



In December 2016 HG Sports Turf installed its Eclipse Stabilised Turf system at Westpac Stadium in Wellington. The new surface had its first outing on New Year's Day with an A-League clash between the Wellington Phoenix and Adelaide United.

PHOTOS COURTESY OF HG SPORTS TURF AND WESTPAC STADIUM

Icing on the Cake Tin

Affectionately dubbed the 'Cake Tin' by the locals, Westpac Stadium in New Zealand's capital Wellington recently underwent a major surface upgrade for the first time since its opening in 2000. HG Sports Turf's Erik Kinlon looks back at the project and some of its unique challenges.

Westpac Stadium, or Wellington Regional Stadium, is a major sporting venue in Wellington, New Zealand which was officially opened in early 2000. Residing one kilometre north of the Wellington CBD on reclaimed railway land, it was constructed to replace Athletic Park, the city's long-standing rugby union venue.

Athletic Park held a unique place in the New Zealand sporting landscape. In addition to boasting one of the steepest grandstands in the country (the famed Millard Stand), it was the ground's exposure to the elements which gave it folklore status. Wellington is renowned for its gale force winds and it was something of a rite of passage to attend a rugby game atop of the Millard in the middle of winter with an Antarctica-fuelled southerly blowing in off nearby Cook Strait.

Athletic Park was the site of one of the All Blacks' most improbable Test wins over a touring France side in 1961. With winds gusting up to 140kph during the match, All Black 'super boot' Don Clarke managed to nail a sideline conversion to win the match 5-3. What made his conversion famous was that he effectively kicked the ball along what is now the 22m line and watched the wind swing it 90 degrees and through the uprights!

Despite such memorable moments, over the years Athletic Park gradually became more and more run down and was no longer considered

adequate to cater for international events due to its age and location. A new stadium was also needed to provide a larger-capacity venue for One Day International cricket matches, due to the city's Basin Reserve ground losing such matches to larger stadia in other parts of the country.

Now in existence for 16 years, the 34,000 capacity Westpac Stadium has become one of New Zealand's premier multi-purpose venues. It is the home of the Wellington Lions Mitre 10 Cup rugby team as well as the aptly named Hurricanes Super Rugby team.

The stadium also hosts the Wellington Sevens, one of the legs in the annual HSBC Rugby Sevens World Series, and regularly hosts All Blacks rugby matches. It is also home ground for A-League soccer team Wellington Phoenix FC, with the home fans dubbing the ground 'The Ring of Fire'. During the summer the stadium also hosts international and occasionally domestic limited overs cricket.

The stadium has also been used for rugby league matches, including national team fixtures and New Zealand Warriors away fixtures. In recent years, Melbourne-based AFL club St. Kilda played three 'home' games at the stadium against Sydney, Brisbane and Carlton as part of the Anzac Day round. Most recently it hosted matches during the 2011 Rugby World Cup and 2015 Cricket World Cup.

In addition to sporting events, Westpac Stadium regularly hosts major events and concerts. Shortly after opening in 2000, it hosted the Edinburgh Military Tattoo, the first time the event was held outside of Edinburgh, Scotland, while in 2006 it hosted WWE's first ever New Zealand show in front of 23,875 spectators. It also played a bit part in the Lord of the Rings film trilogy after film director Peter Jackson recorded 30,000 fans during a 2002 Black Caps ODI against England chanting in 'Black Speech'. This was then used as the sound of 10,000 chanting Uruk-hai during the Battle of Helm's Deep in 'The Two Towers'.

CONTINUAL IMPROVEMENT

Over the years the Westpac Regional Stadium Trust (WRST), which oversees the management of the stadium, has made continual improvements to the venue to keep it up to a standard to rival New Zealand's other major venues. As part of that, in early 2016 it announced that it would be upgrading the playing surface for the first time since its opening.

The existing surface was natural ryegrass which over time had developed a significant *Poa annua* population along with high organic matter content which made management of the surface increasingly challenging. The stadium had not previously had any technology in terms of pitch

stabilisation or reinforcement. This combined with an ever-increasing events strategy, and the need for the stadium to be a multi-functional events space for sports and non-sports events, meant it needed a turf system that would be up to the challenge.

HG Sports Turf (HGST), which had previously undertaken major projects at other New Zealand stadiums such as Eden Park (Auckland), Waikato Stadium (Hamilton) and AMI Stadium (Christchurch), was one of three companies to tender for the job and was appointed in early 2016.

The first task was to source an appropriate site to grow the company's patented Eclipsed Stabilised Turf system and it was ultimately decided to establish a purpose-built nursery in Auckland. Although some 650 kilometres and an 8.5 hour drive away, Auckland was chosen for its more favourable growing conditions during the winter months.

The nursery was planted in April 2016 with two varieties of ryegrass – Centurion and Colosseum. Both varieties were sourced from PGG Wrightson New Zealand and chosen by Westpac Stadium based on their agronomic performance and, in particular, winter activity for the local climate. HGST employed the services of an Auckland-based contractor to oversee the nursery, with guidance provided to ensure that all programming, maintenance, reporting and testing was conducted in accordance with the company's requirements.

