

SA Water owns and operates 17 large reservoirs in South Australia and is responsible for their maintenance and monitoring.

Progressive dam assessments and improvements are being carried out in a program designed to meet or exceed national and international guidelines for best practice management of dam structures.

Happy Valley is an important water supply for metropolitan Adelaide, providing water for the Happy Valley Water Filtration Plant that serves 40% of the metropolitan area.

Why does the dam need improving?

Although Happy Valley dam is safe, guidelines for best practice management of dams have been reviewed world-wide and consequently international design standards have been raised. The existing dam wall has been there since 1897 and has not suffered any serious structural problems in that time. The earthquake in 1954 did not have any impact on the wall.

The dam is constructed of earth with a clay core and is 25 metre high and 806 metres long, giving a useable capacity of 4,187 million litres.

Urban development upstream of the dam has resulted in increased stormwater run-off. The rehabilitation work will increase the flood storage capacity by 165%. The upgrade will also reduce the risk of failure from earthquake and leakage through the dam and foundations.

This will reduce the risk of failure of the Happy Valley dam to less than one in 100,000, in compliance with the Australian National Committee on Large Dams guidelines for dam management.

Rehabilitation of some major dams has already been completed by SA Water and others are planned for the near future.

What is involved?

Preliminary works

Major pipelines run along Chandler's Hill Road adjacent to the dam.

Many of these will need to be relocated to allow for the extension of the dam wall.

This work will be undertaken by United Water and is scheduled to commence in late September and should be completed within 8 to 10 weeks.

During this time, some residents south and west of the dam may, on occasion experience some discolouration of their water supply. United Water will notify customers in advance when this is likely to occur.

There will be some traffic disruption while this work is in progress.

Major works

The proposed works to increase dam safety and mitigate the impact of a major flood on downstream properties are scheduled to commence in January 2003 and will include:

- Raising the reservoir embankment by around 2.5 metres and lowering the maximum reservoir operating level by 0.65 metres to contain floods and improving the capacity of the bypass spillway.
- Placing a layer of stabilising fill with a built-in filter layer on the downstream face of the existing reservoir embankment to minimise the effect of dam leakage.
- The scour outlet at the base of the wall will be upgraded and a water calming structure will be constructed below the dam to prevent damage to the banks of the Field River.

Construction is expected to be complete in March 2004.

There will be no interruption to water supply while this work is carried out.

Will public safety precautions be in place during the construction phase?

To prevent any risk to public safety during construction, pumps will be installed to lower the water level in the foundations and in the embankment. Deep excavations will be kept away from the base of the embankment.

Any excavated surface will be monitored 24 hours a day and this will require the site to be lit at night during the deepest part of the excavation.

A siren warning system will be installed for operation during the construction period to warn of any unexpected risk to the public.

The warning system will be tested prior to commencement of construction and at intervals during the construction period. Local residents will be given an advanced notice of any system testing.

An emergency response plan will be agreed between the construction contractor and State Emergency Services to minimise risk and ensure public safety while the modifications to the dam are carried out.

This process was used successfully at the Hope Valley Reservoir last year.

What about the landscape?

The landscape along Chandler's Hill Road will change. The existing trees on the eastern side of the road, along with the overhead powerlines, will be removed.

New trees will be planted in the reserve area opposite the dam. The face of the dam wall will be grassed with native grasses to blend in with the existing landscape.

Chandler's Hill Road will be reconstructed along the existing alignment when the project is completed.

The original scour outlet valve is being refurbished.

Inside face of the reservoir showing the outlet tower and the original winery.

A depiction of how the dam wall will look once completed.

How will traffic be affected?

Every effort will be made to minimise any inconvenience to residents.

The foundations of the proposed dam wall modifications will extend under the existing Chandlers Hill Road, resulting in a very restricted work site.

In the interest of public and worker safety, traffic restrictions in the vicinity of the construction site will be necessary.

SA Water is in consultation with Transport SA and the Onkaparinga Council in the development of a traffic management plan.

Chandlers Hill Road will be closed from Serpentine Road to Bishops Hill Road and access from Candy Road will also be restricted. Diverted traffic is expected to use Kenihans Road and Happy Valley Drive. Buses will be redirected down Greenwillow Crescent and Tripoli Road.

Movement of heavy vehicles to and from the construction site will be considerable, but will be limited to 7am-6pm Monday to Saturday. No work will occur on Sundays and public holidays.

How will we keep you informed?

Consultation is underway with the City of Onkaparinga, Transport SA, State Emergency Services and other agencies to ensure public and worker safety and to minimise inconvenience to the community.

Clear signage will be erected to advise the public of the progress of the work.

Regular updates will be provided to the local Messenger and other media as required.

Appropriate road signage will be in place advising of traffic diversions and alternate routes.

If you have any queries, please call SA Water on 1300 650 950.

Happy Valley Reservoir Dam Wall Upgrade



- Alternate Route
- Buses and local traffic only
- Road closed to all traffic from January 2003 to March 2004
- Detours



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