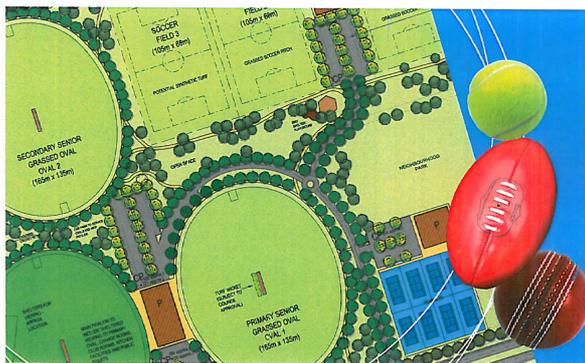




Institute of  
Public Works  
Engineering  
Australia  
Victoria Division

## Excellence Awards 2012



### Saltwater reserve

**Sports Facilities**

- 3 AFL football and cricket ovals, including Australia's first senior synthetic oval
- 8 Tennis Courts, 3 Soccer fields
- Passive recreational facilities, trails, work out stations, shelters and BBQ amenities

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***“Australia’s first AFL endorsed full size Synthetic Turf  
Football and Cricket Oval”***

## SALTWATER RESERVE, POINT COOK

### ***EXECUTIVE SUMMARY***

Saltwater Reserve provides Point Cook with a sporting facility that has been lacking in the area for many years. Saltwater Reserve will provide a facility catering for multi discipline sporting uses such as AFL football, cricket, soccer and tennis as well as passive area for dogs off lead.

The reserve's unique feature is the inclusion of a full size AFL endorsed synthetic turf oval. This submission will focus on this component of the reserve as an individual project within the larger scope of the whole reserve.

The planning, design and construction of the synthetic oval has been unique with many technical challenges and evolving product technical developments during construction. This oval will be able to provide three times the level of use compared to a conventional turf oval.

# SALTWATER RESERVE, POINT COOK

## PROJECT SUMMARY

Saltwater Reserve, located in Point Cook will be Wyndham’s largest sporting precinct.

This district level facility will provide a range of formal recreational spaces and when completed will feature:

- Three AFL football and cricket ovals, **including one full size synthetic oval**;
- Eight tennis courts, with the provision for future expansion to twelve courts;
- Three soccer fields;
- Passive recreational facilities such as shared trails including work out stations, neighbourhood park, shelters and BBQ amenities and a dog park;
- Precinct Sports Pavilions and car parking;
- Community Sports Pavilion

The total project construction is \$26.3m



## SALTWATER RESERVE, POINT COOK

### **PROJECT DESCRIPTION**

Wyndham is Victoria's fastest growing and Australia's fourth fastest municipality. The growth is approximately 7% pa (10,000 - 11,000 people) and is forecast to continue for the next twenty-five years. Point Cook is the fastest growing of Wyndham's three growth frontiers. The population is currently approximately 28,000 and is forecast to reach full development of 54,000 in 2035.

Point Cook will soon to be home to Wyndham's largest sporting precinct **Saltwater Reserve**. This major development will initially see football, soccer, cricket, and tennis played on the Reserve in addition to passive open space of which includes a neighbourhood park, rock climbing walls, Dog Park, two basketball half courts and proposed skate park.

The area comprises an expansive 22 hectares of land which will accommodate the multiple sporting fields, courts, and open recreation and passive space. This project presents some unique components, one of which being the **first full size synthetic turf AFL football oval in Australia**. Additional initiatives include WSUD, stormwater harvesting, use of recycled water and ESD lighting initiatives.

Saltwater Reserve is one of Wyndham's biggest ever sporting projects and works are in full swing with construction on the synthetic AFL and Cricket oval completed, civil infrastructure works well underway and the construction of three sporting pavilions is also well advanced.

This district level facility is and will provide a range of formal recreation spaces and when completed will feature:

- Three AFL football and cricket ovals, including one full size synthetic oval;
- Eight tennis courts, with the provision for future expansion;
- Three soccer fields;
- Passive recreational facilities such as shared trails including work out stations, neighbourhood park, shelters and BBQ amenities and a dog park;
- Precinct Sports Pavilions and car parking;
- Community Sports Pavilion.

