

BOARDWALKS

ACCESS RAMPS

STAIRCASES

JETTIES

BALUSTRADE

WATERCRAFT ACCESS

BRIDGES

SHELTERS









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## The Treadwell Edge

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We believe that Fibre Reinforced Plastics (FRP) is the revolutionary construction material that has untapped potential to reach out into uncharted territories. Its exceptional benefits will provide higher returns not associated with homogenous products or metallic alternatives.

We keep abreast with industry improvements and continuously adapt to the ever-changing and demanding FRP industry. By offering optimal and affordable FRP solutions, we are dedicated to helping our clients avoid the challenges posed by the use of traditional alternatives.

### We pride ourselves on our 'Fit & Forget' FRP solutions.

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Treadwell has been applying excellent engineering strategies and design tactics since 1994 to extend both time and cost-efficient solutions to our clients across the globe. Our capabilities, resources and competence have grown over the years, enabling us to provide complete access (for example, boardwalks and jetties) and structural solutions that are increasingly being used in the recreational public infrastructure space.

We actively seek techniques that allow us to create quality FRP solutions, which in turn help save time and money, and remain innovators of FRP technology. We cultivate a strong culture of innovation and resourcefulness to allow us to implement the complete 'Fit & Forget' FRP solution.

## MAJOR TRADING PARTNERS



# Bespoke & Specialised Projects - Our Process Explained

## COMPLEX TURNKEY PROJECTS

Shipping is undertaken upon completion and our team follows through with you to ensure seamless delivery.

Treadwell receives an enquiry from you, our customer.

An initial consultation is arranged with our specialists to qualify your requirements and establish solution options.

A budget quotation is developed by Treadwell and presented.

Upon acceptance of our quotation, design and engineering commences and modelling and general assembly drawings developed.

Final detailing and production commence following sign-off or approval of submitted design.

**TREADWELL**<sup>TM</sup>  
COMPLETE "Fit & Forget" SOLUTIONS



# Why work with Treadwell's NatureTREAD™ team

## Suite of Standard Designs

We have standard designs that have proven effective in various applications. These can be easily adapted to suit your project requirements, making design a quick and easy process, and gets your project completed quicker.



## In-house Engineering Team

Whether you're looking to upgrade existing, or install new infrastructure, we can help support you with our design capabilities across all stages of your project lifecycle. Our qualified and experienced engineering team have provided turnkey as well as purely design-based projects. With a knowledgeable team, we are able to provide solutions to fit your requirements.



## Transport Capability

With our well-established partnerships with logistics partners across Oceania, complemented by our fleet of trucks and trailers in Australia, we are able to deliver your projects across the region efficiently and effectively, on time and in full.



## Fabrication Capability

Treadwell has a LEAN manufacturing facility, approximately 4000m<sup>2</sup> under one roof. Our automated CNC equipment, including state-of-the-art 90,000 PSI waterjet cutting system and beam line ensure minimal material wastage, and as such, eliminates excessive costs. Our internal design engineering department is able to provide design expertise and sign off engineering in all states of Australia (RPEQ and NT certified), and an on-site Quality Assurance team to perform the necessary checks

## Network of Approved Installation Contractors

Through years of experience, Treadwell has established a core group of reliable contractors that we can recommend for your projects, if you require.







## BOARDWALKS

Designed to your specifications and built to last. The flexibility of design capabilities means that our NatureTREAD™ boardwalks can be installed to suit all types of terrain conditions. Manufactured from FRP, these structures, whether installed in remote locations or public areas accessible to greater population, provide minimal environmental impact.

Boardwalks are designed and built to protect environmentally fragile or sensitive areas from damage. Commonly found over marshlands, wetlands, sand dunes, riverbanks and nature reserves, boardwalks provide access to users, minimising their impact on the natural environment.

Boardwalks built from traditional materials of timber and steel are prone to deterioration and corrosion. Fibreglass Reinforced Plastic offer a longer design life, minimising maintenance, repair and replacement costs.

Treadwell offers design, engineering and installation of FRP boardwalks. Standard designs are available and custom designs are easily arranged.











## ACCESS RAMPS

Where it is difficult to use steps or gently sloped walkways to navigate changes in level, ramps provide a better alternative for people using wheelchairs or other mobility aids, and strollers. Ramps are also ideal for users carrying heavy water sports equipment.



Access ramps have become increasingly popular among users, especially in beach areas as it enhances the beach-going experience for users with mobility challenges. These ramps provide and improve access to the beach and ocean.



