

THE BRISBANE GOLF CLUB – REACHING A NEW LEVEL OF EXCELLENCE

The Story of our Champion Greens and the Landscape Master Plan, 2012 to 2015

by Al Haydock, 12 January 2020 (Final draft)

1. INTRODUCTION

In a period of just over three and a half years from 2012 to 2015 The Brisbane Golf Club course was drastically transformed, proudly revealing twenty-one new greens grassed with a new strain of Ultradwarf Bermudagrass called Champion, which was unique to Australia. Our club remains the only one in Australia which can boast it has this fantastic putting surface.

During this period important improvements were made to the golf course, to make it more challenging and a fairer test of golf. Fairway areas and green surrounds and aprons were reinvigorated and re-turfed, rock walls and cart paths were added, and new signage first appeared.

Integrated with these course changes, was the commencement in 2012 of the Landscape Master Plan (LMP) process and an enormous landscape enhancement project was begun. The key driver and objective of the LMP project was to return vast areas of the course, which were previously out-of-play or rough turf grass areas, to the condition of a low-maintenance natural vegetation landscape. The LMP was prepared in close collaboration with the Ross Watson Course Masterplan to ensure a seamless and fully integrated outcome was achieved throughout the entire course environs.

This approach of strong integration of natural landscape with the course of play of golf has tremendous “multi-benefit” opportunities. Not only does this enhance view lines, quality of amenity and strategy of play experience for the golfer, it also has a range of sustainability outcomes, including reduced maintenance costs and water usage, and natural pest control through increasing local native species habitat and biodiversity.

Many weed trees were removed in this period, and almost 15,000 plants were added to the course surrounds, mainly by a determined and dedicated team of member volunteers. In a short space of time this greatly beautified the course enhancing the visual appeal and physical environment of The Brisbane Golf Club property and continues to do so to this day.

The course works discussed here include the **Green Replacement Program (GRP)** and the **Landscape Master Plan (LMP)**, two important integrally connected aspects of BGC **The Course Improvement Program**. Many BGC Committee members were critically responsible for these important initiatives, in particular Terry Campbell, who was Course Chair from 2010 to 2016.

The combined improvements over this period succeeded in The Brisbane Golf Club reaching a new level of excellence.

2. THE CHAMPION STORY BEGINS

The “Champion Story” at BGC begins with Brett Morris, who was Course Superintendent from March 2001 to September 2004. Brett commenced work at BGC as course superintendent in 2001 after ten years’ experience in golf course management at clubs in Queensland, Fiji, Irian Jaya and the USA. He

had the highest level of accreditation with the Australian Golf Course Superintendents' Association. During his time at BGC he obtained a Master of Agriculture (Turf) degree as an external student at the University of Sydney.

Brett was very interested in improving the quality of greens at BGC and began looking at finer-leaved Bermudagrass hybrid varieties which he considered were suitable for south-east Queensland's warm weather conditions and would potentially provide a smoother putting surface. In 2001, Brett experimented with NovaTech grass on a trial basis by planting it on the chipping green adjacent to the 10th teeing area. This variety provided an excellent looking surface which proved to be good in summer but, unfortunately, the chipping surface became covered in pitch marks in winter, perhaps in part due to overuse. As a result, the trial was discontinued.

In pursuing further studies as part of his Master's Thesis, Brett prepared a nursery area, built to USGA Specifications, at the southern end of the practice fairway. The USGA putting greens strategy was based on developing a growing medium that provided resistance to compaction and drained readily, partly through a perched water table, which promotes better drainage during wetter summer periods yet retains an adequate level of capillary moisture and nutrients to sustain turfgrass growth with normal maintenance for most of the year.

Four equal areas were prepared in the nursery area and kept segregated from each other by use of a tree root barrier. Each was planted with a different ultra-dwarf cultivar of Bermudagrass, namely TifEagle, MS Supreme, FloraDwarf and Champion. These hybrid grasses were obtained from The Department of Primary Industries (DPI) Redland Research Station, Cleveland, through Dr Don Loch. Over a period, Brett experimented with different types of top dressing, maintenance and various other studies.

Brett resigned as Course Superintendent in 2004 to take up a scholarship to study for a PhD in Turf Science at the University of Sydney. His assistant, Ben Cavanagh, was appointed to the position.

Subsequently, the 19th and 20th greens were chosen for further testing of the same four cultivars. Both greens were prepared, once again to USGA specifications. A tree root barrier was again installed in a north-south direction bisecting the 19th green, which is in an open setting with full sun. On the 20th green a tree root barrier was installed bisecting the green in an east-west direction, because this green has partial shade at different times of the day. By and large, these tests were highly successful and indicated that the new Bermudagrass cultivars were appropriate for our course. However, for reasons not understood, there was no interest in green replacement at that time, so these experiments were not acted on.

Fast forward to August 2011. With the resignation of Ben Cavanagh in May, the Course Superintendent position was vacant, and Dr Brett Morris was once again given the position, commencing 15th August.

Having renewed his involvement with BGC, it was not long before Brett was again involved in selecting an appropriate new cultivar for the greens. He began looking at which Bermudagrass hybrids were available at that time in south-east Queensland. There was only one supplier, Twin View Turf, based in the Caboolture area, which held the license for TifEagle. This grass had been planted on the greens at North Lakes Golf Club in 2002, initially with mixed results which caused internal concerns at BGC.

Only one other ultra-dwarf cultivar of Bermudagrass was potentially available - Champion. After the earlier tests, Brett was still interested in the Champion hybrid and located a small quantity at DPI

Redland Research Station, the only material in Australia. Following discussions with the DPI at Redlands who at the time held the Plant Breeding Rights in Australia granted by the owners of Champion in the United States, Brett discovered the rights had been terminated. It transpired that the grass was no longer of any interest to DPI, nor was there any commercial interest in Queensland.

Thus, as noted in the August 2011 Course Report, the critical decision was made by BGC that the new grass selection for the greens was to be Champion Ultradwarf Bermudagrass. A critical piece of persuasive information, which Brett noted in this course report, was that Champion had been used on the greens surfaces at Atlanta Athletic Club for the 2011 US PGA championship, the first time in several decades that a major championship had been played on warm season golf greens.

Brett carefully managed to acquire about 6 square metres of Champion grass from DPI Redland – yes, that was all there was - and it was carefully replanted and nurtured on Green 21. Brett noted at that time that BGC was then able “to proceed at our own pace using material that we propagate ourselves”.

