes to the left and giving players an opportunity to attempt a difficult recovery shot from right of the green is preferable to lost balls or unplayable lies close to the putting surface.

Hole recommendations & considerations:

- Work is needed to complete the revegetation to the right of the green. It is recommended that rough grass is planted half way up the slope and mown as short rough, as shown in the photo below.
- Softening the slope by importing sand/soil to slightly fill the small gully between the 3rd green and the mound will also improve the drainage of the area, aid the growth of grass on an area with difficult soil, make the area look neater and more playable.
- The path leading from the 3rd tee to the fairway should be more formalised. The left hand path can be continued over the hill if it is considered necessary to hide the end of the path. The right hand path could be deemed walking only and potentially narrowed if that suits the traffic flow on the hole.

Driving close to the third green does not guarantee a good score, the pitch or chip shot required can be very delicate…

…whilst a longer approach can offer a better angle into the green.

4th Hole

The 4th hole is an uphill par 3 to a severely back to front sloping green. Although uphill par 3s are often unloved, the hole does compliment the other Par 3s on the course, both in terrain and shots required.

The hole is one of several greens on the course where severe slopes limit the number of reasonable pin placements at reasonable green speeds and it is slated to be prioritised in the returfing program.

Hole recommendations & considerations:

- The contours should be decreased in line with the recommendation in the Green's section of this report. The reduction of slope should be largely accomplished by lowering the back edge of the green and working through to the middle of the green.
- The front of the green should not be built up significantly as the run up approach should not be discouraged. The right hand edge of the green could be raised slightly to reduce the slope of the green.
- Cart traffic has created bare ground along the right hand edge of the fairway. The cart track should be realigned closer to the tree line and the area to the left of the cart path revegetated with rough grass.

5th Hole

In examining the great golf course of the world, there are no holes that dogleg at right angles so close to the tee. The heavy trees on the inside of the dogleg gives the player little incentive to do anything but hit to the corner of the dogleg, and for the average to better player this can be with a 5, 6 or 7 iron. A par 4 that 'forces' a player to play a lofted iron from the tee is a concept that brings little excitement to the golfer.

It is worth noting that Morcom's original plan had the hole playing 30 metres longer with the tee close to the right greenside bunker on the second hole and a more expansive fairway with a slightly less prominent dogleg. It is assumed that the 4th tee, 4th green, and 5th tee were slightly realigned during the construction process when the extent of the natural landforms in the area became apparent. Whilst these changes improved the 4th hole, the length to the dogleg of the 5th hole was the necessary trade off.

Whilst the right angled dogleg is a poor feature and the hole therefore is one of the weakest on the course from an architectural point of view, it is not recommended that any extensive work is performed on the hole. Too often golf clubs focus on improving their worst holes rather than improving the holes that can be improved the most efficiently and effectively. There is no simple fix to eliminate the right angled dogleg and although the tee shot has been criticised, the last 120 metres of the hole is good. The small green suits the length of the approach shot, and misses left, and right can be treacherous.

Hole recommendations & considerations:

- The one improvement to the hole that is recommended is the improvement of ground to the left of the green and the towards the 6th tee which has been the victim of the combination of cart traffic and excess water runoff.
- It is recommended that cart traffic is diverted on to the path to the 6th red tee and doubles back to the 6th white tee whenever ground conditions are poor.
- The lamandra, sand bin and ball washer at the 6th tee should be moved so that the 6th tee is more connected to the 5th green.

6th Hole

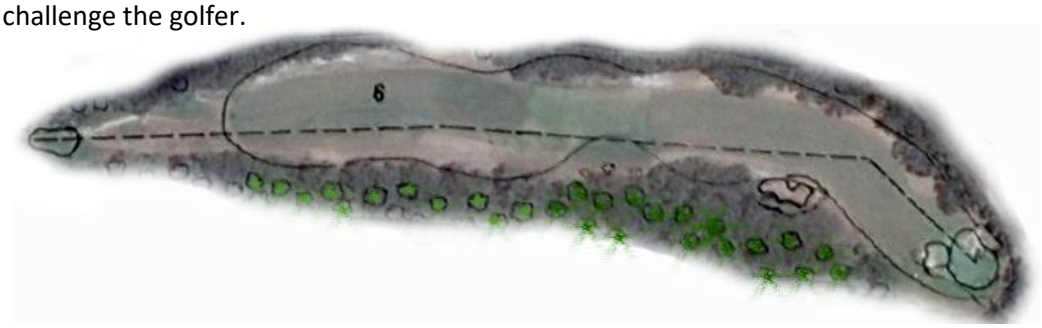
Along with the 5th hole, the 6th hole is the weakest hole on the golf course. The excessive uphill slope at the start of the hole and left to right slope on the fairway over the first 300 metres of the hole makes it difficult for balls to stay on the fairway. The problem is compounded by the trees on the right hand side of the hole that block out shots that finish on the right and force the golfer to play away from the green. This is particularly a problem when the shorter hitter's second shot rolls close in behind the trees on the corner of the dogleg.