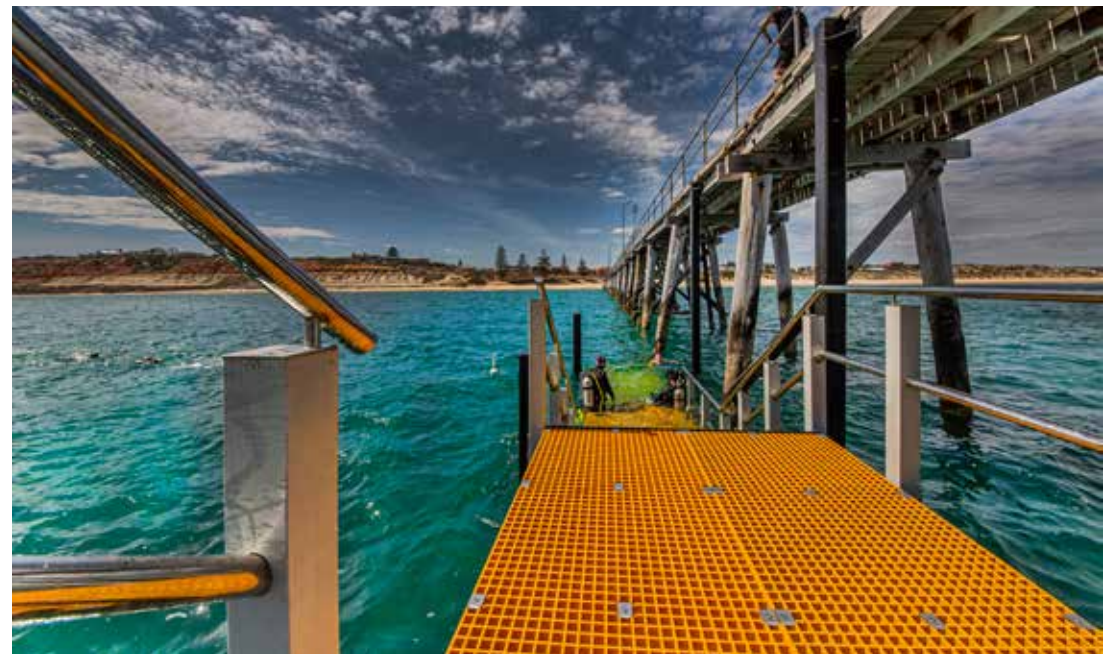






## STAIRCASES

The preferred choice over traditional materials like wood or metal, FRP staircases are constructed with a built-in anti-slip surface, and are able to withstand exposure to the corrosive coastal environment. With its lightweight characteristics, heavy machinery is not required for installation. This ensures the protection of the natural environment.



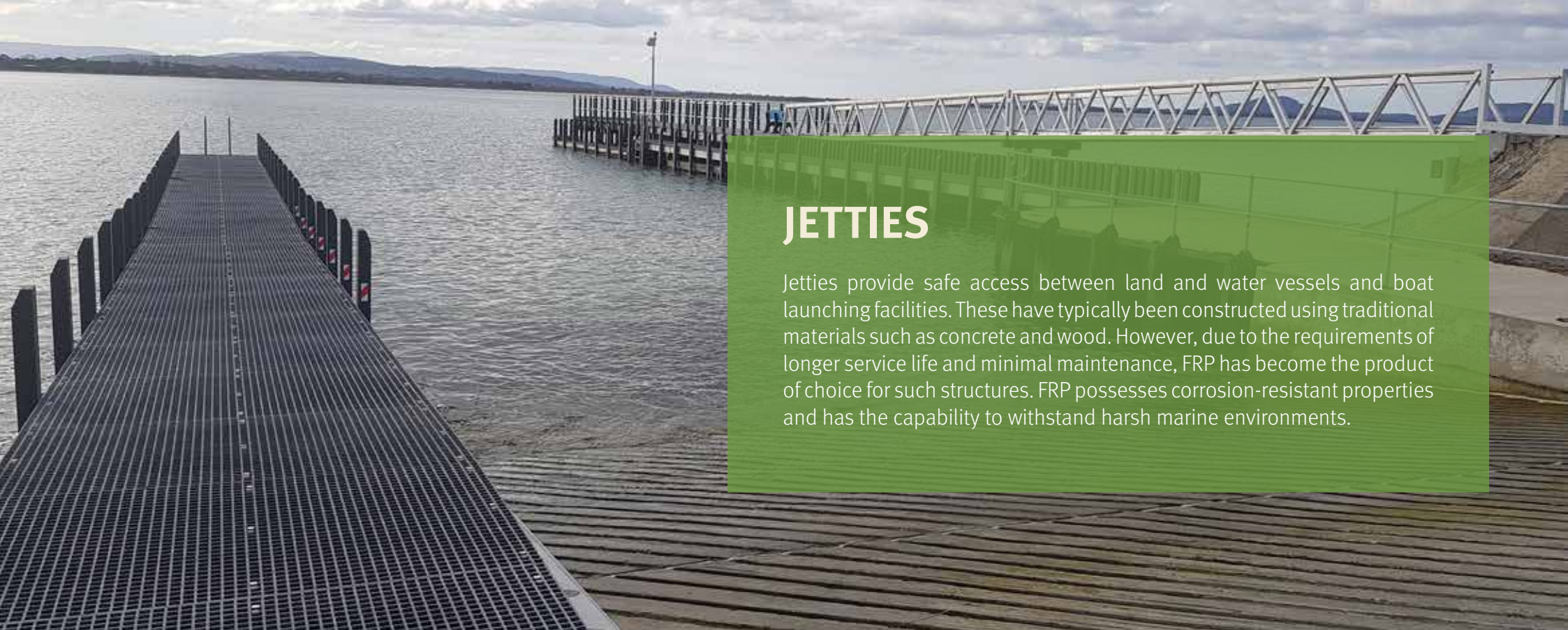
Treadwell's FRP decking, stair treads, structural profiles and balustrades work in cohesion to create a NatureTREAD™ solution of a durable and long-lasting staircase structure. Ideal for the outdoor environment, the aperture of the FRP decking and stair treads allow debris and water to fall through. This creates a self-maintaining anti-slip surface.

