

## AWARD WINNING FISH-FRIENDLY SCREEN SOLUTION

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# GENERALLY SPEAKING

**AWMA is currently offering a range of employment opportunities with excellent career development.**

Last month, ASSDA presented us with a national design and manufacturing award. This award showcases the high quality of regional manufacturing and great relationships we have with both national and international clients.

AWMA has committed over 20 years to developing a solid and skilled workplace. It is empowering for the team to receive global recognition for innovative, industry-first solutions.

Our dynamic team drives solutions that deliver environmental sustainability, flood protection, energy efficient operations and water saving initiatives. Which in turn, continually improve operational performances for our clients and environmental outcomes for our future.

The ASSDA award featured the RDR Screening Project which was the result of six plus years of dedication and 6,300+ hours of in-house labour, to successfully deliver one of the world's largest irrigation intake systems for native fish protection.

This project is only one of many multi-stage, multi-million dollar, international projects AWMA has secured.

We are always looking for new team members, new partners, new allies. Should you be interested in contributing to a company that is making positive changes to the environment and is recognised for our high level of innovation and quality across the Australian and international water and manufacturing industries, then we'd love to hear from you!



**Brett Kelly**  
Managing Director

**awma**  
Water Control Solutions



**ASSDA**  
Australian Stainless Steel  
Development Assoc.

## AWARD WINNING FISH-FRIENDLY SCREEN SOLUTION

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### AWMA received the 'Fabricator Project of the Year 2022 – Process Industries Award' from the Australian Stainless Steel Development Association (ASSDA).

Thank you to AWMA Engineering Manager Lachlan Mathers (pictured) who attended the event in Brisbane, on behalf of the team.

AWMA partnered New Zealand's Rangitata Diversion Race Management Ltd to design and construct an environmentally sustainable water diversion and screening solution.

The Rangitata Diversion Race (RDR) extracts water from the New Zealand South Island's Rangitata River 365 days of the year. The 'race' is a 67km long channel which diverts water from the river for irrigation, stock water and hydropower generation.

AWMA commenced preliminary project support for this opportunity in October 2016, with commissioning of the site undertaken in June 2022. The project is expected to be completed in late 2022.

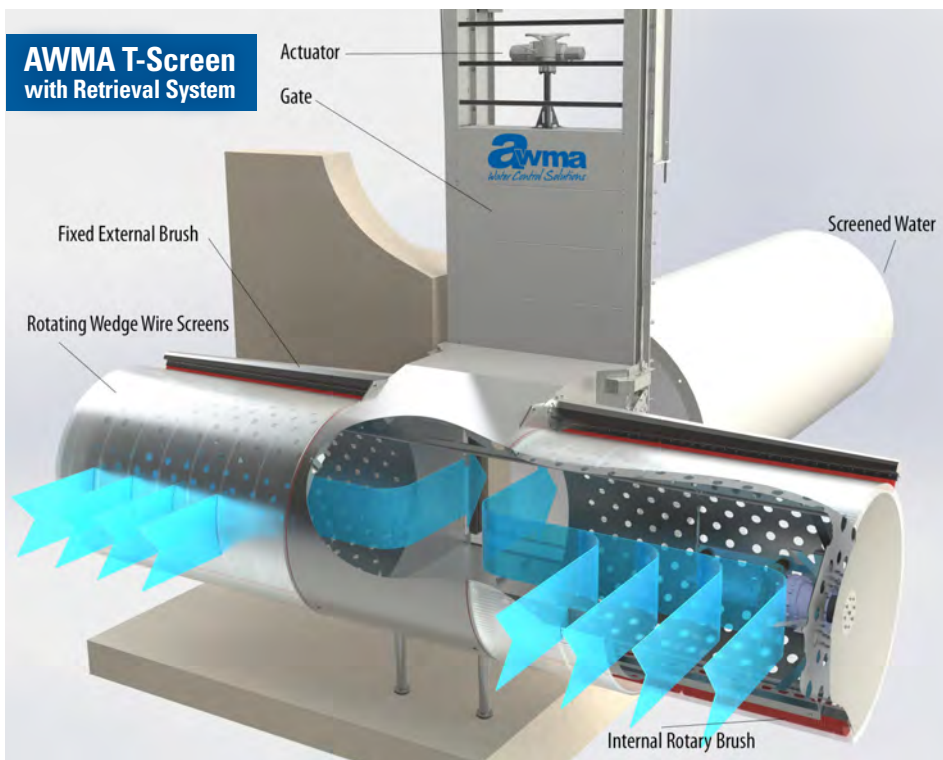
The environmentally sustainable solution designed for the RDR project features a stainless steel

