

Pushing Fender Design Boundaries

Sealink Ferry Terminal, Cape Jervis, Australia



Application

Ferry & RoRo Terminals

Type

Pile Fenders

Date 2025

Reference 0723

A CLOSER LOOK AT THE CASE

For the SFT in-house engineering team, the upgrade of the Cape Jervis and Penneshaw ferry terminals was not just another order—it became **one of the most complex project** SFT has ever delivered.

Kangaroo Island is one of South Australia's tourism jewels, with the Cape Jervis–Penneshaw ferry being the island's only dependable connection and the **backbone of its economy**. Reliability of the berthing structures is therefore non-negotiable, even in harsh weather. Recognizing this, the Government of South Australia, through its Department for Infrastructure and Transport, launched a major project to upgrade the ferry connection, including the full new construction of the berths.

Project Scope

- ▶ 14 Pile Fender Systems with CSS Cell Fenders from CSS1000 to CSS1250 and panels from 2550 mm by 9090 mm up to 3100 mm by 10640 mm

CHALLENGE AND SOLUTION

The principle of pile fenders, ideal for ferry operators, may be simple and robust, but here the geometry set this project apart. The system's panels featured **reclining front faces and double chamfers at multiple angles**, making fabrication drawings extraordinarily intricate. Designing the complex closed-box shapes demanded **extensive 3D modeling and numerous iterations**. In this project, each fender required more than five times the usual number of steel plates, and the design phase consumed three to five times more engineering hours than a standard project—a **testament to the extraordinary challenge involved**.

Each pile fender was paired with a custom rear panel designed with pin connections for the main fender panels and bolted connections to meet the contractor's headstock plate, which served as the interface between site works and fender supply. Beyond their structural role, these rear panels offered a practical advantage: they **allowed the fenders to be pre-assembled in the dry**, before installation of the full system, streamlining work on site and avoiding diving operations.



Sealink Ferry Terminal | Cape Jervis | Australia

McMahon Services Australia was appointed as contractor, with engineering firm WGA leading the project design for the Employer. ShibataFenderTeam's role: to design and deliver suitably sized fender systems for both ferry terminals — in close cooperation with all parties involved to **ensure a successful installation and operation**.

This project is more than a milestone delivery, it is a great yet welcome challenge for the team and proof of what our engineering and fabrication is capable of. Explore more SFT Case Studies or Contact Your Nearest Office.