Constructed from premium resins systems, Treadwell's FRP staircases are suitable for exposure to the corrosive marine environment, as well as constant exposure to high UV experienced in Australia. Low thermal conductivity make it safe for users, and fire retardant additives ensure that these FRP materials are not self-propagating.









## JETTIES

Jetties provide safe access between land and water vessels and boat launching facilities. These have typically been constructed using traditional materials such as concrete and wood. However, due to the requirements of longer service life and minimal maintenance, FRP has become the product of choice for such structures. FRP possesses corrosion-resistant properties and has the capability to withstand harsh marine environments.



The NatureTREAD™ range of FRP has very low thermal conductivity ensuring that surfaces do not retain heat like traditional materials such as timber and concrete. This makes it a product of choice for such structures as it is suitable for bare feet.

As FRP is resistant to rot and rust, these structures provide a long service life with minimal maintenance.









## BALUSTRADE

The NatureTREAD™ balustrade systems consider the differing requirements within the Australian Standards. Mainly constructed using the ArchitEX™ range of structural profiles, these systems are complimented with balustrade infill systems, DDA compliant grab rails, bike safe rub rails and many more features.

Balustrade Handrails are used to ensure safety of the public as well as provide support. NatureTREAD™ balustrade systems are manufactured using the premium range of ArchitEX™ FRP structural profiles. These systems comprise of a range of materials including steel components like grab rails.

The NatureTREAD™ balustrades are designed and engineered to rigorous Australian Standards including AS1170, AS2156 as well as AS1428 and AS5100.

Available in both standard and customised shapes and designs, Treadwell's balustrade profiles have a unique surface finishing system ensuring UV stability in exposed applications, directly eliminating the need for costly surface treatment.











## WATERCRAFT ACCESS

NatureTREAD™ Watercraft Access structures are the ideal solution where tidal influences are extreme and traditional floating systems are not feasible.

These structures can be customised to suit the requirements and purpose of the infrastructure. The AS4586 compliant anti-slip surface can be engineered to meet the slip requirements without causing damage to water equipment being dragged along it.

Recreational water activities play a significant role in Australia life. Structures like those pictured here not only give people access to the water but also play a key part in environmental protection of dunes, mangroves and many other natural beauties.

These Watercraft Access Structures are combination of ArchitEX™ FRP structural profiles, GratEX® FRP grating and metallic bracketry and hardware. All structures are designed to the relevant Australian Standards.











## BRIDGES

The NatureTREAD™ range of bridges are manufactured to withstand the vast climate differences experienced in Australia. The combination of efficient supply costs, low installation costs, minimal maintenance, and long service life provide a competitive long-term solution.

Bridges constructed from traditional materials of timber and steel are increasingly being replaced by FRP bridges. FRP bridges are more cost-effective than their traditional counterparts as they require substantially lower maintenance and replacement. Being lightweight and easily pre-fabricated greatly reduces installation times and eliminates the need for heavy machinery. This further improves cost savings as labour time and equipment operational costs are greatly reduced.

Treadwell's FRP products are constructed with fire retardant additives, which mean that in the event of a fire, our products will not feed the flames. Our FRP is also corrosion resistant with UV inhibitors, making it ideal for the outdoor environment.











## SHELTERS

NatureTREAD™ shelters are the solution of choice when requiring shade and protection from the elements in marine environments. Being constructed from the ArchitEX™ range of structural profiles, these shelters are inert, corrosion resistant and UV stable. The lightweight properties allow for easy installation without the requirement for heavy machinery.

Treadwell's structural profiles provide the frame of the shelters built to shelter you from the sun, rain and wind. Structures installed in the marine environment need to withstand being blasted by sand, wind, and salt in addition to the usual outdoor elements. As a non-porous material, FRP do not run the risk of absorbing moisture and its related challenges. A prime example of our shelter structures in action can be seen on the beach jetties of Henley Beach and Semaphore in South Australia.