Growing the couch grass long on the slope should not be seen as a long term solution. It is not visually attractive and is hard to control, causing very difficult lies at certain times of the year and a faster running surface during dormancy.

Hole recommendations & considerations:

- Tee off from the forward tee more often during midweek. When the 6th tee is rebuilt ensure that the forward tees are also fit for purpose. This will get more golfers hitting past the area where balls can run backwards towards the tee.
- Remove the trees from the corner of the dogleg. As shown on Morcom's plan (next page), he intended for the corner of the dogleg to contain a ground hazard that could be challenged and carried. This hazard was not built and instead the area is full of trees which inhibit the shot of the majority of golfers whose ball runs to the right edge of the fairway. Replacing the current trees with rough, ground level vegetation and broken ground will not only provide a more interesting shot, it will take the sting out of having to hit from the right side of the fairway if the shot is a more pleasant shot to hit. See photos on next page.
- Look at long term plans to conduct large scale earthworks on the hill. Previous investigations into performing earthworks have found the cost prohibitive. Further investigation should be undertaken to try to find a more cost effective solution to the problem. Earthworks are the only effective long term solution to the problem of the excessive slope on the 6th hole.
- The slope on the green can be softened slightly when the green is reconstructed and this can primarily be achieved by lowering the back edge of the green
- Growing rough grass to the left of the left greenside bunker will soften the appearance of the bunker and provide a more natural look

The 4th hole at Royal Melbourne (top) plays over similar terrain to the 6th hole at Leongatha. At Royal Melbourne, the golfer has multiple choices as to the line and length of his shot from 180-230 metres away, one of the reasons it is rated amongst the world's best courses. On the 6th at Leongatha trees on the corner of the dogleg reduce the number of options available. Removing the trees on the corner of the dogleg and replacing them with rough and broken ground would help replicate the strategic principles on display at Royal Melbourne. The hole at Royal Melbourne is also more attractive because the green and bunkers can be seen. Morcom's plan (overlayed on an aerial photograph of the hole below) shows that he intended for there to be no trees on the corner of the dogleg with a bunker and rough to challenge the golfer.



7th Hole

The 7th hole is a very good long par 3 requiring a straight and accurate tee shot to reach the small green perched above the surrounding ground. The hole compliments the other Par 3s and is visually appealing.

The biggest issue with the 7th hole is the excessive slope on the green reducing the number of effective pin positions. The false front of the green is a good feature that allows run up approaches on a long hole and this feature should be retained on the rebuilt green.

The tee on the 7th tee is angled towards the 8th tee. The further back the tee block goes, the more the golfer is blocked out by the trees along the left of the hole, especially from the left of the tee box.

Removing or trimming trees along the left of the hole is not a realistic option as the trees provide good separation with the 6th hole. The removal of vegetation along the right of the tee box will open up a view of the surrounding countryside which is out of character with the course, however the view will be very good, and superior to the poor quality vegetation that currently lines the fence.

Hole recommendations & considerations:

- Vegetation next to the tee block along the fence is removed when the tee is rebuilt so that the tee can be extended or moved to the right towards the fence. Further benefits include:
  - The golfer would have more room to play the hole without the interference of the trees close to the line of play on the left of the hole;
  - The full tee box will be used instead of just the right hand side;
  - The safety of the 8th tee will be improved as the golfer is now hitting áway from the 8th tee with more room to start the ball left of the green; and
  - The hole will be more visually appealing.
- The green should be flattened slightly in places to create more pin positions. It should be emphasised that it is not proposed to create a flat green, just one that has slightly less slope. The tilt of the green should be slightly reduced by lowering the back edge of the green, in line with the methodology described in the 'greens' section of this report.
- The cart path should cut across the front of tee box and continue on to the 8th tee through the tree line. The left hand path should be kept as it will be used by some and is an attractive feature.

8th Hole

Although not overly long, the 8th hole is the narrowest hole on the course. The dominant feature of the hole is the drop off on the right of the fairway to a severe slope with heavy vegetation and Out of Bounds.

