



# FACT SHEET

## IMPROVING WATER QUALITY IN THE LAKE

### Freshwater Lake Pipe Construction Project

#### What is Freshwater Lake?

Freshwater Lake was constructed in the 1970s as a key water feature of the West Lakes Delfin Island Development. It was built to the standards of that era and requires a high level of ongoing maintenance due to its unique design, structure and age.

#### Why did we consult on the future of Freshwater Lake and what was decided?

With the Lake infrastructure ageing and the high level of ongoing maintenance needed, in December 2021 we began consulting with the community to investigate an option to best manage the Lake now and into the future.

It is recognised Freshwater Lake and Reserve are incredibly important to our community and these works will maintain the lake in its current form with improvements to enhance the lake performance and quality, operations and management.

Following the results of the consultation and a detailed engineering review, Council endorsed the decision to implement an off-line treatment (Option 2A), integrating the Waterproofing the West and the existing wetland system.

The general water process flow is as follows:

- Water is drawn from the aquifer at Corcoran bore and piped into Freshwater Lake Water (as is the current practice).
- The lake water then flows through the lakes and exits through the overflow channel and then flows through the existing Corcoran Reserve settling ponds which will be **re-engineered to enhance capacity and efficacy of water quality improvement**. (Note these ponds currently ephemerally hold water, and under this proposal will return to being permanent water bodies).
- Water is then pumped from the Corcoran Reserve settling ponds to the bioremediation wetlands in West Lakes Golf Course and Cooke Reserve where it is treated and pumped into the aquifer for re-use.

The Freshwater Lake pipe construction project will cost \$1m.

### **What is involved in the off-line treatment project works?**

A pipe will be constructed to run from Corcoran Reserve to West Lakes Golf Course and Cooke Reserve Wetland, with a pump station established at Corcoran Reserve below ground. The pipe works will take approximately 2 months, with works progressing in 100 to 200 metre sections at a time. Following the completion of the pipeline the pump station and landscaping elements will occur.

Local traffic management will be in place during the works.

### **What is 'off-line' treatment?**

Off-line water treatment involves circulating the water out of the lake into a bioretention system (also known as biofilters and biofiltration) and treated using plants and other biological processes (also known as bioremediation) external to the lake water body and the water is recirculated back into the lake.

### **How long will the project take?**

The project will begin in December 2023 and it is anticipated to be completed by March 2024.

### **Will the pipe and pump stations make much noise?**

No, the pump will be in a submerged pit and will not be audible.

### **In the meantime, what else are you doing to maintain the water quality in the Lake?**

The Lake's water fountain continues to aerate and cool the water over the summer period. Interim measures are being taken to manage the water quality of Freshwater Lake. We know that the water quality declines over summer, due to increasing heat which causes algae to rapidly grow and become more abundant.

We continue to test water quality monthly and are also examining the application of other measures, including carp control, to improve water quality.

### **Where can I see the history of the project and past consultations?**

You can find this information on [YourSay Charles Sturt](https://yoursaycharlessturt.com.au/freshwater-lake).

[yoursaycharlessturt.com.au/freshwater-lake](https://yoursaycharlessturt.com.au/freshwater-lake)

**Will there be any other changes to the appearance of the site?**

During construction you will notice fenced off or marked off areas, with a works site established at Corcoran Reserve. As each pipe stage is completed, our contractor will repair the site. Traffic management will also be in place at certain times.

**Will any trees be removed?**

Minimal damage will occur, with most of the works along the roadway.

**When will we start to see improvements?**

It is expected the water quality in Freshwater Lake will rapidly improve with additional flows. The rate of sediment trapping and bioremediation in the wetlands will be monitored once the integration of the lake and wetlands is complete.



*Map of proposed pipe construction, from Corcoran Reserve to the Cooke Reserve wetlands.*

For more information visit or contact:  
[charlessturt.sa.gov.au/freshwater-lake-pipe-project](http://charlessturt.sa.gov.au/freshwater-lake-pipe-project)  
8408 1111

