

Community Committee for Recycled Water Storage (Northern Adelaide Irrigation Scheme)

Project Name	Northern Adelaide Irrigation Scheme					
Purpose	Community Committee for Recycled Water Storage					
Date	24/02/2016	Time	5pm – 7pm			
Meeting No.	6	Frequency	Fortnightly			
Facilitator	Matthew Bonnett, SA Water		Minute Taker	Chloe Ringwood, SA Water		
Venue	Virginia Horticultural Centre, Old Port Wakefield Road, Virginia					
Attendance	Michael Picard	P	Kieren Chappell	P	Mark Wilson	P
Ab = Absent	Louis Marafioti	P	Eddie Stubing	P	Evie Arharidis	Ab
Ap = Apologies	Danny De Ieso	Ap	Matthew Sheedy	P	Greg Pattinson	Ap
P = Present	Susie Green	Ab	Peter Rentoulis	P	Paul Cleghorn	Ab
	Nick Pezzaniti	Ap	Dino Musolino	Ap	Felicia Nguyen	Ap
	Ross Trimboli	Ap	Rocco Musolino	Ab	Nghien Nguyen	Ab
	Bryan Robertson (proxy for Dino Musolino)	P				

1 Welcome and Apologies

Matt welcomed all members.

The agenda for the meeting was outlined as follows:

1. Welcome and apologies
2. Minutes of previous meeting and review of actions
3. Aboveground Storage for Recycled Water - Guest Presenter: Tony Lennon, Senior Project manager, SA Water
4. Other business
5. Next meeting

The apologies were noted (as above).

2 Minutes of previous meeting and review of action items

The minutes of the previous meeting will be ratified at the next Committee Meeting on Wednesday 16 March.

Matt outlined the status of the previous action items. It was noted that Glenn Harrington will present further information on the T3 and T4 aquifer characteristics at the next meeting. Matt outlined the following meetings structure will be a workshop and encouraged full attendance for these.

Matt asked the group if they were still interested in a tour of the Australian Water Quality Centre laboratories in SA Water House. In response it was noted that a number of members raised interest and Chloe will follow up with further details.

3 Presentation: Aboveground Storage for Recycled Water

Matt introduced the guest speaker:

- **Tony Lennon, Senior Project Manager, SA Water**

The presentation slides are attached.

The questions received and responses provided during the presentation are summarised as follows:

A member asked about the depth of the lagoon at Aldinga (pictured on slide 2). In response, it was noted that it is 13 metres deep (5m is below ground level) and the walls are 18 metres from the track on the dam embankment to the adjacent public road. Further detail about the dam structure will be covered in the upcoming slides.

Further to this, a member asked what the total capacity of the abovementioned dam is and in response, it was noted that the dam at Aldinga has a capacity of 850ML. If aboveground storage is a preferred option, then the dams would be designed to hold 1GL capacity and therefore would need 12 of these in the area. A member added that if that were the case, the land alone would cost approximately \$40 million.

An additional question was asked about whether there needed to be a boundary buffer zone around the dam site and how wide that might need to be. It was noted that there aren't any requirements. The dam in Aldinga is about 18metres from the road.

A member asked if algae deoxygenate the water. In response it was noted that this would need to be checked and on further review concluded that yes, in bloom conditions the oxygen levels are depleted. It was noted that effects of algae on water quality also include making the water more alkaline, as experienced at the Aldinga recycled water scheme. At times the pH can become so alkaline that it cannot be used or needs correction due to the risk of damaging the treatment membranes.

A Committee member asked if the Aldinga dam is situated on a hill and if water gravitates to the farmers land below. In response, it was noted that Aldinga dam is located on flat land and there is a pump station that lifts the water from the dam and pumps it into the Willunga basin or to the re-use scheme. The water in the Aldinga dam is sourced from the Christies Beach Waste Water Treatment Plant (WWTP) and transferred to the Aldinga dam for. Christie's Beach treated water is preferred as it is better quality for irrigation (salinity and turbidity) and Aldinga WWTP doesn't produce enough treated water for agricultural demands.

A member sought clarification around how SA Water can already be storing treated wastewater aboveground when the purpose of the Committee is to have discussions about finding a suitable storage solution for treated wastewater. In response it was noted that the purpose of this Committee is to identify storage solutions in the Northern Adelaide Plains that are acceptable to the community. It was also noted that there aren't any regulations around the quality of water you can store if it's aboveground as long as the storage method doesn't leak.

A Committee member asked about the material used to make the black hexagon blocks raised in the presentation as a possible aboveground storage cover. In response, it was noted that there are different types of materials but this particular one is made of HDPE that is designed to float and be heavy enough to avoid being blown away. This model is also designed to lock together yet still able move in sync with water movement. The blocks are quite expensive but SA Water is looking at using these at the Bolivar/Trility WRSV changeover lagoon. SA Water would need approximately 700,000 of these to cover the lagoon which is approximately 185m long, 80 meters wide at the pump end and approximately 53 metres wide at the narrow end.

A member asked what the lifespan of the hexagon blocks are. In response, it was noted that they are under warranty for 15 years, so they may have a lifespan of 20 to 30 years. It was added that the membrane covers are designed to last for 25 years. A member added that while this investment is worth a lot of money, in terms of the end user it would be money well spent as the algae growth at the Bolivar/Trility lagoon has become much worse over the past few years.

The Committee was reminded that SA Water are doing everything they can to accommodate this request given that it's not included within this financial year's budget and there's complications with the issue as the lagoon belongs to Trility. SA Water has recognised the urgency of the issue is pushing for it to be address prior to 2018 when Trility hand the VPS back to SA Water. A member provided an example about the increased frequency of flushing their tanks due to the amount of sediment they were collecting caused by the current water.