Our FRP products are lightweight enough to maintain the structural integrity of existing timber jetties, without adding excessive weight loading. Backed by our team of engineers, structures are designed according to the relevant standards and codes, while maintaining aesthetic appeal.









# CASE STUDY - BREWERS ROAD BOARDWALK



PROJECT INFORMATION	
Project Category:	Recreational Public Infrastructure
Scope of Work:	Design, RPEQ engineering and supply of FRP products
Treadwell Products:	NatureTREAD™ ArchitEX™ FRP Structural Profiles GratEX® FRP Mini Mesh Grating

Brewers Road Reserve walk, along Plane Creek in Sarina underwent a transformation to connect the parklands to Brewers Road. Designed to improve accessibility for residents, a boardwalk was installed to make it a bustling hub for recreation and fitness. To ensure that this the reserve was safe and able to accommodate all users, it was specified that it had to be wheelchair friendly.

## Treadwell Solution:



- 1 As part of the exclusive NatureTREAD™ range, high performance GratEX® FRP Mini-Mesh grating was specified as the decking solution, providing a much more sustainable solution over traditional materials.
- 2 Our ArchitEX™ beams provided the durable and strong components in the construction of the framework specified.
- 3 FRP is simply fabricated and modified on site. This means that there is no need for any hot works permit.
- 4 Being lightweight and easy to install, FRP is very manageable during construction.
- 5 Given the nature of FRP, any system utilizing it is virtually maintenance free, thus keeping maintenance costs as low as possible.



# CASE STUDY - HICKSON STREET BOARDWALK



## PROJECT INFORMATION

Project Category:	Recreational Public Infrastructure
Scope of Work:	Supply FRP products
Treadwell Products:	NatureTREAD™ ArchitEX™ FRP Structural Profiles GratEX® FRP Mini Mesh Grating

Part of the Glenrock State Conservation Area, Hickson Street leads to a lookout area allowing you expansive views of the beach. It is a common sight to catch hang gliders above, and go on the numerous biking and walking trails. As an area popular for outdoor activities, Treadwell was engaged by our client to design and supply a lightweight, non-slip and durable NatureTread™ Solution to provide safe access to the beach.

## Treadwell Solution:



1

Treadwell provided our FRP composite posts, bearer and joists, including GratEX® mini mesh grating for the main walkway as well as a complete FRP stair solution.

2

Due to the lightweight nature of FRP, the material was able to be heli-lifted to the site location, which was not accessible by vehicles.

3

FRP is simply fabricated and modified on site. This means there is no need for any hot works permit.

4

The project will provide safe, non-slip access for the public for years to come and require no maintenance or upkeep which can be costly with traditional materials.



# CASE STUDY - PHILLIP ISLAND BOARDWALK



PROJECT INFORMATION	
Project Category:	Recreational Public Infrastructure
Scope of Work:	Supply FRP products
Treadwell Products:	NatureTREAD™ ArchitEX™ FRP Structural Profiles GratEX® FRP Mini Mesh Grating

Phillip Island, Victoria – Well-known for its natural beauty and environmental values, it is also home to the largest Little Penguin colony in the world. In the 1920s, there were plans to begin to develop Phillip Island into a commercial area. By the 1980s, it was decided to return the area to its natural habitat. This included a series of projects geared towards conservation and protecting the wildlife habitat and change the way the community and visitors interacted with the landscape. An improved visitor centre, viewing platforms and boardwalks were part of these projects.

Treadwell was engaged to supply the FRP grating for a section of the boardwalk leading to the coastline.

## Treadwell Solution:



**1** Being lightweight, this FRP structure minimises the weight loading impact on its surroundings. Heavy machinery is not required, and any variance on task is easily managed with hand tools, eliminating the need for any hot works permit.

**2** Treadwell's FRP products are constructed from premium resin systems that include corrosion resistant properties and UV inhibitors, making it ideal for this outdoor application.

**3** The grit on the surface met anti-slip requirements, while the aperture in the grating allows for the natural habitat to thrive.

**4** GratEX® FRP grating is constructed as a large single piece panel, creating a seamless and uniform surface, without large gaps between panels.

**5** Given the nature of FRP, any system utilising it is virtually maintenance free, keeping maintenance costs to a minimum.



# CASE STUDY - PUCKEY'S ESTATE BOARDWALK



## PROJECT INFORMATION

Project Category:	Recreational Public Infrastructure
Scope of Work:	Supply FRP products
Treadwell Products:	NatureTREAD™ ArchitEX™ FRP Structural Profiles GratEX® FRP Mini Mesh Grating

Wollongong, New South Wales – Puckey's Estate Nature Reserve is a rare coastal habitat that includes rainforest, dunes and marshland. It's home to around 130 different types of birds, and several endangered plant communities. Puckey's Estate is also an important heritage site and was originally inhabited by local Aboriginal people, who are the Traditional Custodians of the Land.