The development will proceed in stages. It is anticipated that the civil works (including remaining natural turf football ovals and soccer fields) will be completed early 2012. The construction of the three Sports Pavilions commenced in late 2011 with completion by late 2012. Landscape construction works will also proceed in stages, commencing in April 2012 and will be completed in April 2013.

The total forecast cost of the development is in excess of \$26M.

## SYNTHETIC OVAL

|                                   |   |
|-----------------------------------|---|
| <b>Project Cost:</b>              | \$2.1M +GST (Design and construct contract)                           |
| <b>Contractor:</b>                | Team Sports   |
| <b>Project partners/sponsors:</b> | Sport & Recreation Victoria, AFL, Cricket Australia, Cricket Victoria |
| <b>Start date:</b>                | 20 December 2010  |
| <b>PC date:</b>                   | 22 August 2011  |
| <b>Official Opening:</b>          | 14 December 2011  |

The introduction of a synthetic oval came about from the need to meet community needs for a drought proof oval and excessive use of ovals throughout the municipality. The AFL was already conducting research into different surfaces for the purpose of Australian Rules football. After discussions with the AFL, it was identified that Saltwater Reserve would be a prime location for the first drought proof synthetic turf oval. This provided the environment for a partnership between Wyndham City Council, AFL, Cricket Australia, Cricket Victoria and the State Government who all made financial contributions to the project and a continued commitment to the project.

Wyndham City Council then embarked on a journey in the Design & Construction of Australia's first full senior size synthetic football/ cricket oval with a synthetic cricket wicket, to AFL / Cricket Australia performance criteria and standards.

- Synthetic Oval Forms part of a 22ha regional sports precinct including precinct Sports Pavilions (3 No.), multiple sporting fields (AFL/Cricket & Soccer), courts (Tennis & Basketball), open recreation and passive space including.
- The size of the oval to boundary lines: 165 m x 135 m, approx 18,300m<sup>2</sup> of synthetic turf area constructed. Meeting the required standard for a full size AFL football oval.



- Components used: Class 3 recycled concrete base layer, 20mm “Atlantis” flow cell, 25mm “Schmitz” shock pad, and a 36 mm “EnviroTurf II” (AFL/ Cricket Aust approved) synthetic grass pile with a round sand infill imported from the Middle East.



- Undertaking of all required testing to obtain AFL / Cricket Australia certification / accreditation.
- Contract works also included: underground perimeter stormwater drainage, a 1.1 m high chain mesh perimeter fence with access gates, a 2.5 m wide reinforced concrete perimeter footpath, the supply and installation of two coaches boxes, and the supply & installation of senior AFL goal posts.



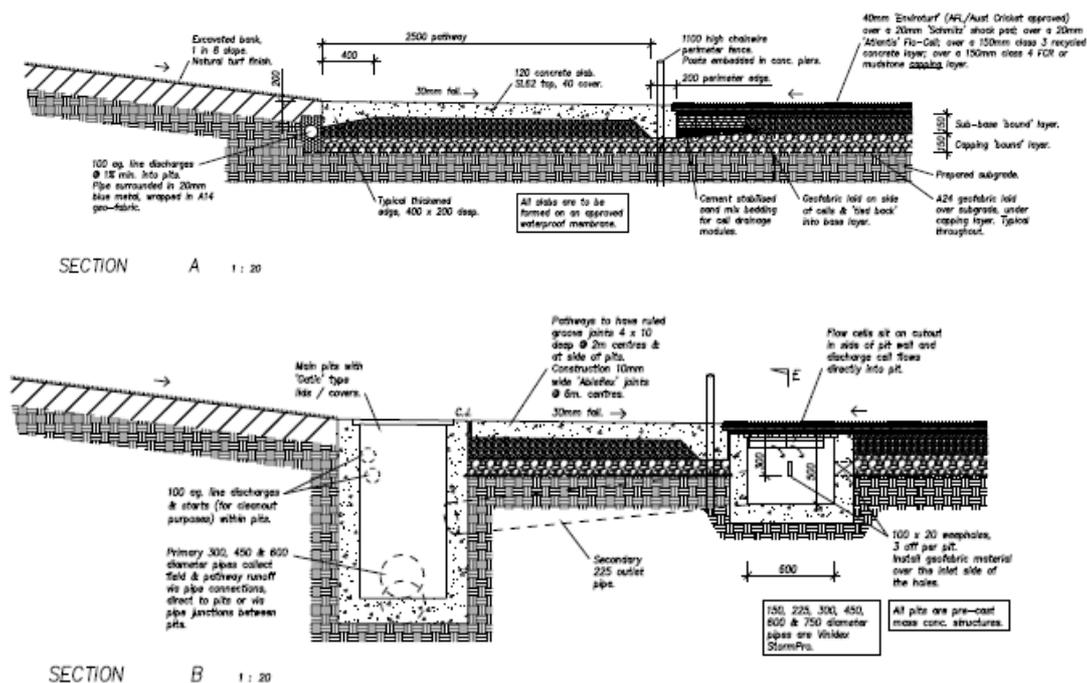
- The advantages of synthetic grass over a natural grass:
  - resilience to weather-drought tolerant & free draining,
  - consistency of the playing characteristics - no soft or hard spots; and
  - availability for intensive use - 3 times more than natural turf  
(Typically natural turf - 20hrs/wk, Synthetic Oval - 60 to 80hrs/wk).
- Additional capital costs over traditional irrigated turf oval – approx. \$350,000. A cost analysis study was carried out on the maintenance between a conventional turf surface versus a synthetic turf surface over a period of 10 years. Taking in all variables into account, the dollar savings in watering and mowing/turf maintenance exceeds \$300,000 over 10 years.
- Synthetic turf performance modelled on the MCG natural turf oval – roll, bounce, playability.
- Synthetic turf life expectancy 8-10 years.
- The end users of the oval: local sporting clubs, local residents and greater community, local and regional schools, regional and state sporting associations and leagues. Anticipated that a collective total of 7,500 visitations per week to the reserve – 1,000 visits pertaining to the Synthetic Oval alone.