In late 2011, Brett Morris prepared a **Five-Year Course Improvement Plan, 2012 – 2016**, which presented ideas and detailed plans intended to promote discussion at The Brisbane Golf Club in the aftermath of the very extensive damage done to the course by the 2011 Brisbane Flood.

3. THE LANDSCAPE MASTER PLAN STORY BEGINS

In parallel with the Five-Year Improvement Plan initiative, in late 2011 the BGC committee undertook extensive work with an independent Landscape Architectural company, Tract Consultants, to look at better presenting and reducing the cost of maintaining the course. The **Landscape Master Plan (LMP)**, prepared by keen Club member and Tract Principal, Richard Garnham, was the result of this exercise. When the committee decision was made to develop a medium to long term, enduring masterplan for the course landscape, members were given an opportunity to comment on the draft **LMP**, after it was posted on the club’s web site. Following input from membership, the **LMP** was updated and approved by the committee. Subsequently, this was posted on the club’s web site where it is available to all members.

The **LMP** was intended to be an enduring document that would stand the test of time and which would continue to guide future Club Committees for many decades.

The key vision and objectives of the **LMP** were to:

- reduce the extent of irrigated area, and therefore maintenance time, cost and water usage. In turn this would reduce use of fertiliser, pesticide chemical use, power and labour - and, hence, all ongoing capital maintenance costs;
- ensure effective weed tree and plant species management;
- utilise planting strategies that help define and enhance the strategy of golf play experience, provide privacy and screening, visual separation and enhanced amenity - all using appropriate local site-responsive native species that provide a natural look and provide valuable fauna habitat;
- provide protection and enhancement of creek lines and water bodies throughout the course; and

- improve presentation of the main entry, clubhouse and pro-shop, and the practice facility precincts.

The LMP also contained a complete “Hard Landscape” suite of treatments to provide a cohesive palette of stone and timber furnishings, tee precinct and directional signage throughout the course. This was intended to present a high-quality amenity and a legible experience for members and visitors.

The Club identified an initial 5 to 10-year time frame with the aim to target, define and complete specific priority elements on areas of the course with beautiful trees and a very picturesque landscape. As part of the **LMP** process, members of the committee visited several sites around south-west Brisbane where the Brisbane City Council had undertaken a “one million trees program” and had planted large areas of native communities similar to the type which were selected for planting on the course. They noted at the time that planted areas under the BCC initiative had performed very well already reaching heights of more than four metres in a 2 to 3-year timeframe and that the planting areas had achieved excellent multi-layer canopy structure and ground coverage.

Before planting new native species, an essential requirement forming part of the **LMP** was the removal of non-native trees and species of weed trees unsuited to, and causing damage to the BGC course environment (e.g. Cadagi, Tipuana tipu, Fiddlewood, Pepper Tree, Camphor Laurel, Coral Tree, and Chinese Elm).

The BGC site, in its broader ecological context, was identified as having an important role to play in the provision of a biodiverse range of habitats and in weed management, all serving to enhance the sustainable function of ecological corridors within the local area.

4. INITIATION OF GREEN REPLACEMENT PROGRAM 2012

Summary – Hole 21; Green prepared and planted: Feb 2012 Ready for play: Aug 2012

Description of works

In ratifying the **Five-Year Course Improvement Plan**, the committee at the time agreed that this new Bermudagrass varietal would be laid on Green 21 on a trial basis and potentially for wider implementation, if the trial were successful. Brett prepared the green in the way he had previously ascertained from his studies was best and, on 14 February 2012, planted rootstock or “stolons” on the green from the small Champion nursery area on the same green.

The growing results were extremely satisfying and six months later, on 6 August, 2012, Hole 21 was ready and opened for play. Members were encouraged to practice and play on the hole to test the characteristics of the new green. To assist in assessing the viability of these grass trial members were invited to provide their assessment of the playability of the green by completing an online survey. Brett reported that the online survey resulted in a total of 97.7% rating for the overall playability of the green as either good, very good or excellent, with most of the responses being the latter. This was a critical period for the Club. BGC members clearly expressed a very positive view that they were in favour of the Champion grass!

By 8 October 2012, following the trials and member feedback, it was considered that the Champion grass strain, which had been for the first time completely nurtured on one BGC green, was an

outstanding success. Only positive comments about the surface were received from members whilst the green was being tested during practice play. The newly planted green held up well during the 2012 winter period prompting a move to the next trial stage of the **GRP**, under the Five-Year Course Improvement Plan.

Brett noted in his Course Report of 19 October 2012, "Champion grass is new to Australia, but not new to the global turfgrass or golfing community. In Florida alone, a similar climate to ours, over 130 golf courses use this same grass on their greens from public courses to high end private country clubs." He added "It has always been my intention from commencement as your Course Superintendent to provide you with the same standard of putting green quality, and thanks to the support of the Committee we have been able to instigate this process of replacing Green 21 and introduce this grass to our course".

Champion Nurseries Summer 2012/2013

In late September, a Champion nursery was established on the practice fairway and by early November had just about covered the surface with good density despite not having the most appropriate growing medium and drainage.

By early November 2012, belief was steadily growing within the BGC Committee in the quality of the Champion surface. Given the earlier success on Hole 21, especially after an impressive winter growing season, the encouraging result in the newly established nursery and from previous experience at the DPI, Brett Morris expressed confidence that Champion would prove an exceptional putting green surface for BGC.

Consequently, a second large nursery was started in early November on the right-hand side of the 8th fairway to provide adequate material for further green replacements.

In January 2013, it was recognised that Green 21, having been heavily scarified twice over the past two months to provide root stock for Greens 6 and 13 (see below), was still in excellent condition and rolling beautifully. The Course Superintendent, Brett Morris, decided to take one "final light collection" of stolons from the 21st green to further develop the new Champion nursery adjacent to the 8th hole.

At that time, the BGC committee acknowledged that Hole 21 would go down in history as the "**mother of our new greens**". Looking back now in 2020, this is an incontrovertible fact.

5. NEXT TRIAL STAGE OF GREEN REPLACEMENT PROGRAM 2012/2013

In October 2012, members were advised that work would commence on the next trial stage of the **GRP**, beginning on Hole 13, followed by Hole 6 and then Hole 11. BGC course designer, Ross Watson, gave guidance on the final plans for work on all three holes.

As with the Hole 21, the existing green surface for each hole was to be removed, green drainage checked, and Champion planted using stolons harvested from Hole 21 and the new nurseries.

For the first time, each green was to be provided with a protective strip around the perimeter to prevent encroachment of fairway grasses into the green surface. The grass strain chosen for this "collar" was a warm-season grass variety with the botanical name, *Zoysia matrella*, commercially sold as 'Shade tuff'.

