

NOMINATION FORM

Prime Minister's Water Wise Award

About this form

Nominations close 5pm, AEST on 30 November 2009. Late or incomplete forms and supporting documents will not be accepted.

This nomination form must be read in conjunction with the Nomination Guidelines, September 2009 with particular reference to Part 6: Nomination Form Instructions. Guidelines can be downloaded from: www.awa.asn.au/awards

Enquiries regarding the Prime Minister's Water Wise Award should be directed to the secretariat:
Email: pmwateraward@awa.asn.au or phone (02) 9436 0055.

Information submitted in this nomination form may be disclosed to relevant Commonwealth, State/Territory and/or local government agencies, organisations and individuals (including those you identify in this nomination form) for the purpose of assessing the project.

PART A: NOMINEE DETAILS

1. Nominee's legal name

Rossdale Golf Club Limited

2. Postal address

Address Sixth Avenue

Suburb

ASPENDALE

State

VIC

Postcode

3195

3. Nominated contact

Title

Mr

First Name

Adrian

Surname

Booth

Position

General Manager

Phone

(03) 9580-1008

Mobile

0438-324-060

Fax

(03) 9580 9752

Email

gm@rossdalegolf.com.au

4. Australian Business Number

64 004 271 587

5. Organisation summary

Located in the south eastern Melbourne suburb of Aspendale, Rossdale Golf Club is a picturesque bayside golf course weaving through corridors of pines, eucalyptus and coastal banksias, blending in with the magnificent wetland that divides Aspendale and Aspendale Gardens.

Widely regarded as "Melbourne's friendliest golf club", Rossdale Golf Club Limited was established as a private golf club in 1949, but the course itself dates back to the 1920's. The Club has a proud tradition of offering first class golfing and hospitality services that remains value for money.

Rossdale Golf Club's Members have shown a fierce determination over the years to not only make certain the Club remains at its current location but also fulfil a commitment to the local community and ensure the survival of the wonderful flora and fauna that surrounds Aspendale.

PART B: PROJECT SUMMARY

6. Project title

Rossdale Golf Club's Storm Water Harvesting, Storage and Aquifer Project

7. Project description

The Board of Directors of the Rossdale Golf Club (the club) recognised that an environmentally sustainable infrastructure was required to ensure a quality course and club for many years to come. Five years of intense identification, monitoring and implementation has seen the club reduce its mains water usage by 56%, an approximate water saving of 35 million litres from financial year 2006-2007 to financial year 2008-2009 and in the process produce an internationally unique aquifer storage and recovery facility.

A water saving steering committee was formed who quickly identified that due to continually imposed water restrictions an alternative source of water to mains water was required to produce a course that was playable all year round. The Committee reviewed the club's water usage of previous years and discovered on average the course would require approximately 70 million litres of water per year.

The club entered into discussions with Southern Rural Water and obtained a permit to harvest water from a storm water barrel drain that ran adjacent to the rear of the course and out into Port Phillip Bay. The club then reconfigured its course and constructed a storage dam with a 13 million litre capacity.

It was at this time that the club was approached by CSIRO's Water for a Healthy Country Flagship Program and the Victorian Government Smart Water Fund Project with a view of creating an Aquifer Storage and Recovery (ASR) site which would not only help the club store water for dryer periods of the year but also become a demonstration site for other large water users.

When the ASR project commenced the construction of a second storage dam with 5 million litres capacity was initiated.

There were a number of difficulties with the ASR mainly due to the fact the anticipated aquifer indicated on region hydro geological maps was found to be missing when bores were sunk. The club and CSIRO decided to proceed regardless in an attempt to create an underground storage facility in the fractured siltstone approximately 120 metres below surface. Due to the low permeability rate, which according to the CSIRO is the lowest in the world, treatment of the captured storm water would need to take place before injection. A deal with Orica Australia was struck for the supply of a granular activated carbon filtration device that would treat the water prior to injection. After months of testing the ASR has now come online with clean water for irrigation available at the club's discretion.

The ASR at Rossdale Golf Club is a unique water storage facility and its success will help to expand the envelope of opportunities for storm water harvesting and storage elsewhere in Melbourne, nationally and internationally in low permeability terrain. This adds a new instrument to the toolkit for improved water management.

Recently Rossdale Golf Club completed construction on a third storage dam with 15 million litres capacity bringing the club's total storage capacity to approximately 43 million litres.

8. Project location

Suburb: State Postcode

9. Water savings

Quantity of savings: Units:

Since financial year 2006-2007, the mains water usage at Rossdale Golf Club has decreased from 62 ML per annum to 27 ML per annum. This represents an annual saving of 20.5 ML per annum for the past two years. The projected forecast is to reduce mains water usage by a further 7 ML annually by 2010-2011.