Known for its walking tracks, the reserve is a favourite space for people exercising, bird watchers, community groups and schools. The existing timber boardwalks had deteriorated over time and needed to be upgraded to ensure safe community access to the popular walking track and coastal reserve.

Treadwell was engaged to supply the FRP grating, fixings and kick rail for this upgrade.

## Treadwell Solution:



1

Treadwell's unique surface finishing system ensures UV stability in exposed applications, directly eliminating the need for costly surface treatment.

2

Treadwell's FRP grating is corrosion resistant, and anti-slip without causing abrasions to skin.

3

FRP is simply fabricated and modified on site. This means there is no need for any hot works permit.

4

Being lightweight and easy to install, FRP is very manageable during construction.

5

Given the nature of FRP, any system utilising it is virtually maintenance free, keeping maintenance costs to a minimum.



# CASE STUDY - PURRY BURRY BOARDWALK



PROJECT INFORMATION	
Project Category:	Recreational Public Infrastructure
Scope of Work:	Supply FRP products
Treadwell Products:	NatureTREAD™ ArchitEX™ FRP Structural Profiles GratEX® FRP Mini Mesh Grating Associated fixings and hardware

Purry Burry, New South Wales – Under the care of the Wollongong City Council, Purry Burry is a spot frequented by locals and visitors alike. A popular spot for fishing, cycling and a variety of other nature activities, the city council decided that the existing timber boardwalk was in poor condition and needed to be replaced.

Treadwell was engaged to supply the FRP grating, support profiles as well as the ancillary items for the new boardwalk.

## Treadwell Solution:



- 1

As part of the Treadwell NatureTREAD™ range, ArchitEX™ FRP structural profiles were used to provide a long-lasting foundation, and GratEX® FRP Mini Mesh grating was used for the decking.
- 2

Treadwell FRP grating features a grit surface that offers excellent anti-slip properties.
- 3

GratEX® FRP Mini Mesh grating and ArchitEX™ FRP structural profiles are constructed from premium resin systems that include corrosion resistant properties, UV inhibitors and a fire-retardant formula, making it ideal for this outdoor application.
- 4

FRP is simply fabricated and modified on site. This means there is no need for any hot works permit.
- 5

Being lightweight and easy to install, FRP is very manageable during construction.
- 6

Given the nature of FRP, any system utilising it is virtually maintenance free, keeping maintenance costs to a minimum.



# CASE STUDY - TERRIGAL BOARDWALK



## PROJECT INFORMATION

Project Category:	Recreational Public Infrastructure
Scope of Work:	Supply FRP products and fastening system
Treadwell Products:	NatureTREAD™ ArchitEX™ FRP Structural Profiles MoultrEX® FRP Grating StormChief® Wave Action Fastening System

Terrigal Boardwalk & Rockpool, New South Wales – A new attraction, this upgrade is poised to deliver many social, health and economic benefits to the local community. The new boardwalk improves pedestrian access between Terrigal Beach promenade and The Haven, providing a safe and more accessible route. Designed to complement the natural environment, the boardwalk includes a viewing platform, integrated seating and smooth integration with the existing walkways on either end.

Treadwell was engaged to supply the FRP structural profiles and decking panels for this new boardwalk.

## Treadwell Solution:



**1** ArchitEX™ FRP Structural Profiles are created through a pultrusion process which contributes to bi-directional stability and longitudinal strength.

**2** MoultrEX® FRP grating boasts greater amount of glass fibres offering excellent load bearing and resilience characteristics.

**3** EX-Series® StormChief® system is the optimal maritime grating fixing system to handle wave zone loading and is easily installed from the top surface.

**4** Treadwell FRP products are constructed from premium quality resin systems that include corrosion resistant properties, UV inhibitors as well as fire retardant additives, making it ideal for this outdoor application

**5** Being lightweight, heavy machinery is not required for installation. The weight loading of the structure on the natural environment is also minimised.

**6** Given the nature of FRP, any system utilising it is virtually maintenance free, keeping maintenance costs to a minimum.



# CASE STUDY - JOHNSONS BEACH ACCESS



PROJECT INFORMATION	
Project Category:	Recreational Public Infrastructure
Scope of Work:	Supply FRP products
Treadwell Products:	NatureTREAD™ ArchitEX™ FRP Structural Profiles GratEX® FRP Mini Mesh Grating

Tasmania - The Johnsons Beach Reserve Master Plan was established to enhance the current site amenities. The vision was to provide a play space for children of the area to enjoy, and facilitate family and social recreation for the residents and visitors to the area. These are just some of the many points that were developed as part of a framework for comprehensive park development.

The council wanted to ensure that the existing vegetation was maintained and protected, and also highlight information to users on the native flora and fauna of the park. As part of these upgrades, a beach access ramp was installed. Treadwell was engaged to design and supply the FRP products for this structure.