Summary – Hole 13; Green prepared and planted: Oct/Nov 2012 Ready for play: 15 March 2013

Description of works

On 25 October work began on the Green 13. The green drainage system was checked and found to be in first class condition. Irrigation lines were replaced. The green was restored to its original size and shape, with similar contours to the original surface but with a little added area on the front portion of the green. Some modifications were also made to the mounding at the rear of the green to assist in preventing balls running into the pond behind the green. Planting of Champion grass stolons harvested from the 21st green took place on 1 November 2012, and in the following week the first Zoysia perimeter was laid on this green.

By January, all work had met expectations and the green's surface and surrounds were in excellent condition. The growth of the new Champion grass exceeded expectations. Further work was done over the next six weeks to ensure the hole was in very good condition when play resumed on 15th March 2013.

Summary – Hole 6; Green prepared and planted: Nov 2012 Ready for play: 15 March 2013

Description of works

In early October members were advised that, after completing work on Hole 13, the 6th green would be similarly restored. Bunkers were to be modernised and properly drained, following the success of the re-bunkering on Holes 1, 4, 10, 17 and 18 in the previous year, after the 2011 floods.

Work commenced in November 2012 and a multitude of issues became apparent. Excavation of the 30-year-old green revealed that the drainage pipes under the surface of the green were so compressed that little to no water was able to flow. Significant tree roots up to 15 centimetres in diameter were running into the green and many smaller roots as well. The fine drainage gravel had mixed with water and a white clay substance on which the green was built to form a concrete-like surface beneath the green. All these issues were dealt with during an extensive renovation of the green, and, finally, the bunkers were refurbished, and the green restored to its original size. Planting of Champion stolons was completed next, and a Zoysia collar around the green was laid including a larger protection area around the north side of the green adjacent to the green-side bunkers.

By January 2013, the new Champion green was progressing exceptionally well and bunker work had been completed. Poor fairway drainage between the top of the hill and the green was then rectified to remove this historical problem. The teeing area was extended, and four trees were removed down the left-hand side of the fairway between the tee and Rocky Water Holes Creek to enable full use of the new tee areas.

The initial landscaping under the **LMP** took place just before the hole was reopened for play on 15 March (refer to Section 6).

Summary – Hole 11; Green prepared and planted: Dec 2012 Ready for play: 15 April 2013

Description of works – Green 11 and surrounds

After closing day in December 2012, the surface of Green 11 was removed, and weeds and broadleaf grasses were eradicated from the hole surrounds. After drainage was checked the existing sand was revitalized and the green was stolonised with Champion grass on 15 December.

By January 2013, the Champion grass had struck well. The area around the tee was rotary-hoed and then mulched. The sloping surface of the bank on the west side of the green was scraped away, the soil was fertilised and cared for to promote lush fairway grass to cover the hard and bare runoff areas and new grass was planted.

Together with the landscaping work described in Section 6, all this work was intended to enhance the playability of the hole and to significantly improve its visual appearance.

Description of other works – Summer 2012/2013

Green 9

In late 2012 soil testing was undertaken on Green 9 to attempt to explain the poor green quality which had been a long running issue. This testing established that the problem originated from incorrect material put into the green when it was built. Over summer the green was heavily renovated to enable sand and fertilizer to be added into the growing surface. This rectification encouraged better grass growth and thus improved the putting surface, though this subsequently proved inadequate (see Section 8 below).

6. INITIATION OF LANDSCAPE MASTER PLAN 2013

In keeping with the **LMP**, which was being developed at that time, landscaping started on 11 March 2013 with selective planting around Green 6 and the third tee. These plantings were undertaken to provide a screen between Tee 3 and Green 6, a visually attractive backdrop to the 6th hole and to reduce the impact of traffic and road noise from Fairfield Road. Infill planting past the right-hand fairway bunker was also undertaken to screen the hole from the adjoining warehouse on the south side.

These new plantings were given good holes to begin with, and utilised a mixture of water crystals and Seasol fertiliser in the holes to initiate plant growth. This method formed the template for all future plantings on the course to the present time.

A “natural no-mow-area” was planned to be incorporated on the right-hand side of Hole 6 beyond the tree line, but this was not completed prior to re-opening the hole on 15 March 2013. However, it remained a future priority in the **LMP**.

As the work was proceeding on Green 11, “natural no-mow areas” were extended on the left-hand side of the tee and fairway and a small area on the right-hand side adjacent to the tee to improve the visual appearance of the hole and reduce the amount of under tree mowing required.

The mound at the back of the green was ploughed up and subsequently planted out with colourful signature species trees and shrubs and the area mulched, on 25 March 2013, in keeping with the **LMP**.

7. GREEN REPLACEMENT PROGRAM 2013

Description of Works - Greens 20, 4 and 19

In November 2012 it was announced that depending on the result of the **GRP** on Holes 6, 11 and 13, the club intended to replace all green surfaces on the course. The next greens to be replaced were

planned for summer 2013/2014 and some temporary greens were being prepared for use over the off season. Initially, temporary greens were prepared in front of Green 13 and on Hole 6 near the top of the hill, as a demonstration of what could be achieved.

Clearly, the committee was so pleased with the progress of the new greens on Holes 6, 11 and 13 over the summer period that the **GRP** was brought forward and replacement of Greens 20, 4 and 19 commenced in April 2013. At the same time Hole 11 was brought back in play and the green was in excellent condition.

During April and early May 2013, these greens were prepared using the “strip and replace” method. This meant effective removal of the existing decomposed organic matter in the green surface and replacing it with fresh USGA Specification rootzone mix, a specialised sand on which to grow greens. The previous green contours were essentially preserved in each case.

An interesting green design idea was incorporated into Green 4 during the re-build. At the suggestion of Stephen Deane, the newly reshaped bunkers on the left of the green were designed to abut the green, in a similar way to Metropolitan Golf Club in Melbourne. This feature was intended as a test to see whether this would work on the Champion greens.

Stolons were planted on Green 20 on 19 April, on Green 4 on 30 April, and Green 19 was stolonised on 9 May. It is interesting to note that this was the first attempt to stolonise greens with Champion in late autumn for growth in winter.

During the winter period, Mitch and his team added a layer of black-dyed sand to the green surfaces and covered the greens with black netting to assist the greens in absorbing more radiant heat thus raising the surface temperature.

Holes 4 and 20 were back in play in early October, but Hole 19 was out until mid-November, some 6 months after stolons were planted.