screening structure that is self-cleaning, fish-friendly, has a low whole of life cost, is compliant with fish screening guidelines, requires minimal maintenance and meets all client requirements.

The seven cylindrical T-Screens each measure 2.1m in diameter, 8m in length and feature an 8.75m high retrieval system. A flat panel screen measuring 3.5m in height and 30m in length supplements the T-Screens to deliver a total screening area of 475m<sup>2</sup>. The screening solution, weighing in at over 100 tonne, delivers approximately 30 cumecs (2600ML/d) of water from the Rangitata River.

AWMA's fish protection screens utilise a well proven stainless steel wedge wire screen medium that protects fish and aquatic life, whilst delivering uninterrupted flows. The innovative self-cleaning mechanisms use internal and external brushes to clean the screen surfaces, ensuring they remain clear of debris, algae and weed.

Wedge wire is a product used globally with applications across water filtration, mineral processing, pulp and paper manufacturing, food processing, oil extraction, mining, architecture, and now, world-leading, environmentally sustainable water delivery systems.





# PENSTOCK FOR NZ PORT

New Zealand's Lyttelton  
Graving Dock and Pump  
House dates back to 1883.

AWMA was engaged by  
Lyttelton Port Company (LPC)  
to replace the original timber  
sluice gate.

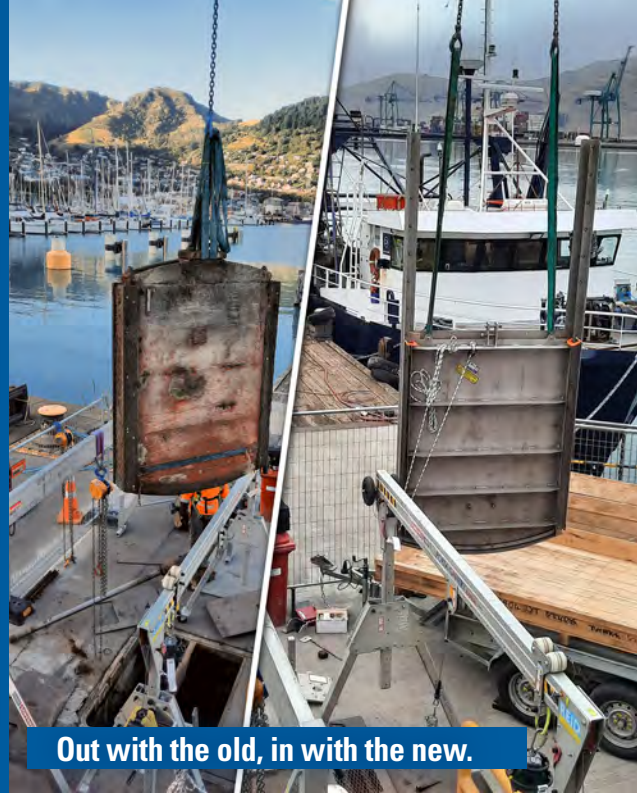
The original 'Sluice Gate' is a vertical timber gate that operates against a stone channel, using a manual rope and pulley system. The gate is required to flood the dock, allowing ships to enter and exit.

The proposed project solution had to address the poor state of the existing asset through installation of a new channel and gate. The new assets are required to have an expected life of 50+ years, as well as

minimal leakage rate. However, most significantly, the replacement gate needed to address the risk of critical failure and safety concerns. Manual handling risks are mitigated through the provision of new hydraulic controls.