The committee was reminded that if the project goes ahead and SA Water were to put the floating tiles on the Bolivar/Trility lagoon then it would need to be a during low irrigation period i.e. winter. This is because if the tiles starve the reeds from sunlight, they will die off and reduce the water quality temporarily. However, the reduced water quality is only likely to be temporary as there are significant volumes which pass through the lagoon during irrigation season and therefore would reduce the impact.

A member spoke of a suggestion that had been made by a member of the community similar to the floating tiles however using 20L drums. In response, it was noted that it followed the same principal however would need to examine the material and prior use of those drums closely, the risk of introducing a new water quality issue would most likely deter SA Water from using this approach. It was added that there are a number of different types of floating covers including spherical balls. SA Water is investigating the floating element cover as it will withstand the rock walls due to being a solid plastic material.

A member spoke of the first time they'd seen this type of cover used in lagoons was at the Heathrow stormwater lagoons next to the airport. Instead of using the hexagon type covers, thousands of spherical balls were used in order to deter the number of birds in the vicinity.

A committee member asked if the hexagon floating tiles help reduce waves. In response it was noted that they will reduce the wave action to a small degree and also reduce the evaporation losses.

A committee member asked if SA Water had researched methods that harvest solar energy while using the same principal such as floating solar panels. In response, it was noted that the local council use the floating solar panels in Jamestown, however these are located on the wastewater lagoon. The issue presenting here is that SA Water use UV treatment on the lagoons in Bolivar and having solar panels on them would impact on the treatment process.

A committee member asked why SA Water hasn't considered using the salt pans as a solution for aboveground storage. In response it was noted that the salt pans are only 1.5 meters deep, have high levels of residual salt in the clay liner and highly saline local groundwater. They are essentially designed for evaporation, which would pose further challenges if this option were pursued.

4 Other business

Matt asked the committee if there were any further questions, other business or topics SA Water may have missed during the previous meetings.

A Committee member asked if SA Water knew where the proponents of the EOI might install the pipeline. In response, it was noted that SA Water cannot disclose the EOI proponents proposals

however all proponents know that the outcomes from the Committee meetings will look to influence storage options and location.

A member spoke of some olive and grape growers in the Northern Adelaide Plains that choose not to connect to the water as it are too expensive for use. In response, it was noted that SA Water are aware of these issues and mindful of infrastructure costs that would ultimately impact on the price. All of these issues are being considered throughout the EOI process.

Further to this, a member raised the potential \$200 million funding from the Government to improve the quality of the water. Once the water quality is changed then it is likely to attract different end user of that product. The member added that a price structure may be needed so the end user is aware of these changes in order to provide them with these options. In response, it was noted that there are a number of key issues to be aware of. One of these is the Infrastructure Australia Priority List that's recently appeared in the media. With the recent addition of this project to their list. This has provided a degree of confidence that the project is stepping towards what will be a future Commonwealth funding application. The Premier announced Friday 19 February 2016, that this project has become his number two priority project across the State. With Commonwealth and State support, obtaining regional funding for the project will assist in keeping prices low to the end user.

A committee member sought clarification around the parameters of the water usage and whether it may end up further North there would be opportunity to use it on the land in-between. In response it was noted that, the EOI process outlines a preference to demonstrate how the water will be used to maximise economic benefit for the State. A committee member added that in 20 years' time, Australia may be exporting produce to entirely support neighbouring countries. Further to this, a committee member spoke of future farming and the diversification of crops may assist farmers competing in new markets.

A committee member asked if the funding will go towards improving the water quality or the infrastructure to deliver the water. In response, it was noted that these options were left open in the EOI process to encourage the proponents to provide ideas about water quality as well. Further to this, a member added that PIRSA were indicating that upgrading the plant would be preferred in order to improve the water quality.

The committee was reminded that the water quality is 'fit for purpose' and to a defined price with the purpose being unrestricted irrigation in accordance with the Dept. of Heath approval, acknowledging the salinity can be problematic for some crop types. Water quality requirements for the NAIS scheme may be different to the current standards for VPS depending on the ultimate purpose. SA water are allowing for that variability between different bids during the process. A committee member added that whilst the Minister for Water considers this water is 'fit for purpose', however the Minister is not being asked to mix this water with his own water supply.

The Committee was reminded again these are the reasons why SA Water is looking to fix the issue at the Bolivar/Trility changeover lagoon to enable future investment.

5 Next meeting

The next meeting is scheduled for 16/03/2016 from 5-7pm at the Virginia Horticultural Centre.

SA Water have arranged for Dr. Glenn Harrington to come back to present on the T3 and T4 aquifer characteristics for the first half of the meeting. The second half of the meeting will be designed as a workshop session to begin the process of bringing all the information that has been provided to the committee together in order to develop the Storage Plan for Recycled Water.

Open Action Items Register

No.	Action	By Whom	Date Raised	Status
1.	Arrange a visit to Bolivar Wastewater Treatment Plant and advise Committee members	SA Water	11/11/15	Complete
2.	Dr. Glenn Harrington to send information to the Committee about T3 and T4 aquifer and aquifers further north.	Dr. Glenn Harrington	10/02/16	Underway
3.	Consider how an independent hydrogeological assessment of the technical modelling of any future managed aquifer storage schemes established as part of NAIS (in line with established Master Plan) could be undertaken and made publicly available.	SA Water	13/01/16	Underway
4.	Arrange a visit to AWQC and advise Committee members	SA Water	9/12/15	Underway

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