## Treadwell Solution:



- 1

As part of the Treadwell NatureTREAD™ range, high performance ArchitEX™ FRP Structural Profiles and GratEX® FRP Mini Mesh grating were specified in building the structure as a preferred solution over traditional materials.
- 2

Treadwell's FRP products are constructed from premium resin systems, with UV inhibitors and fire retardant properties, making it ideal for this application.
- 3

GratEX® FRP Mini Mesh grating allows water and other tiny debris to fall through, creating a self-maintaining anti-slip surface.
- 4

FRP is simply fabricated and modified on site. This means there is no need for any hot works permit.
- 5

Being lightweight and easy to install, FRP is very manageable during construction.
- 6

Given the nature of FRP, any system utilising it is virtually maintenance free, keeping maintenance costs to a minimum.



# CASE STUDY - 80 MILE BEACH ACCESS



## PROJECT INFORMATION

Project Category:	Recreational Public Infrastructure
Scope of Work:	Supply FRP products
Treadwell Products:	NatureTREAD™ ArchitEX™ FRP Structural Profiles GratEX® FRP Mini Mesh Grating

Extending 220km, this is the longest uninterrupted beach in Western Australia. Boasting panoramic views and turquoise waters, endless stretches of white sand and seashells contrast with the rocky shores. This beach offers camping amenities and is an ideal stopover on drives between Port Hedland and Broome. Famous for fishing, visitors can experience the magnificent sunrises and sunsets. Thousands of migratory birds flock here on their annual migration, and it's also an important turtle nesting site.

As part of upgrades, a viewing platform and beach access stairs were installed on the beach. Treadwell was engaged to supply the grating for this project.

## Treadwell Solution:



1

ArchitEX™ F-Profile toe boards were easily fastened in place along the edges to provide safety for wheelchair users.

2

The apertures in the GratEX® Mini Mesh eliminate the risk of stagnant debris.

3

Treadwell's FRP products are salt water resistant as well as corrosion resistant, that makes it an ideal product for this environment.

4

FRP is simply fabricated and modified on site. This means there is no need for any hot works permit.

5

Given the nature of FRP, any system utilising it is virtually maintenance free, keeping maintenance costs to a minimum.





# CASE STUDY - ALDINGA BEACH ACCESS



PROJECT INFORMATION	
Project Category:	Recreational Public Infrastructure
Scope of Work:	Design, engineer and supply of beach access staircase.
Treadwell Products:	NatureTREAD™ ArchitEX™ FRP Structural Profiles GratEX® FRP Mini Mesh Grating

The City of Onkaparinga recently upgraded the Thomas Street Reserve at Aldinga Beach. Aldinga Beach is one of Adelaide’s most popular southern Beach locations. However, in view of allowing people to access the beach without disturbing the dunes and vegetation, it was necessary for a staircase to be installed.

Treadwell Group was engaged to assist in the design, engineering and supply of a Fiberglass Reinforced Plastic (FRP) staircase.

## Treadwell Solution:



- 1

As part of the exclusive NatureTREAD™ range, high performance GratEX® FRP grating was specified in building the structure and providing a sustainable solution over traditional materials.
- 2

To make the structure aesthetically appealing, the standard colours of the system can be made to match the design team’s requirements.
- 3

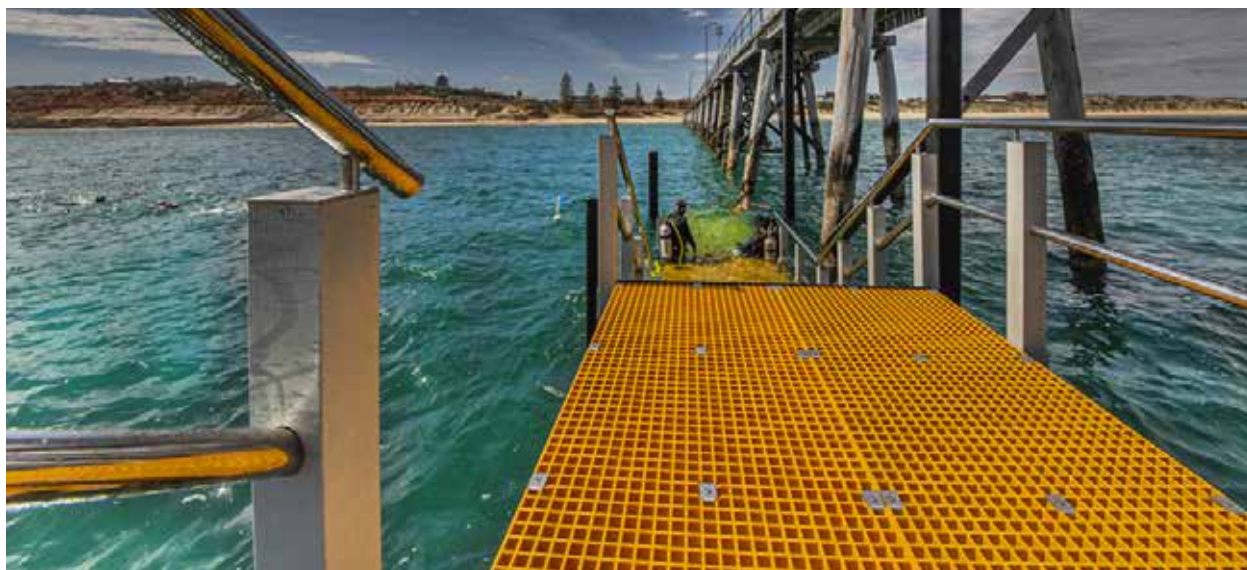
FRP is simply fabricated and modified on site. This means there is no need for any hot works permit.
- 4