Playing conservatively away from the slope does not make the hole much easier as a drive to the left edge of the fairways leaves an approach that must deal with overhanging branches and the bunker short left of the green. There is no significant way to lessen the severity of the slope or the penalty for missing the fairway to the right.

Given the severity of the slope to the right, a larger effort should be made to allow the golfer to play more safely to the left.

Hole recommendations & considerations:

- Clearing of limbs that overhang the fairway along the left side of the hole should be done when practical to allow golfers the option of playing down the left side of the hole.
- If any fill ever becomes available from other areas of the course (eg. Green replacement), it can be placed on the right edge of the fairway at the crest of the hill to reduce the crowning of the hill and give balls a better chance of staying on the fairway.
- The drainage of the green is poor and a rebuilt green should not only help the drainage on the green but the 9th tee as well.
- The bunker location short of the green is not a natural location for a bunker and it also collects water, drains poorly and is subjected to washouts. If or when the green is rebuilt, consideration could be given to removing the bunker and replacing it with a gentle grassed depression or gully. This would allow for further improved drainage throughout the general 8th green - 9th tee area.

9th Hole

The 9th hole is the first of three long bunkerless holes in succession and one of the few right to left doglegs on the course. The gentle bend of the hole up the hill is attractive and plays well. The player who does well to hit 2 or 3 long and straight shots to the green is offered no immediate relief as the green is one of the steepest sloping greens on the course.

Hole recommendations & considerations:

- The slope of the green reduced to an overall slope of approximately 3-4% with room for several pin positions when the green is rebuilt in line with the recommendations in the relevant section of this report.
- The density of vegetation slightly reduced adjacent to the area where second shots often land short of the green, in particular on the left of the hole.
- The tee rebuilt to improve drainage.

10th Hole

The 10th hole is a long, relatively straight Par 4 that plays uphill it's entire length. The fairway is generous and the rough to the right of the hole often allows for recovery shots. To the left of the driving zone there is a thick pocket of Lamandras.

The fairway receives surface flow of water from the south in wetter months & the green is one of the poorer draining greens on the course.

Hole recommendations & considerations:

- It is recommended that the undergrowth (lamandras) to the left of the driving zone (photo below) is thinned out to make it easier to find a ball hit off target to the left, make a recovery shot possible (at least some of the time) and reduce the number of lost balls in the area.
- Install sub-surface drainage through the driving zone.
- Rebuild the green in line with recommendation identified in the 'greens' section to improve drainage.

11th Hole

The blindness of the tee shot and the bunkerless green can lead some to believe the 11th hole is bland. However the hole possesses many strong attributes. The tee shot plays over some attractive heathland, the hole bends along natural contours and the subtle slopes on and around the green demonstrate how a golf course does not need big bold features to test the short game.

The hole was at one stage a par 5 and there is room to extend the tee back from the existing position to add length to the hole and make the hole a par 5 again. This is not recommended as currently the position of the dogleg, the start of the fairway and the tee work together well. Lengthening the hole would not only be costly but it would not fit the available land as well as the existing hole.

The tee is smaller than ideal, given that players of both genders regularly all use the back tee box. A further issue with the hole as it currently exists, is that golfers often play their second shot towards the 12th tee, creating a safety issue for player on or around the 12th tee.

The snow gum planted close to the fairway 100m short of the green on the right is a feature of the hole that is not ideal. It is not native, forces golfers to play towards the 12th tee on occasions, and harms turf (and mowers) on the fairway. It also hides an attractive view of the green as players reach the crest of the hill.

Hole recommendations & considerations:

- When the tee is scheduled for reconstruction it should be enlarged slightly at the front. The left side of the tee box should be reshaped to reduce the steepness of the slope and improve safety.
- Remove the small tree/shrub in between the 12th tee and 11th fairway. By removing this tree, safety is improved as golfers on the 12th tee have a greater chance of seeing balls heading their way. It is not an attractive tree.
- Remove the large snow gum to the right of the fairway. This tree helps direct players out towards the 12th tee. The tree also does not fit in well with the natural bushland to its right and inhibits grass growth on the fairway.
- Construct a path for carts around the back and along the south side of the 12th tee.

12th Hole

The 12th hole is a medium to long Par 4 with an attractive downhill tee shot to a fairway that slopes and bends gently to the right. The green is well designed with subtle slopes on and around the green providing interesting pin positions and challenges for the golfer.

