

Hamilton Regional Livestock Exchange Roof Water Harvesting

Demonstrating the economic, social and environmental benefits of IWM
Hamilton, Southern Grampians Shire Council, Victoria



Southern Grampians
SHIRE COUNCIL

Key Messages

- Construction of the saleyards roof enabled economic, social and environmental benefits to be realised.
- Harvesting roof water could save up to \$60-70k per year in water bills whilst reducing dependency on potable water.
- Roofing the saleyards made conditions safer and more comfortable for workers, visitors and livestock.
- Capturing rain water provided a fit-for-purpose alternative to using bore water or potable water for truck washing.
- Substituting bore water with rain water made truck wash effluent suitable for irrigation due to the lower levels of salt.
- Roofing the saleyards reduced the quantity and improved the quality of stormwater runoff from the site.

Project Overview

The Hamilton Regional Livestock Exchange is one of Australia's busiest saleyards with approximately 1 million sheep and 50,000 cattle sold annually. It is also one of the few livestock exchanges in Victoria still owned and operated by Council. Water plays an important role in the functioning of the Exchange. Access to water is essential for animal welfare, cleaning sheep and cattle yards and washing trucks. Bore water was historically used for yard and truck washing until concerns were raised that the saline water was rusting the trucks. The exchange had no choice but to switch to town water for truck washing despite the prohibitive cost of \$60-\$70k per year.

In 2012, a Master Plan prepared for the Hamilton Regional Livestock Exchange identified significant opportunities to improve environmental, occupational health and safety, and animal welfare conditions at the exchange and recommended infrastructure upgrades.

In June 2015, the exchange commenced a \$6.5 million suite of upgrades to take place over three years. A new roof over the sheep saleyards was installed, driven by the need to improve conditions for workers, visitors and livestock and reduce pressure on the site's effluent treatment plant, which was at capacity. The opportunity to obtain an alternate water supply for truck washing through roof water harvesting was also considered from the planning stage.

Organisations & Delivery

The Hamilton Livestock Exchange is owned and operated by Southern Grampians Shire Council. The Council contributed \$4.5 million towards the Livestock Exchange upgrade and received an additional \$2 million support from the Federal Government's *National Stronger Regions Fund*.

Of the \$6.5 million dollar upgrade, \$2.6 million was spent on upgrades to the sheep saleyards, including the roof construction, new sheep pens, auctioneer walkways and improvements to the loading and unloading facilities.



Roof water harvesting provides a sustainable water supply for truck washing at the Hamilton Regional Livestock Exchange (Photo Credit: Central Steel Build <http://www.centralbuild.com.au>)

Outcomes

The Hamilton Regional Livestock Exchange facilities upgrade provided a range of economic, social and environmental benefits.

Economic benefits

Once the first two stages of the roof were completed, four 230kL tanks were installed and the truck wash switched from town to tank water. Tank water is used in the adjacent paddocks after it has been through the effluent plant. The 'user pays' truck wash now operates at a profit, which helps fund future infrastructure projects onsite, such as sealing gravel roads.

Improved conditions

Construction of the saleyards roof improved animal welfare and provided occupational health and safety benefits for staff and visitors. Economic benefits were also realised by providing shade for lambs, preventing sun exposure and improving meat yields.

Reduced stormwater runoff

Harvesting water from the saleyards roof significantly reduced stormwater runoff from the site, taking pressure off the effluent treatment plant and storage, which was at capacity. Stormwater runoff is diverted to adjacent paddocks when the sheep and cattle yards are clean (i.e. after being washed). Roof water harvesting also prevents sediment, nutrients and other stormwater pollutants from entering receiving waterways. Future planned infrastructure projects such as sealing gravel roads, will further improve the quality of stormwater runoff from the site.

Improved water supply, efficiency and reuse benefits

Capturing roof water provides a reliable and fit-for-purpose alternative to using bore or potable water for truck and yard washing. Using low salinity roof water for truck washing also creates reuse benefits since the wastewater is of suitable quality for irrigation. On site water efficiency was significantly improved through the construction of new concrete sheep pens which can be cleaned via mechanical sweeping rather than with bore water pumped at 1.5L/s through high pressure hoses. Roof water is also utilised in the cattle yard selling pen troughs.

"We estimate we will be able to run the truck wash for 10 months a year using tank water. It's saving us a lot of money"

Lessons Learnt

- Preparation of a master plan gave the Council sound recommendations to address the environmental, health and safety and operational concerns at the saleyards.
- Multifaceted benefits can be realised by thoroughly assessing challenges and opportunities prior to undertaking renewal projects.

More Information

For more information visit the resource library on the Clearwater website <https://www.clearwater.asn.au>

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Roofing the saleyards improved conditions for livestock, workers and visitors to the Exchange.