Course Superintendent Changes 2013

On 22 July 2013 members were advised that Course Superintendent, Dr Brett Morris, had resigned for personal and lifestyle reasons and had accepted a research position with horticultural company, Amgrow. It was agreed that he would continue in an ongoing advisory role with the club during the **GRP**.

Assistant Superintendent, Mitch Hayes initially assumed the role of Acting Course Superintendent. It is important to note that Mitch Hayes had joined BGC in October 2012, as Deputy Superintendent to Brett Morris, and had participated in several important projects. These included reconstruction of Green 13, which was required to prevent gradual downhill soil-creep of the green and bunkers towards the creek, caused in part by an excessive slope when first constructed.

Members were advised that Mitch was well-qualified, had worked as Course Superintendent in Townsville, and had experience in the USA, including the propagation of Champion grass at Quail Hollow and work at Kiawah Island. Importantly, in his short time on BGC staff, Mitch had been responsible for the grow-in of the Champion greens on Holes 4, 19 and 20, which he had continued along with the responsibility for day-to-day maintenance of the course.

On 7 Nov 2013 Mitch Hayes was appointed BGC's new Course Superintendent. In a baptism of fire as it were, as Acting Course Superintendent during the previous three-month period, he successfully brought Holes 4 and 20 into play and was working on completing the new green on Hole 19. At the same time, it was recognised that he had maintained the course to a high standard during drought

conditions while preparing for renovations on Holes 5, 15 and 10. During this period he also managed the removal of inappropriate trees and assisted in new plantings as required in the **LMP** for Holes 4, 5, 14, 15 & 16.

8. LANDSCAPE MASTER PLAN 2013

Planting and mulching by volunteers on Holes 4 & 17

In early August 2013 course staff sprayed-out areas in the 4th hole precinct and around Tee 17. In keeping with the **LMP** these areas were taken back to a more naturally landscaped environment with a consequent significant reduction in the amount of mowing required in future.

The stated intention was to make Hole 4 one of BGC's signature holes both for the quality of its green and bunkering and the beautiful, feature-landscaped area.

At this time, several Cadagi trees were removed from behind Tee 17. As explained to members, Cadagi trees created a real problem for course maintenance with the ground being hard and having exposed roots with bare earth. This tree species was originally brought into south-east Queensland from a rainforest environment in North Queensland. It was widely recognized that their introduction had a negative impact on the environment, on local native trees and people's health as they transformed from a tall rainforest tree into what we still see on our course. In addition, the trees cause the collapse of the stingless native bee population. Over time, the **LMP** ultimately seeks to remove all Cadagi trees from the course.

To that point in time, several proposals had been considered by successive BGC committees to improve the safety of Hole 5 when driving from the tee. In response to this problem, BGC's course architect, Ross Watson, developed a plan to create a "viewing gap" which was to be constructed when work was underway on the 5th green. As part of this plan, a mound was built for new plantings at the back of the 17th tee to provide safety and definition to Hole 5 which was previously provided by Cadagi trees.

Led by Course Chair, Terry Campbell, and Richard Garnham, a small group of volunteers planted over 2,500 plants around the 4th precinct and 17th tee areas in this period. The area behind Tee 4 and behind the 4th green close surrounds were beautified with colourful Grevillea trees and bushes and the land around Moolabin Creek was planted with species conducive to the wet environs frequently experienced in that area. Several Hoop Pines were planted behind the 4th tee, a buggy parking area was prepared for the 3rd green adjacent to the 4th tee, and another adjacent to the 4th green.

Planting and mulching by volunteers on Holes 14, 15, 16 and 5

In the first week of October 2013 course staff commenced removing some of the weed trees on Holes 5, 14, 15 and 16.

On 1 November volunteers, under direction as before, planted approximately 100 larger trees between Holes 15 and 16, behind Green 14 and on the eastern side of the 16th fairway.

This was followed on 8 November by a very large planting exercise of 1500 small plants, shrubs and trees along the fence lines separating the course from the industrial complex on the southern boundary of Hole 5 and on the eastern side of Hole 16.

On 27 November more infill planting was done on the LHS of fairway 15.

In November and December, volunteers mulched these areas to provide a better growing environment for the trees, a more attractive appearance and to reduce the area course staff had to mow.

9. GREEN REPLACEMENT PROGRAM 2013/2014

Description of Works - Greens 15, 5 and 10

During October 2013, Greens 15 and 5 were prepared using the “strip and replace method” described previously, and Green 10 was prepared similarly in November. The previous green contours were essentially preserved in each case with the following exceptions:

- Green 15 was remodeled, under advice from Ross Watson, the course architect, to raise the front of the green, which was considered too steep and unfair for Champion grass. This was intended to allow more pin positions near the front of the green and improved playability of the hole;
- The left-hand side of Green 5 was lifted and flattened slightly to make holding the green a fairer proposition and less likely for a good shot to finish near the Lake; and
- Hole 10 was altered on the right-hand side to clean-up the apron which was patchy, uneven and had weed grass, and subtle slope variations were introduced by adding a spine into the green from the right-hand side making it more challenging and adding interest.

Planting of the Champion stolons on Holes 5 and 15 was done on 4 November and, following completion of other work on these holes, construction work began on Hole 10 in late November. Champion stolons were planted on Green 10 on 25 November and a good strike was achieved.

By 10 January 2014, each of these new greens was progressing very well with good grass coverage. In mid-February 2014, the greens were ready for play - an excellent achievement.

10. GREEN REPLACEMENT PROGRAM 2014

On 10 January 2014 members were advised that nine greens would be replaced in a major effort over the course of the next nine months.

Greens 1, 7, 14 and 18 were taken out of play in mid-February. New green surfaces were then prepared on Holes 14 and 7, again using the “strip and replace method,” before being replanted with Champion grass stolons on 14 February. Under advice from Ross Watson, the course architect, the previous severe slope on the right front of Green 14 was softened when replacing the green surface to improve playability of the hole, and to improve pin placement in that area of the green.

Using the same method, course staff then prepared new green surfaces on Holes 1 and 18, which were replanted with Champion on 3 March. A small spine was added into the front of Green 18 from the highest point of the front bunker, with the intention of providing a more interesting set of pin positions in this area.

Only one temporary green was required during this period which was prepared on Hole 14, between the last fairway bunker and the green.

All four holes were back in play by late June, at which time 14 new greens had been completed and the Yeerongpilly Course was again available for play for a period from late June to late August.