The greenside bunker is nicely shaped and small mound on the left of the green combines well with the short fairway grass to the left to provide interesting short game options.

Hole recommendations & considerations:

- If the green is rebuilt, the green should be extended towards the bunker on the right and the small mound on the left.
- A cart path should be constructed around the back and south of the tee box to improve player safety from play coming down the 11th hole.
- The cart path that runs back through the rough to the 13th tee should be eliminated and re-grassed as rough with all traffic directed to the other paths.

13th Hole

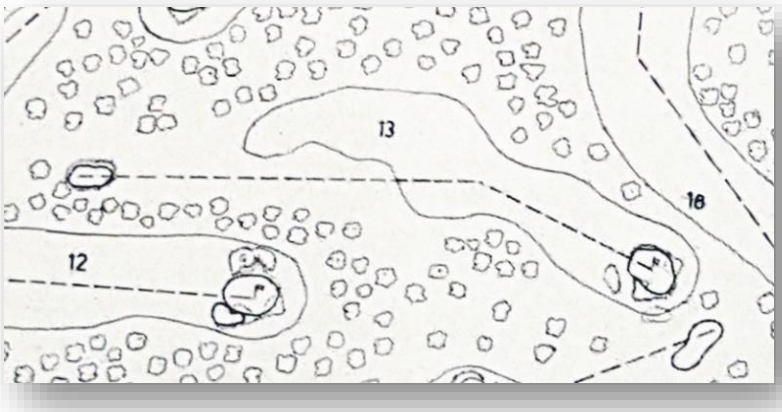
The 13th hole is a short Par 4 that bends to the right. The green is small and built up above the surrounding ground with a steep back to front slope in the green and grass bank drop offs to the left, right and back of the green. A fairway bunker on the right of the fairway about 190 metres from the tee challenges the player who wants to hug or cut off the corner of the dogleg to get a slightly shorter shot at the green, however dense vegetation through the dogleg discourages many from playing a long tee shot.

Despite the short length of the hole, it is not an easy par or birdie. The slope on and around green challenges all golfers on approach and chip shots and can punish overly aggressive play.

On Vern Morcom's original plan there are less trees along the right of the hole and the golfer would, as per the plan, almost be able to see the green from the tee. In 1938 he wrote:

> *"Good rough can be of great value. By having it run obliquely to the desired line it provides variety of carry. Properly used it is as effective as bunkering, and interpolates variety, point and beauty, while often considerable reducing upkeep costs."*

It appears Morcom planned to use this feature on the 13th hole, as can be seen on his plan of the hole below.



Hole recommendations & considerations:

- It is recommended that this feature of Morcom's plan discussed on the previous page is restored by reducing the vegetation along the right side of the hole and potentially repositioning the tee slightly to the left of its current location. There is an abundance of left to right dogleg's on the course and a reduction of the degree of the dogleg on the 13th hole would help sightly redress the imbalance and reduce the degree of sameness between the tee shots on 13, 15, and 17 which all run in the same direction and turn to the right approximately 200 metres from the tee. There is a scarcity of strategic tee shots on the golf course that encourage the golfer to take a risk and this would provide an interesting tee shot with interesting options for all golfers.
- The recent clearing of an area adjacent to the 13th tee has revealed an exciting tee position to the left of the current tee. The extra elevation significantly changes the look of the hole and the option of moving the tee slightly to the left should be explored. This would also allow room for a turning circle to be constructed as part of the cart path at the tee, reduced the number of tree limbs overhanging the tee and reduce the number of trees to be cleared on the inside of the dogleg.
- Clear out the undergrowth on the outside of the dogleg so as to

Along with improving safety and access, moving the 13th tee slightly to the left would improve the view of the hole.

14th Hole

The 14th hole is a short par 3 over relatively flat ground to a green that is built up slightly around the surrounding ground. The major challenge on the hole is a bunker short and right of the green. The severe slope of the green, predominantly back to front, is also challenging to putt on and means a shot played away from the bunker to the fairway back and to the left of the green is not always an easy par.

The bunker short and right of the green has recently been expanded several metres to the left, narrowing the entrance to the green. This change is in line with Morcom's philosophy that:

"Short holes, as a rule, to be good must be tightly trapped, according to the length of the tee shot."

Hole recommendations & considerations:

- It is proposed that the slope on the green be softened somewhat to provide more pin positions and match modern green speeds. This would be best achieve by raising the front left hand corner of the green as part of any green rebuild.