AWMA supplied a custom designed Topsealing Penstock (TLF), for aperture size 1200mm x 1500mm, with a rounded base to match the profile of the sill. Manufactured from grade 2507 super duplex stainless steel, the new asset will achieve a minimum 50 year design life, even in the highly saline environment. Automated actuation via a hydraulic cylinder system ensures safe and efficient operation.

Upon commissioning, the dry dock operator noted they were **"very impressed with the low leakage rate of the newly installed gate,"** asset installers, HEB Construction, stated, **"the gate was easy to manoeuvre and dimensionally accurate... great to see awesome workmanship on your product."**



Out with the old, in with the new.

## COMMERCIAL FLOOD BARRIERS FOR KARINGAL HUB



Tilting Flood Barrier

AWMA was engaged to supply two Passive Tilting Flood Barriers to protect entrances at the Karingal Hub Shopping Centre from flooding.

The barriers are in the lowest level of a two-level basement car park, which is prone to water inundation. One barrier (2700mm wide x 500mm high) protects the lift entrance, whilst a second barrier (6340mm wide x 500mm high) protects the escalator lobby and travelers.

Situated in areas of high foot-traffic, the flood barriers were custom designed to include features such as self-deployment and non-slip surface coatings.

The passive tilting flood barriers are designed to activate when overland floodwaters enter the carpark, deploying the barrier to protect the commercial shopping centre from water ingress.

All AWMA's FloodFree barriers are tailor-made to suit site and operational requirements. Optional extras include alarm systems, colours and surface finishes. The most efficient flood barriers are permanently installed on-site. Custom designed options allow flood barriers to integrate seamlessly into surrounding infrastructure and aesthetics.



## SCREEN SUCCESS

The Cohuna Irrigation Diversion Screen Project has been operating now for over four years. During this time, the North Central Catchment Management Authority (NCCMA) have conducted several post installation tests.

The results have been consistent with project expectations, to successfully achieve:

- The required water supply
- Minimal power consumption
- Minimal head loss
- Low maintenance costs
- Successful fish and debris screening results
- Indications of recovering fish populations
- Reduced weed loads downstream

NSW Fisheries studies indicate for every megalitre of water extracted from natural waterways, 3.5 fish are lost. Assuming a similar fish loss in the Gunbower Creek, for Cohuna's Number 3 Offtake this would equate to an average 200ML/d extracted x 3.5 fish lost x 270 days in the irrigation season x 4 years = possibly 756,000 fish that have remained in the Gunbower Creek over the past 4 years, that had previously been lost to the irrigation diversion system. This is a substantial contribution toward the native breeding stock in the area.



## AIRPORT ISOLATION GATES

AWMA is currently working with multiple Australian airports, engaged by their contractors to upgrade on-site water management systems for environmental compliance.

Custom penstocks and flap gate valves have been supplied to assist airports with on-site fire suppression systems, spill containment, stormwater diversion and floodplain management plans.

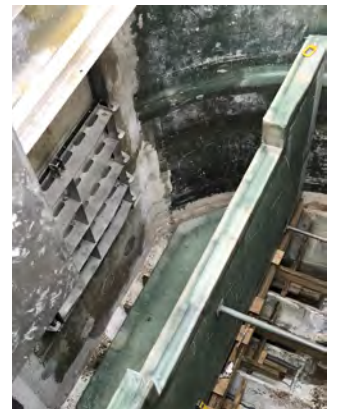
Tullamarine Plumbing and Drainage has engaged AWMA to supply penstocks for Melbourne Airport projects. The penstocks are used to isolate stormwater drainage outfalls during fire events for projects within dangerous goods areas.

AWMA has also supplied similar penstocks to Tullamarine Plumbing and Drainage for commercial sites needing to isolate stormwater drainage in case of fire and/or refrigeration coolant spillages.



# RECENT PROJECT GALLERY

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