After this short winter pause in the **GRP**, Holes 3, 9, 12, 16, and 17 were taken out of play in early August. New green surfaces were prepared using the “strip and replace” method on Holes 3, 12, 16 and 17. These greens retained similar profiles and contours to the previous design, except for the surface of the 16th green which was “softened” slightly – much the same as had been done earlier on Greens 14 and 15 - again to improve playability and a better range of pin positions.

The opportunity was taken at this time to again address the issue on Green 9, which was discussed in Section 5. A major renovation was conducted on this green, completely removing the surface layer and replacing it with fresh USGA Specification rootzone mix, a special blend to encourage better and even grass growth.

At the same time as **GRP** work was being undertaken on Holes 9 and 17, the sand was replaced in the green-side bunkers, as the existing sand in these bunkers was different to that of other bunkers on the course. The 9th bunker matting was also replaced at this time.

During this period, a major improvement was made to the 12th fairway at the top of the hill before the drop into the Moolabin Creek flood plain. When this fairway was originally built soil was removed from this top section and pushed over the hill with the result that very little topsoil remained. When replacing the green, a heavy renovation on the top section of the fairway was undertaken and old sand from the green was spread in this area to great effect. As a result the fairway condition at the top of the hill was subsequently much improved.

In a major effort by Mitch and his dedicated team, Greens 3, 9, 12, 16, and 17 were replanted with Champion in the first week of October 2014. Stolons for these holes were taken from very clean nurseries resulting in very little foreign grass in the new surface and much less patching than had been the case on previous new greens. Luckily, the weather conditions were perfect, and the stolons struck extremely well. Subsequently, the greens were top dressed for the first time on October 31.

It is interesting to note that much wider Zoysia collars of 1.2 metres were laid around these five greens on a trial basis, to ascertain whether this would better prevent green couch encroachment. Hence, over the course of time in the **GRP**, the Zoysia protection perimeter increased from one turf row wide (400mm) to two rows wide (800mm) and then to 3 rows wide (1.2m).

Temporary greens were prepared on Holes 12 and 16 to allow play to continue through this period and to improve course routing.

All holes were back in play on 7 January 2015, just over 3 months after the greens were planted - an amazing achievement by Mitch and his team.

Temporary Putting Green

To enable members to have a Champion practice green, the old 10th tee was converted to a temporary putting surface, with works commencing during August 2014. It was ready for use a few months later.

General Manager Changes 2014

After the resignation of BGC General Manager, Simon Parker, in May 2014, Mr Geoff Kuehner was appointed General Manager of The Brisbane Golf Club commencing 11 August 2014.

Geoff joined BGC from the Broncos Leagues Club where he had been General Manager for 8 years. A highly experienced senior manager with a track record of high level financial and operational expertise in the very competitive club industry, Geoff's proven skills in business planning and development, communications and effective governance were important in his appointment.

11. LANDSCAPE MASTER PLAN 2014

On 10 January 2014 members were advised that, thanks to the work of the volunteer group, the **LMP** was progressing very well. Since commencement of the program in March 2013 more than 9,000 trees and shrubs had so far been planted on Holes 3, 4, 5, 6, 11, 14, 15, 16 and 17, fortunately with a very low attrition rate. The volunteers group was again led by Course Chair, Terry Campbell, and landscape architect, Richard Garnham.

Further work by the group of volunteers in mid-January saw significant areas of new planting at the back of Green 5 where the area had been rotary hoed. In addition, the group undertook planting out the area on the right-hand side of the 3rd tee, a low boggy area which had been unattractive for some time. New drainage was added to stop ponding after rain and suitable plants were added to enhance this area.

Course staff made significant improvements to the 5th fairway by adding drainage, turf and shaping along the new all-weather cart path on the right-hand side, which was complemented by additional volunteer plantings behind green. The intention was to make Hole 5, not only BGC's most challenging hole, but also its most visually impressive.

The newly designed tee hardware, presented in the **LMP**, first made an appearance on Hole 4, which included:

- Tee Markers specific to the hole with BGC logo, Hole Number, Distance in metres to the centre of the green and Par Rating. These were made of cast bronze plate inlaid on hardwood, and set in a local stone plinth;
- Dressed hardwood timber Tee Markers Blocks for the blue, white, red and yellow tees;
- A new seat behind the 4th tee in the new architecture, using local stone facing in Brisbane Tuff, a volcanic ash rock, and hardwood timber slats.

This established the template for all future holes, with similar new tee hardware planned to be installed as each hole was brought back into play.

Towards the end of March about 90 trees were planted on Hole 18, and this included 30 large trees, of the size of 100 to 25 litre pots.

During the winter months the 13th tee areas were replanted with turf where necessary and stone borders with steps, were built to prevent carts damaging the edge of the turfed tee areas, and to assist access to the tee areas.

During October and November, a group of volunteers systematically worked its way around the entire course filling sunken channels above irrigation lines with suitable sand and soil. The subsidence above irrigation channels, which are a common problem on the course, are caused in dry weather by shrinkage of the original, unsuitable clay fill in the trenches. Mitch Hayes provided support as usual with a tractor, trailer and plenty of shovels.

Under the guidance of expert arborists, Moreton Bay Fig trees were planted in Mid-October along the green strip at the entrance to the club. This was part of the **LMP** to beautify and improve the appearance of this entry area.

On 27 November 2014, the Club suffered very badly when a “supercell storm” destroyed many iconic trees on the course, caused severe damage to greens and bunkers, and prevented play for a considerable period while the debris was removed, and damage repaired. The President later thanked the large number of volunteers who joined with course staff in working tirelessly under the direction of course superintendent, Mitch Hayes and Club Captain, Terry Campbell to clear debris for several days, thus allowing the re-opening of the course on 3 December.

In December 2014, Mitch and the course staff undertook scarifying and top dressing of some fairways resulting in a much better playing surface. This followed the purchase of a new deep tine, fairway aerifier, called a Verti-drain. This procedure was to become an integral part of the maintenance practice for the course.

12. GREEN REPLACEMENT PROGRAM 2015

As mentioned above, Greens 3, 9, 12, 16, and 17 were re-opened for play on 7 January 2015, having matured exceptionally well in the 13 weeks since planting. By this time, 19 holes had been converted to Champion grass, with only Holes 2 and 8 remaining. As a New Year treat, the Yeerongpilly Course was back in play for a few weeks prior to the work on the last two holes. During this period, the Summer Cup was played.

The BGC general committee approved works on Holes 2 and 8 in December, after a considerable planning period and advice from course architect, Ross Watson. Because of the extensive work program required on these holes, both of which had problems with low-lying areas, the construction work was deliberately scheduled to follow the completion of work on all other holes. An overview was sent to members at that time describing the issues and the work to be undertaken.