10. Other savings

Bird life on the course has increased by 50%, including species of birds that have not been seen in the area for over 15 years. We have also been able to plant over 400 new native trees to help offset the club's carbon footprint.

PART C: MEDIA

11. Media statement

Rossdale Golf Club in Aspendale is a picturesque bayside course weaving through corridors of pines, eucalyptus and coastal banksias that blend with the adjacent wetland.

The Directors and members of Rossdale recognised that an environmentally sustainable infrastructure was required to ensure a quality course and survival of flora and fauna for many years to come. Five years of identification, monitoring and implementation has reduced mains water usage by 56% saving 35 million litres and producing a unique aquifer storage and recovery facility.

After discussions with Southern Rural Water, permits were obtained to harvest water from a storm water barrel drain running adjacent to the rear of the course. The club reconfigured its course and constructed a storage dam with 13 million litre capacity.

CSIRO's Water for a Healthy Country Flagship Program and the Victorian Government Smart Water Fund Project approached the club with a view of creating an Aquifer Storage and Recovery (ASR) site which would not only help the club store water but also become a demonstration site for other large water users. At the same time construction of a second storage dam with 5 million litres capacity commenced.

ASR difficulties arose as the anticipated aquifer identified in region hydro geological maps was found to be missing when bores were sunk. The club and CSIRO decided to proceed regardless in an attempt to create an underground storage facility approximately 120 metres below. The low permeability rate, which according to the CSIRO is the lowest in the world, required treatment of the captured storm water before injection. Orica Australia supplied granular activated carbon filtration to treat the water prior to injection. After rigorous testing the ASR now provides clean water for irrigation purposes.

The ASR is a unique water storage facility that can be tried elsewhere in Melbourne, nationally and internationally in low permeability terrain.

Completion of the third storage dam now gives Rossdale total storage capacity of approximately 43 million litres.

Photo included (mandatory)

Consent to release form included (mandatory)

PART D: MERIT CRITERIA

12. Ability for the project to be replicated at other similar facilities

Rossdale Golf Club's undertaking of storm water harvesting and purpose built above ground storage dam's is nothing new, but is a key ingredient to the success of the entire water saving and storage project, including the club's unique Aquifer Storage and Recovery (ASR), which will potentially be the saviour of not only golf club's but similar business with large water requirements.

The ASR at Rossdale Golf Club is internationally unique due to the fact a traditional aquifer as such does not exist. The captured water sits in the siltstone 120 metres below the course. The ASR also has the lowest permeability of any ASR site in the world. The level of treatment required for stormwater injection is higher than anywhere else in the world. By addressing these problems the Rossdale Golf Club is not only has an operational ASR, but is a demonstration site for the CSIRO, Orica and the Victorian Government Smart Water Fund Project.

The success of the ASR at Rossdale Golf Club is proof that opportunities of captured storm water can be injected in the low permeability terrain anywhere in the world and adds another avenue of possibilities for Australia's ever growing concern over water conservation.

13. Use of innovative technologies or processes

The Rossdale Golf Club together with CSIRO, Victorian Government's Smart Water Fund Project, Orica Australia and Sinclair Knight Mertz, have pieced together various water saving instruments to create a complete water saving package, particularly in areas where land availability for storage dams is scarce.

Rossdale Golf Club's water conservation package includes storm water harvesting pits and pumps, three fully lined water storage dams with a capacity of 33 million litres, 77 thousand litre water storage tanks, an aquifer injection and recovery unit and the jewel in the crown that makes aquifer storage and recovery possible, a granular activated carbon filtration unit that treats the storm water prior to ASR injection.

Due to high turbidity from the captured storm water and low permeability rate, filtration, was required prior to injection. Orica Australia's granular activated carbon filtration unit has proven to be the perfect tool to reduce salinity and ensure the ASR does not become clogged.

The attached documentation (*GAC Testing Final Report*) explains the technical results from the granular activated carbon filtration.

Process of implementing water savings

Implementation Time Line:

Early 2007

- Construction of storm water harvesting pit and 13 million litre storage dam completed.
- CSIRO complete initial geological testing and bore drilling for aquifer storage and recovery (ASR) at Rossdale Golf Club.

Mid 2007

- Construction of the ASR Well completed.
- Construction commences on a second storage dam of 5 million litres.

Mains Water Usage 2006-2007 was 62,212,470 litres

End 2007

- Construction of second dam completed.
- Testing of ASR continues, well clogging due to high turbidity.

Early 2008

- Construction of a third storage dam of 15 million litre capacity commences.
- Toilets changed to dual flush.
- Low flow shower heads connected.
- Testing of ASR continues this time with mains water.