Being lightweight and easy to install, FRP is very manageable during construction.
- 5

Give the nature of FRP, any system utilizing it is virtually maintenance free, thus keeping maintenance costs as low as possible.



# CASE STUDY - PORT NOARLUNGA JETTY DIVERS ACCESS STAIRCASE



## PROJECT INFORMATION

Project Category:	Recreational Public Infrastructure
Scope of Work:	Design, RPEQ engineering and supply of FRP products
Treadwell Products:	NatureTREAD™ NatureTREAD™ FRP Balustrade System StormChief® Wave Action Fastening System GratEX® FRP Square Mesh Stair Treads & Landings

Port Noarlunga is one of the most popular diving sites in South Australia. The jetty's diving access stairs had been destroyed in a storm event and needed to be replaced. Plans for the new staircase included designs that allowed ease of entry for divers, increased number of access points and platforms for walk on/off instead of ladders.

Installation needed to be done over consecutive days of good weather to ensure accuracy. The stair access would also provide safety for the public.

## Treadwell Solution:



1

As part of our NatureTREAD™ range, high performance GratEX® FRP Square Mesh landings and stair treads were specified in building the structure and providing a sustainable solution over traditional materials.

2

Our StormChief® system is the optimal maritime grating fixing system to handle wave zone loading and is easily installed from the top surface

3

Being lightweight and easy to install, FRP is very easy to manage during construction.

4

Given the nature of FRP, any system utilizing it is virtually maintenance free, thus keeping maintenance costs low.



# CASE STUDY - REMARKABLE CAVES VIEWING PLATFORM & STAIRCASE



## PROJECT INFORMATION

Project Category:	Recreational Public Infrastructure
Scope of Work:	Supply FRP products
Treadwell Products:	NatureTREAD™ ArchitEX™ Structural Profiles GratEX® FRP Square Mesh and Mini Mesh Grating & Stair Treads

Located along the southern coastline of Tasmania, Remarkable Cave offers a truly unforgettable experience. Once a deep and covered cave, the back of the cave has collapsed, with the debris long since washed out to sea.

As part of infrastructure upgrades, the existing viewing platforms and stair access were replaced. These improvements are part of the tourism plan to encourage visitors to extend their stay in the Tasman Peninsula to help sustain jobs in the tourism and service industries.

Treadwell was engaged to supply the various FRP structures for these upgrades.

## Treadwell Solution:



- 1 GratEX® FRP grating is built to withstand high weight and wave loading, compliant to the relevant standards and codes.

- 2 Treadwell's FRP products are constructed from premium resin systems with an anti-slip surface and corrosion resistant properties.

- 3 GratEX® FRP stair treads are moulded with solid edge nosing as a single component, ensuring durability and dependability in high traffic situations.

- 4 ArchitEX™ FRP Structural Profiles provided the durable and strong foundation of the structure.

- 5 A shelter was constructed using GratEX® FRP Square Mesh grating to prevent water and vegetation debris buildup, while allowing ventilation.



# CASE STUDY - SCHOOL ACCESS RAMP & STAIRCASE



## PROJECT INFORMATION

Project Category:	Access walkway & stairs
Scope of Work:	Design, RPEQ engineering, fabricate and supply access ramps and staircase
Treadwell Products:	NatureTREAD™ Gladesville Series Handrail / Balustrade ArchitEX™ FRP Structural Profiles GratEX® FRP Micro Mesh Grating

With a proud reputation of being one of Australia's leading independent Catholic schools, this boys' school in New South Wales was founded in 1881. Growing from strength to strength, this boarding school has achieved excellence in academia with a strong sporting tradition.

As part of upgrading works within the sports precinct, a new access walkway and staircase needed to be installed. Treadwell was engaged to provide complete design and engineering assistance and full project supply.

## Treadwell Solution:



**1** Treadwell's GratEX® FRP Micro Mesh grating has tiny apertures allow water and other debris to fall through, ensuring a self-maintaining anti-slip surface.

**2** AS1428 compliant balustrade, stair nosings and tactile indicators were utilised to meet the school's safety requirements.

**3** Treadwell's unique surface finishing system ensures UV stability in exposed applications, directly eliminating the need for costly surface treatment.