Description of works – Hole 2, Green 2 and surrounds

The committee recognised that various issues on this hole should be addressed and these are described from tee to green.

Issue 1: During wet weather, the lower section of the fairway became boggy or unplayable because of lying water and members with motorised carts were not able to drive in the area.

Solution:

- Construct a cart path down the left-hand side of the fairway for use by members playing both the 2nd and the 8th hole. The path would divide about 50m beyond the 2nd tee and go down to the 8th hole bridge over Moolabin Creek;
- Remove several Cadagi trees on the left-hand side of the fairway and replace them with appropriate native trees. Remove Cadagi trees from the bottom of the fairway at the dogleg and replace them with Melaleuca trees and other species which like wet feet;
- Install drainage at the bottom rough and centre of the fairway and then raise the path to continue around the left-hand side of the fairway to join the existing path behind the 2nd green; and

- Lift the melon holes on the fairway so that water did not pool and kill the grass after rain or flooding.

Issue 2: The right-hand side of the fairway from the first large gum beyond the pond and extending up to the Keith Virtue Grove had very hard, bare ground with unattractive vegetation.

Solution: It was agreed that the issue would be addressed as follows:

- Remove Cadagi trees from this area and plant appropriate native trees;
- The fairway and rough would be clearly defined and the area further right of this area would be ploughed up and mulched;
- Create a defined mulched area with a grass border between it and around the lake;
- Plant more trees past the rough to thicken up and make this area more attractive;
- Improve the Keith Virtue sign with a more appropriate plaque;
- Plant the low-lying area on the right-hand side before the bunkers with Melaleuca trees and revegetate the area with appropriate plants so that the fairway and rough was clearly defined; and
- Renovate the fairway and apply sand during this work.

Issue 3: The existing green and bunker complex were old and in very poor condition. The green was less than half its original size, the bunkers had very poor-quality sand and were very nearly impossible to get in and out of with safety.

Solution:

- Utilise Ross Watson's redesign of the green and bunker complex, which would make the green putting surface 552 square metres, or more than twice the size of the previous putting surface;
- The new green would have similar contours to the old green;
- The left-hand side front bunker would be approximately one third of the size of the old bunker and situated to the left of the old position;
- Construct a smaller pot-style bunker at the back, left of the green;
- Move the old right-hand bunker to the right front of the green; and
- The total bunker area would be 189 square metres, considerably less than the old bunkers, and players would be able to easily walk into all bunkers.

It was explained that, with the bunker change and the increased green size, the new line of play would, in future, be very much "up the green" from the fairway rather than across the green, as was the case previously. The new green would have a false front with a much-improved grassed surface.

Description of works – Hole 8 fairway, Green 8 and surrounds

The stated aims for the changes to Hole 8 were to provide more visual appeal and a wider range of challenges for all members.

Looking at the various issues to be addressed, these were described from the tee to the green.

Issue 1: The area in front of the tee was low lying, became waterlogged in the wet season often preventing use of motorised buggies.

Solution:

- Extend the drainage work from Hole 2 across to Hole 8, with water diverted by pits and fairway drainage into the pipe running across Hole 2 to the lake;
- The cart path running through the low area of Hole 2 at the dogleg would act as a water diversion into these pits and pipes; and
- Build a new cart path down the left-hand side in front of the 8th tee to join the path down the side of Hole 2, as described previously. This path was to be shared by golfers using Holes 2 and 8.

Issue 2: The fairway and surrounds of Hole 8 from about 250m out were in poor condition. The fairway funneled into a very small landing area and as a result the fairway became heavily marked by divots. The fairway had a hard surface from 150m out which was not receptive to a well struck golf shot. The left-hand side of the fairway from 200m out was bare and rocky and not able to grow grass. The fairway did not offer a good position for a shot into the old green. The holding area at the creek was impacted by subsidence and a hard surface which was unfair on a well struck golf shot.

Solution:

- Extensively cut and fill the fairway to achieve a wider fairway in designated areas and a much more receptive surface;
- Push the fairway further to the left-hand side from approximately 200m out and continue down as far as the top of the hill;
- Level the unsightly areas on the left-hand side, fill them with good quality soil so that this area would constitute both rough and fairway;
- Undertake plantings on the left-hand side to ensure a good screening between the 2nd and 8th fairways and integrate these plantings with the cart path;
- Lift the old fairway bunker to make it more easily seen from the tee;
- Reconstruct the area at the bottom of the fairway/rough near the creek so that well struck shots have a chance of not going into the creek; and
- Lift the fairway from approximately 150 to 120 metres out from the green to ensure a fair lie was available and the longer marker, who may wish to hit their second shot into this area, would have a satisfactory landing area and lie for the approach shot to the green.

Issue 3: The existing green and its surrounds were not of sufficient quality to suit a Champion green. The large gum tree near the green was of concern and did not allow most golfers to play a reasonable approach shot to the green from a well struck tee shot. The bunkers surrounding the green were in poor condition with gravel now appearing in the sand.

Solution:

- Utilise Ross Watson's re-designed green and bunker complex;

- The new green would have two levels thus enabling a well struck shot to either the upper or lower level to hold and have a receptive putting surface;
- Extend the green further out from the old surface into the area on the front right of the green;
- Enlarge the putting surface to 504 square metres;
- Remove the old left-hand side or front bunker and the adjacent gum tree. Convert this area to fairway and lift the existing fairway beyond the creek on the right-hand side and ensure it is level;
- Convert the old back left bunker into 2 bunkers with the left bunker providing protection for the 9th teeing area. Construct mounding at the back to provide protection for the 9th tee;
- Plant more casuarinas on the left-hand side over the creek to provide protection;
- Build a new water pond on the right-hand side of the green, with a raised water level above the creek by way of a weir. Build a new stone-pitched waterfall/weir flowing back into the creek. The water area was to be maintained at a constant level as a result of drainage from the irrigation system ensuring an attractive appearance; and
- Re-design the right-hand side bunker approximately in the same position.

Completion of Greens Replacement Program

Finally, the August 2015 Course Update announced that the **GRP** was complete, although Holes 2 and 8 were not yet available for play. These last two holes were brought back into play on 14 October with the re-opening of The Yeerongpilly Course. Special events were organised to celebrate this special week in the history of The Brisbane Golf Club.

Practice Green Resurfacing

It was now time to convert the practice green to Champion grass. After spraying the green in late September to ensure the new surface, when completed, was free from foreign grass, resurfacing of the practice putting green commenced 30 November. This involved stripping the top 100 millimetres of the organic layer away, cutting new drainage into the existing profile before backfilling the green with rootzone mix and stolonising Champion grass.