## AN ENGINEERING SOLUTION

The design and construction of the synthetic oval presented new and innovative challenges which had not been experienced before, as the project was the first of its kind in terms of AFL football oval construction. There were set conditions imposed by the AFL in order to achieve certification for AFL level of play to be allowed on the oval. In particular to be able to achieve a surface that was acceptable in terms of its abrasiveness and spring. To achieve this, the following elements of construction were adopted:

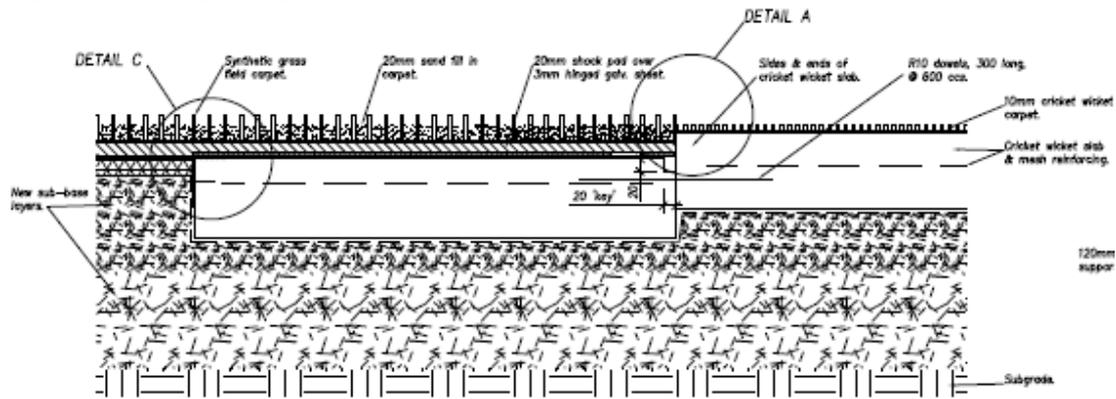
- 40mm 'Enviro turf' ( AFL & Cricket Australia approved)
- Sand infill
- 20mm 'Schimtz' shock pad
- 20mm 'Atlantis' flo-cell for drainage
- 150mm class 3 recycled concrete layer
- 150mm class 4 capping layer
- A24 geofabric layer
- Drainage pits for the 'Atlantis' flo-cells