15th Hole

The 15th hole is a medium length par 4 that bends to the right. Like the 2nd, 13th, and 17th hole, the severity of the dogleg and the large amount of vegetation on the right makes taking a driver from the tee a large risk for the long hitters and most golfers will use a club that hits the ball up to 200 metres to the corner of the dogleg. From there the golfer is faced with a challenging second shot to a green benched into a severe left to right slope with a bunker to the left and a large drop off to the right. The shot is one of the most challenging and spectacular on the golf course.

Hole recommendations & considerations:

- Currently, the tee shot is unnecessarily restricted by vegetation that has encroached on both sides of the hole, along the first 100 metres or so (see photo below). The golfer should be allowed more room than this to swing freely without significant worry that a slightly offline shot can be lost within 100 metres of the tee if it does not make it through the narrow chute of trees. A reduction of vegetation would also allow a clearer and more attractive view of the expansive fairway.
- Minor changes should be made to the greenside bunker edging to neaten it up. Rough grass should be planted and nurtured to the left of the bunker which will soften the appearance of the bunker and limit over-ground water flow. Sod should be used to even up the edges where necessary and ensure the bunker lip has a dark grey appearance along its entire length.

16th Hole

The downhill 16th hole was once the most memorable and most photographed hole on the golf course. The fact this is no longer the case is predominantly a reflection of general improvements to other holes across the course however there is no doubt that the 16th has lost some of is visual appeal. There are two significant improvements that could be made that would return the hole to its full potential.

Hole recommendations & considerations:

- The vegetation along the left of the hole should be cut back. The predominant feature of the hole is the large drop off to the left of the green. This is a dramatic feature that can intimidate, challenge and inspire the golfer. Unfortunately, at present, this dramatic feature is largely hidden behind trees and is largely unseen from the back of the tee box, as can be seen from the photographs on the following page. From the front right of the tee box the slope is much more evident and the hole visually much more dramatic. The removal of vegetation to the left of the cart path would allow this better view to be replicated across the full tee box.
- The path to the front right of the green is visually unappealing and it should be either removed or moved further to the right out of sight from the tee.
- There are areas of the green where the slope is bordering on excessive and if the green is rebuilt then the reduction of the slope should be kept to a minimum by gently reducing the right to left tilt of the green.
- The tee is slated to be rebuilt and the grass coverage has never been great due to shade issues. If the tee is rebuilt, realigning it 3-4 metres to the left would likely improve turf health.

From the back left of the tee box, the view of the dramatic slope to the left of the green is largely blocked out by vegetation.

The view of the hole is more dramatic when viewed from the front right of the tee box. Vegetation should be removed so a similar view is obtained from the back of the tee box.

17th Hole

The 17th hole features an uphill tee shot to a fairway that doglegs to the right about 200 metres from the tee.

The green is one of the best examples on the course of how subtle slopes can provide interest to the putting and the way it is built up on a gentle left to right upslope provides an attractive and challenging target.

Hole recommendations & considerations:

- The vegetation on the right of and behind the green is quite close to the green and the undergrowth could be thinned out to reduce the number of lost balls in the area.
- The trees in the first 100 metres of the hole should be monitored to make sure they do not encroach further onto the playing line. The tree that is leaning out into the fairway should be removed or cut back.
- The cart path at the green (photograph below) can be realigned further away from the line of play.

18th Hole

The 18th hole is a Par 5 that has an attractive tee shot from an elevated tee to a fairway that slopes downhill for approximately 250 metres before rising gently over the rest of the hole. The dominant feature of the hole is a sharp almost right angled dogleg a little over 400 metres from the tee. As with the sharp dogleg on the 5th hole, this is a feature that does not appear on any of the world's great golf courses.

Hole recommendations & considerations:

- Removing trees from the corner of the dogleg and giving the golfer a choice of attempting a longer approach to the green over a hazard or rough would be an improvement however the removal of trees from the corner of the dogleg would likely be radical and contentious and it is not recommended that this option is considered unless the removal of trees on the 6th hole is completed and well received by the members.
- Consider removal of the cart path in front of the tee. With a small amount of work, cart traffic can be sent down the existing maintenance track to the right and enter the fairway to the right of the red & yellow tee.
- The existing tracks in front of the tee can be re-vegetated with rough grass, perhaps with a small walking track to the red & yellow tee to break up the view.
- Vegetation should be monitored near the tee to ensure it does not create a chute of vegetation that narrows the hole from the tee. In particular, players should be able to see drives along the right side of the fairway for player safety and to see where their own drive finishes.