This was not a complete rebuild of the practice green but a replacement of the previous 328 Bermudagrass surface with Champion grass.

Planting of the Champion stolons occurred in the first week of November and was very successful. By late December, the mowing and top-dressing process was well under way and the practice green was again ready for use on 6 February 2016.

13. LANDSCAPE MASTER PLAN 2015

Eighteen willing course volunteers were back at work on 16 February, again led by Course Chair, Terry Campbell, and landscape architect, Richard Garnham. On this occasion, a very large amount of infill planting was undertaken on various areas of the course with some new plantings as well. As before, the larger holes were dug by course staff in advance, and the group applied the Seasol/water crystal mix prior to planting and staking the new plants.

Several areas were tackled:

- The right-hand side of Hole 2 in the Keith Virtue Grove;
- The left-hand fairway of Hole 2 from 250m to 150m out from the green;
- The left-hand side of Hole 5, adjacent to the 17th tee, where trees were lost in the 27th November storm;
- Adjacent to the 7th tee where Tipuana trees were destroyed;
- Left-hand side of the 6th hole where figs were destroyed;
- The 10th tee precinct, which was very unsightly. Small colourful shrubs were planted to make this area attractive;
- Replace two hoop pines on the left-side of the 10th fairway, which were destroyed during the 27th November storm;
- Behind the 16th green;
- In the area near the 5th tee; and
- Practice fairway around the teeing area.

In late May, a small group of eight volunteers mulched areas on Hole 2, the area between Hole 15 and 16, the right-hand side of Hole 16, the right-hand side of the 5th fairway and a triangular area between the Holes 2 and 8, above the bridge.

Further infill course planting took place on 17 August in the following areas:

- Around Tee 12;
- Around the Green 12 and Tee 13;
- Between the 15th and 16th fairways where some trees had been lost;
- The low areas near Tee 16;
- Behind Green 8 and around the lady's 9th tee; and
- Behind Green 4.

On 21 August, sixteen volunteers worked on the following areas:

- Spreading and tidying up the mulched area on the right-hand side of Hole 2;
- Infilling the right-hand side of Hole 16 with 30 larger plants where a few trees were lost in the November 2014 storm; and
- Extensive planting on Hole 8, including both sides of the fairway, the greens north-side surrounds, and the area on the eastern side of the pond.

Assistant Course Superintendent Changes 2015

In August 2015 it was announced Peter McNamara, a member of the course staff, was to be the new Assistant Course Superintendent. Members were advised that Peter had international experience and prior to The Brisbane Golf Club was employed at Harbor Town Golf Links in South Carolina.

Rock walls on Holes 3, 8, 11 and 13

In August 2015 remedial work commenced on these holes to improve the appearance and to make entry and exit to the tees easier and safer. On the 11th and 13th men's tees, the approach to the tees was considered very dangerous, especially in wet weather. The remedy was to level and grass Tee 11 up to the new concrete curb.

On Hole 13, the area around the large gum tree was turfed and the area on the right-hand side of the path leading up to the men's tee and the left-hand side of the path next to the men's tee was planted out. New walls were built to help stabilise the grass on the tee and steps were added for ease of access.

Another issue addressed was the very small area of the lady's tee. A low wall was built to enable the tee to be extended and to enhance the appearance. The area behind and to the left of the lady's tee was planted out and the trees behind the tee were removed to give a more open vista to the green.

Low supporting walls were also built at this time on the Tees 3 and 8 to support and level the teeing area. All these stone pitched walls were built with Brisbane Tuff facing stone with an attractive coping stone of phyllite.

14. CONCLUSION

Thus, 3 years from the decision to replace all the greens with Champion grass the **Greens Replacement Program** had been completed. Having endured continuous changes to the course and the use of temporary greens, members were introduced to a very new and challenging Brisbane Golf Course which was finally back in play with a normal course routing and new Champion Greens.

It should be recognised as quite an achievement that The Brisbane Golf Club course staff managed to complete this very considerable work program and to bring all the holes back into play with new surfaces. This was accomplished under two course superintendents, initially Brett Morris and to a much larger extent, Mitch Hayes. **Table 1** provides the timeline for reconstruction of each of the greens during the **Greens Replacement Program**.

The 2014/2015 Annual Report reminded members of the benefits of the **Landscape Master Plan**. After a sensational job in drawing up the plan, Richard Garnham continued to assist with the ongoing layout of all the new plants and provided advice throughout this period on the detailed design and delivery of all the hard landscape suite of furnishings and on the huge areas of soft landscape revegetation plantings. By the time of writing this Annual Report, real changes were already emerging on the course following the planting of almost 15,000 trees and shrubs, mostly undertaken by Club volunteers. In a testament to both Richard and the volunteers, the Annual Report acknowledged that very few new plants were lost in the two-and-a-half-year time frame since commencement of the program, and it was forecast that these plantings would continue to establish and improve the appearance, aesthetics and enhance the bio-diverse environment of BGC. **Table 2** provides the timeline for planting and other work by member volunteers during the period discussed in this paper.

As acknowledged in the 2017 Annual Report, Terry Campbell, who was Course Chair over this period, was the driving force behind the Greens Replacement Program and the conversion of our greens to Champion and he was responsible for implementation of the Landscape Master Plan.

It is very pleasing and rewarding to see that the delivery of the integrated GRP and LMP played an important role in contributing to the elevation of Brisbane Golf Club in the Australian Golf Digest and Golf Australia course ratings and rankings in subsequent years. It is the strongly shared desire of all those involved in these programs to see this recognition of our club continue and for multi-benefit outcomes to be realised well into the future.

Brisbane Golf Club not only reached a new level of excellence through the 2012 to 2015 period, but it is now becoming a showpiece environmental exemplar and champion of sustainability initiatives – of which all BGC members can be justly proud.

15. CLOSING REMARKS

The author was prompted by Lloyd Cotterill to tell “the Champion Story”, and I agreed to undertake this project because I considered it so historically important to The Brisbane Golf Club, and a story which needed to be told. In doing research for this project, it soon became clear that the substantial landscape changes to The Brisbane Golf Club which occurred simultaneously with the planting of the Champion greens, should be described in detail as well, and the complete history should include both programs.

Hopefully, members will find this article as interesting as the author has in researching and documenting this period of the Club’s history.