The 12m x 1m turf rolls were installed within 12 hours of being harvested. The turf was grown at a purpose built nursery in Auckland and transported 8.5 hours to Wellington





The existing ryegrass surface was stripped and disposed of over a five day period starting 4 December 2016

Running concurrently with the removal of the old surface was the construction of a new ring road followed by the installation of an approved synthetic turf system and performance infill



Engineering were engaged to assist with the design and production of all final as-built drawings.

On Sunday 4 December the resurfacing began in earnest with the existing surface stripped and disposed of over a five day period. Running concurrently with this was the construction of a new synthetic ring road around the perimeter of the playing surface, with the base construction taking seven days. An approved synthetic turf system and performance infill was then installed over the course of the following three days.

The profile of the main playing surface included 40mm of Eclipse Stabilised Turf above a further 250mm sand layer and 100mm gravel layer. Following removal of the old surface, further trimming of the sand surface layer was required to remove organic darkening of the sand. This was to ensure that infiltration rates were not affected and remove the potential for reduced agronomic performance of the new turf. In total, 240 tonnes of locally sourced compatible sand was tested, chosen, placed and consolidated to get to the design levels required.

Installation of the Eclipse Stabilised Turf started on 15 December and finished ahead of schedule on 21 December. With the nursery a substantial distance away, HGST engaged an Auckland-based logistics company to transport the turf from Auckland, with a total of 44 truckloads delivering 15,400m² of turf. The turf was on the ground in the stadium within 12 hours of harvest.

The turf rolls were 12m long x 1m wide laid in a longitudinal direction with WMI tracked big roll turf layers. Each roll was tightly abutted together and rolled and watered straight after installation before being handed back in sections to Faith and his team for ongoing maintenance.

As with any major projects, there are always challenges that present themselves and this one, earthquakes aside, was no different. The turf harvest process was a bit of a challenge due to conditions and the removal of the geotextile backing on the Eclipse due to the aggressive root development in the product.

In the stadium itself, one of the biggest challenges was dealing with Wellington's strong winds. With winds reaching gale force at times, it meant that keeping the sand profile wet and consolidated was difficult. The winds would shift the sand around the ground to the point where HGST had to laser grade ahead of each full run of turf to ensure level tolerances were met.

HIGH PERFORMANCE

With the resurfacing completed in the days leading up to Christmas, it was then up to Faith and his team to prepare the surface for its first outing on New Year's Day – an A-League clash between the Phoenix and Adelaide United. Since then it has

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Around 240 tonnes of locally sourced sand was brought in to get the design levels required before more than 15,000m² of Eclipse Stabilised Turf was laid over a six day period



The resurfacing project was completed a day ahead of schedule on 21 December 2016

The new Westpac Stadium surface is a blend of Centurion and Colosseum ryegrasses



The biggest test so far was the Wellington leg of the HSBC Rugby Sevens World Series on 28-29 January. We hosted 45 matches on the field of play and 90 team warm-ups split across four designated zones over the two days. The damage sustained across the whole of the surface was minimal and only a quarter of what we experienced during the 2016 event.

"The feedback to date has been fantastic from players, coaches and controlling authorities on how the new surface has been presented and most importantly performed. The summer weather here hasn't been the best during a couple of the events, but the surface wasn't affected as a result and the Eclipse system has performed exactly as expected.

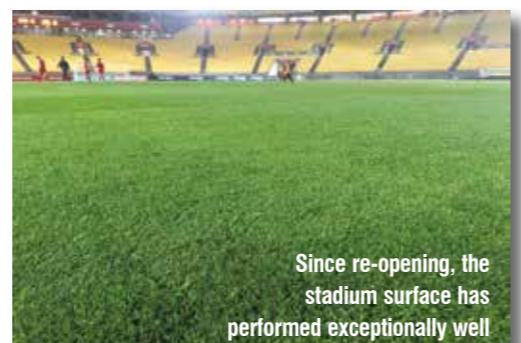
"We haven't had to make too many changes to our cultural practices, however with a cleaner, more free-draining sand profile and turf surface we will be closely monitoring and assessing moisture content and leaf tissue and soil sample results to ensure we maintain a pristine surface and keep everything in balance.

"One of the reasons why we went with the Eclipse system was to meet the multi-functional needs of the stadium going forward. Not long after the Sevens we hosted a Guns 'N' Roses concert and coming up we have a packed schedule of Super Rugby, ODI cricket and A-League soccer matches. In July we will also host an All Blacks Test against the touring British Lions as well as a quarter final of the 2017 Rugby League World Cup in mid-November."

HEADING WEST

With the dust hardly settled on the Westpac Stadium project, HGST quickly shifted its attention back across the Tasman and the resurfacing of AAMI Park in Melbourne which was happening as this edition of Australian Turfgrass Management was going to print in early February.

Following that HGST will head to WA for the construction and surfacing of the new 60,000-seat Perth Stadium, which will also use the Eclipse Stabilised Turf system. The Wintergreen couchgrass turf (which will eventually be oversown with ryegrass) is currently being grown at Greenacres Turf Farm in Serpentine, WA under the watchful eye of Adrian Pitsakis. In addition to that the company also has ongoing project work in Singapore, Japan and China.



Since re-opening, the stadium surface has performed exceptionally well

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