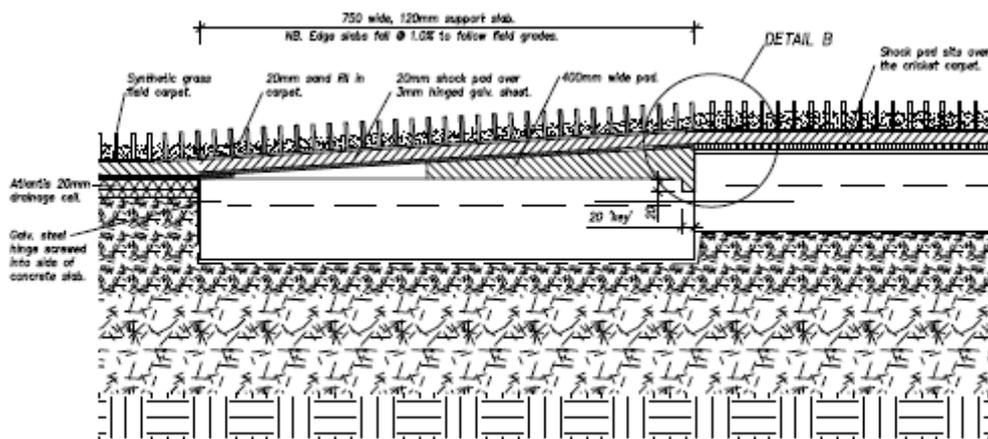
Although this is not the first 'synthetic' turf sporting facility eg soccer, hockey, the uniqueness associated with this oval was meeting the needs and requirements of AFL, in ensuring the safety of football players. Extensive research and testing was carried out on the following elements.

- Grass lengths
- Shock pads
- Suitable sand medium infill

The need to have flexibility in the change of sporting codes from football to cricket has been made easier by installing a synthetic wicket table that can be lifted in and out. This presented some construction challenges in meeting the different levels in the wicket table and oval.



CRICKET WICKET EDGE DETAIL DURING THE CRICKET SEASON 1:5



CRICKET WICKET EDGE DETAIL DURING THE FOOTBALL SEASON 1:5

### COMMUNITY INTEREST

Interest in this project has been extensive from a variety of groups during the design, construction and commissioning of the oval.

#### Local clubs:

Various local football & cricket clubs have shown keen interest in being associated with this facility. Extensive consultation was carried out with these clubs during the design phase to ensure they were fully across the benefits of a synthetic turf surface would provide.

#### Major Football and Cricket Association

##### (AFL, VFL, WRFL, Cricket Australia, Cricket Victoria):

The football and cricket association have shown very strong support for this project in committing not only financial contributions but to be involved in the future of the oval by using it as a training / clinic venue for the Western Bulldogs (AFL) and Werribee Tigers (VFL).

**Further Studies:**

Ballarat University will carry out continued research and monitoring the surface performance as to its abrasiveness, durability and stability. This will provide necessary data in any future developments, including the possibility of AFL football competition in the future being conducted on similar surfaces.

**Visitations:**

The synthetic oval has attracted visits from local Government representatives, and state and national sporting associations. The knowledge sharing of the use of the synthetic turf has sparked a keen interest for other organisations for future projects.



Wyndham City Mayor Cr Kim McAliney & Minister for Sports & Recreation Hugh Delahunty



Minister for Sports & Recreation Hugh Delahunty



AFL CEO – Andrew Demetriou



Western Bulldogs players at opening



Local school clinic with Western Bulldogs

## **PROJECT TEAM**

The project team consisted of Wyndham City Council's, Major Projects Department lead by Matthew Hill – Manager Major Projects, John Hajko – Senior Project Engineer (Project Manager) and Davis Langdon – External Project Management, in association with other members of Wyndham City Council's Major Projects and City Presentation Parks and Recreation Department.

The project could not have been possible without the partnership and financial assistance from the State Government (SRV), The AFL, Cricket Australia, Cricket Victoria and Team Sports.

The project has required a strong leadership role in the delivery of the synthetic oval which was provided by the strong commitment of the Major Projects team at Wyndham, in particular John Hajko. John's role with assistance from the Major Projects team included:

- The drafting of consultant briefs
- Coordinating the tender process
- Awarding and surveillance of contracts
- Authorities liaison for service provision
- Coordination of all partners associated with the project

The contract was a design and construct contract. There were some challenges during the phase of the contract including:

- Poor outfall drainage
- Difficulty in the installation of the synthetic wicket presenting issues in the changeover of seasons from football to cricket and vice versa