16. ACKNOWLEDGEMENTS

I would like to thank Brett Morris for kindly agreeing to be interviewed and for providing essential details on the early history, experiments and initial establishment of our Champion green surfaces. Mitch Hayes provided confirmation of essential elements of the Green Replacement Program both personally and through very comprehensive Course Reports during this period. Thanks also goes to Richard Garnham who corroborated on vital aspects of the Landscape Master Plan objectives and processes. Richard also assisted with comments and suggestions to improve this article. He also provided actual numbers of plants for Table 2, and areas planted and returned to natural bushland.

The crucial role of Terry Campbell is again acknowledged. Without his copious emails to volunteers, notes to members and his detailed Captains Reports to members, this document is unlikely to have been possible. I also gratefully acknowledge Terry’s work in preparing the early version of Table 1, which formed a template for the tables included in this story.

I also wish to thank Stephen Deane and Lloyd Cotterill for their thoughtful contributions and advice, and Geoff Kuehner for his encouragement and his assistance in enabling me to contact key figures in this part of BGC history.

Finally, I would like to thank all the volunteers for their wonderful hard-work, dedication and camaraderie over this period.

TABLE 1**GREENS REPLACEMENT PROGRAM**

TIMELINE FOR RECONSTRUCTION					
HOLE	GREEN STOLONISED	BACK IN PLAY	PERIOD OUT OF PLAY	SEASON	COURSE SUPERINTENDENT
21	14/2/12	n/a			Brett Morris
13	01/11/12	15/3/13	4.5 months	Summer	Brett Morris
6	20/11/12	15/3/13	3.9 months	Summer	Brett Morris
11	15/12/12	15/4/13	4.0 months	Summer	Brett Morris
20	19/4/13	4/10/13	5.8 months	Autumn/Winter/Spring	Morris/Hayes
4	30/4/13	4/10/13	5.2 months	Autumn/Winter/Spring	Morris/Hayes
19	9/5/13	13/11/13	6.1 months	Autumn/Winter/Spring	Morris/Hayes
15	4/11/13	11/2/14	3.3 months	Summer	Mitch Hayes
5	4/11/13	13/2/14	3.3 months	Summer	Mitch Hayes
10	25/11/13	22/2/14	3.6 months	Summer	Mitch Hayes
14	14/2/14	25/5/14	3.3 months	Summer/Autumn	Mitch Hayes
7	14/2/14	4/6/14	3.6 months	Summer/Autumn	Mitch Hayes
1	3/3/14	24/6/14	3.7 months	Autumn/Winter	Mitch Hayes
18	3/3/14	24/6/14	3.7 months	Autumn/Winter	Mitch Hayes
3	6/10/14	7/1/15	3.1 months	Spring/Summer	Mitch Hayes
9	6/10/14	7/1/15	3.1 months	Spring/Summer	Mitch Hayes
12	6/10/14	7/1/15	3.1 months	Spring/Summer	Mitch Hayes
16	6/10/14	7/1/15	3.1 months	Spring/Summer	Mitch Hayes
17	6/10/14	7/1/15	3.1 months	Spring/Summer	Mitch Hayes
2	16/1/15	14/10/15	9 months	Summer to Spring	Mitch Hayes
8	16/1/15	14/10/15	9 months	Summer to Spring	Mitch Hayes
PG1	Nov 15	6/2/16	3 months	Summer	Mitch Hayes

TABLE 2**LANDSCAPE MASTER PLAN**

VOLUNTEERS - TIMELINE FOR PLANTING AND OTHER WORK			
HOLE	PLANTING/MULCHING/OTHER	WHEN	NO OF PLANTS
6	LHS and back of green	11 Mar 2013	624
3	Back and LHS of tee	11 Mar 2013	520
11	Tee area LHS/RHS, mound behind and green surrounds	25 Mar 2013	814
4/5	LHS, mound behind green and tee surrounds area; triangular area LHS of fairway 5 before Tee 17	May and 20 Aug 2013	2135
17	Back and LHS of tee area	Oct/Nov 2013	480
16	Eastern side of fairway	1 & 8 Nov 2013	771
14/15/16	Between 15 and 16 fairways and behind Green 14	1 Nov 2013	1622
16	Infill planting along RHS	8 Nov 2013	215
5	Southern fence line and adjacent to Tee 6	8 Nov 2013	1281
5/16/14/15	Mulching	Nov/Dec 2013	-
15	LHS of fairway	27 Nov 2013	790
2013 Total area of mulched planting 1.5 ha (approx.)			9252
5	Balance area behind green	3 Feb 2014	375
3	Planting area on RHS of tee	3 Feb 2014	262
Clubhouse	Hedging	29 Jan 2014	20
11	Infill plantings	29 Jan 2014	60
18	Tee area, LHS and RHS fairway	27 Mar 2014	167
Entry area	Plantings around precinct	26 Sep 2014	885
Entry	Plantings in main entry areas	14 Oct 2014	198
All	Infill of sunken reticulation trenches	Nov/Dec 2014	-
All	Clean-up after storm	Late Nov 2014	-
2014 Total area of mulched planting 0.7 ha (approx.)			2604
2	RHS reinforcement (Keith Virtue Grove) and fairway	16 Feb 2015	47
5	LHS adjacent to Tee 17	16 Feb 2015	125

7	Adjacent to tee	16 Feb 2015	45
3	LHS and RHS tree plantings	Feb 2015	65
6	LHS of fairway	16 Feb 2015	32
10	Tee precinct, LHS of fairway	16 Feb 2015	140
16/5	Behind Green 16 and adjacent to Tee 5	16 Feb 2015	265
Practice fairway	Driving range teeing area surrounds	16 Feb 2015	100
2/15/16	Mulching	16 Feb 2015	-
5	Mulching RHS of fairway	Late May 2015	-
2/8	Hole 2 back of green and LHS full length, incl area back of Green 7, Hole 8 RHS and lakeside and triangular area above bridges	Late May 2015	958
12	Infill planting tee area	17 Aug 2015	230
12/13	Between Green 12 and Tee 13	17 Aug 2015	190
15/16	Infill planting between fairways	17 Aug 2015	40
16	Infill planting low areas near tee	17 Aug 2015	25
8/9	Between Green 8 and Red Tee 9	17 Aug 2015	169
4	Behind green	17 Aug 2015	27
2	Spreading mulch, tidying RHS	21 Aug 2015	-
16	Infilling with larger plants RHS	21 Aug 2015	45
8	Additional planting areas	21 Aug 2015 and 17 Sep 2015	505
<i>2015 Total area of mulched and planting 1.3 ha (approx.)</i>			<i>3008</i>
<i>2013 to 2015 Total area of mulched planting 3.5 ha (approx.)</i>			<i>14,864</i>