Mid 2008

- Construction of third dam completed.
- CSIRO identify filtration of storm water required prior to ASR injection.
- Orica water care supply granular activated carbon filtration unit which is connected.

Mains Water Usage 2007-2008 was 56,310,320 litres

End 2008

- Test of ASR with filtration unit commences
- Two x 11,000 litre tanks capturing rain water for the greens keepers shed installed, for use in machinery the wash down bay.

Early 2009

- Initial ASR injection tests of filtered storm water completed with positive results.

Mid 2009

- Installation of 5 x 11,000 litre tanks to capture rain water from the clubhouse roof.
- New water tanks hooked up to men's toilet urinals.
- ASR with filtered storm water fully functional and operational.

Mains Water Usage 2008-2009 was 27,241,000 litres

For the past three years Rossdale Golf Club and its Members have worked extremely hard to deliver excellence in water savings and in turn has become a community and business leader in implementation of new and exciting technological advancements that will help secure a reduction in water usage for all of us.

PART E: SUPPORTING INFORMATION

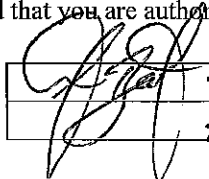
List and describe up to a further five attachments.

Attachment	Description	Included?
1. Image	Media requirement	✓
2. Consent to release	Consent to use image	✓
3. GAC Testing Final Report	Technical data and report as a result of testing storm water filtered through Granular Activated Carbon unit	✓
4. Water Usage Report	2005-2009 water usage comparison figures	✓
5. Rossdale Aquabiz	South-East Water Magazine extract	✓
6. Letter of Support for Rossdale Golf Club	Letter from Rob Blakeney, Key Customer Manager for South-East Water	✓
7. Captured Water Image	Photo of 2 dams on 17 th hole	✓

PART F: DECLARATION

By signing your name and dating, you declare that the information provided is accurate at time of submission and that you are authorised to represent the organisation in this nomination.

Signed:
Name:


ADRIAN BOOTH

Dated:
Position:

26/11/2009
GENERAL MANAGER



Australian Government

Department of the Environment, Water, Heritage and the Arts

Non-Exclusive Licence Agreement

This Agreement is made between the Commonwealth as represented by the Department of the Environment, Water, Heritage and the Arts (DEWHA) and:

Name: ROSSDALE GOLF CLUB LIMITED (in this Agreement called the 'owner')

Address: SIXTH AVENUE ASPENDALE Telephone: 03 9580 1008
VIC 3195

Facsimile: 03 9580 9752 Email: RGC@ROSSDALEGOLF.COM.AU

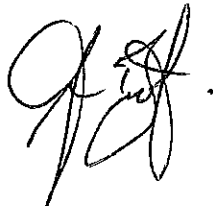
1. The owner grants to DEWHA a limited non-exclusive licence to use, reproduce, publish, communicate and distribute the photographs described in clause 3 on the department's website, and on a fact sheet and to promote these websites and publications.
2. The photographs which are the subject of this licence are as follows:
MEDIA IMAGE
CAPTURED WATER IMAGE
.....
.....
.....
.....
.....
3. The Department of the Department of the Environment, Water, Heritage and the Arts will not on-sell the photographs in clause 2, but will direct inquiries/negotiations to the owner.
4. The owner warrants that it owns the copyright in the photographs and that it is able to grant the licence set out in this Agreement.
5. The owner warrants that it is the author of the photographs or that the author of the photographs is:
MARK WILSON
.....
[state name of photographer].
6. The owner warrants that the author of the photographs consents to the following acts or omissions by DEWHA in relation to the photographs:
 - (a) use or reproduction of the photographs in conjunction with promotion of the Australian Government's *Water Efficiency Opportunities program*;
 - (b) resizing of the photographs in any manner deemed appropriate by DEWHA in its absolute discretion;
7. The photographs and the author of the photographs will be acknowledged in all publications and websites as specified in clause 5, and in media publications in the following manner: 'Photo: *[author]*'.
8. Clauses 4, 5 and 6 survive termination of this Agreement.

9. No variation of this Agreement is binding unless it is agreed in writing and signed by the parties
10. This Agreement shall be governed by the laws in force in the Australian Capital Territory and the parties submit to the non-exclusive jurisdiction of the Courts of that Territory.

The Agreement is made on:

26TH NOVEMBER 2009
[Specify Date]

Signed by or on behalf of the owner:



ADRIAN BOOTH GENERAL MANAGER

[Print name of owner or duly authorised signatory]

Signed for and on behalf of the Commonwealth
as represented by the Department of the Environment, Water, Heritage and the Arts

By:

[Print name and position of signatory]