**4** Treadwell has the expertise and capability to provide design, engineering, supply and installation solutions, and see your project from start to finish.

**5** Given the nature of FRP, any system utilising it is virtually maintenance free, keeping maintenance costs to a minimum.



# CASE STUDY - ECHO POINT JETTY



## PROJECT INFORMATION

Project Category:	Recreational Public Infrastructure
Scope of Work:	Design and supply of FRP products
Treadwell Products:	NatureTREAD™ ArchitEX™ FRP Structural Profiles GratEX® FRP Square Mesh Grating & Stair Treads

Echo Point Jetty, Tasmania – Located midway between Narcissus and Cynthia Bay at the southern end of Cradle Mountain – Lake St Clair National Park, Echo Point offers visitors a 11km lake-side walk through dense rainforest to Cynthia Bay. This walk offers a beautiful rainforest backdrop with a stunning view of Mount Ida on the eastern shore of the lake. Visitors also have the option of walking one way, and taking a ferry to return to the Visitor Centre.

In December last year, a contract to upgrade this jetty was awarded. Treadwell was involved in the design and supplied the FRP decking and structural profiles for the new jetty.

## Treadwell Solution:



1

Treadwell's GratEX® FRP grating is constructed with a heavy-duty grit, creating a sturdy anti-slip surface.

2

Treadwell's FRP products are constructed from premium resin systems that include corrosion resistant properties and UV inhibitors, ensuring durability and dependability in coastal conditions.

3

With the ability to be pre-fabricated, installation at the site is quick and easy.

4

Given the nature of FRP, any system utilising it is virtually maintenance free, keeping maintenance costs to a minimum.



# CASE STUDY - SPEERS POINT JETTY



## PROJECT INFORMATION

Project Category:	Recreational Public Infrastructure
Scope of Work:	Supply FRP products
Treadwell Products:	NatureTREAD™ ArchitEX™ FRP Structural Profiles MoultrEX® FRP Grating

Speers Point, New South Wales – The ageing jetty underwent an upgrade to a more usable one, which includes a lower-level landing to improve access for a wide variety of vessels across all tides. This was one of seven jetty and boat ramp upgrades in the Lake Macquarie electorate, supported in the past five years. An important recreation, sporting and cultural hub for Lake Macquarie and the region, this new jetty will provide safe access for the boating community in the years to come.

Treadwell was engaged to supply the FRP structural profiles as well as the grating for this upgrade.

## Treadwell Solution:



1

ArchitEX™ FRP structural profiles are created through a pultrusion process which contributes to bi-directional stability and longitudinal strength.

2

MoultrEX® FRP grating boasts greater amount of glass fibres offering excellent load bearing and resilience characteristics, while upholding the highest level of resistance to the elements and corrosion.

5

Given the nature of FRP, any system utilising it is virtually maintenance free, keeping maintenance costs to a minimum.

3

Treadwell's FRP products are constructed from premium resins systems which include corrosion resistant properties and UV protection.

4

Being lightweight and easy to install, FRP is very manageable during construction.



# CASE STUDY - DODGES FERRY BOAT RAMP JETTIES



## PROJECT INFORMATION

Project Category:	Recreational Public Infrastructure
Scope of Work:	Supply FRP products
Treadwell Products:	NatureTREAD™ ArchitEX™ FRP Structural Profiles GratEX® FRP Square & Mini Mesh Grating

A small township in South Eastern Tasmania, Dodge's Ferry was named after Ralph Dodge who ran a ferry service in the 1820s. It has long been a popular holiday area for Tasmanians with a focus on water activities. Dodge's Ferry boasts a collection of stunning beaches, safe swimming areas and easily accessed boating and fishing spots. With a steady influx of permanent residents, the area morphed from a holiday beach town to a residential town with established amenities.

As part of upgrading efforts, Treadwell was engaged to supply the FRP products for the jetties of a boat ramp on Tiger Head beach.

## Treadwell Solution:



1

As part of the Treadwell NatureTREAD™ range, high performance GratEX® FRP grating and ArchitEX™ structural profiles were specified in building the structure as a preferred solution over traditional materials.

2

Treadwell's FRP products are constructed from premium resin systems that include corrosion resistant properties and UV inhibitors, ensuring durability in coastal conditions.

3

GratEX® FRP panels offer anti-slip properties for enhanced safety for the user.

4

Being lightweight, this structure was easy to install, keeping within the specified timeframe.

5

Given the nature of FRP, any system utilising it is virtually maintenance free, keeping maintenance costs to a minimum.



# CASE STUDY - EMU BAY BOAT RAMP JETTIES



## PROJECT INFORMATION

Project Category:	Recreational Public Infrastructure
Scope of Work:	Jetty structure, grating, handrails and wave action fastening system.
Treadwell Products:	NatureTREAD™ ArchitEX™ FRP Structural Profiles EX-Series® StormChief® Wave Action Fastening System GratEX® FRP Mini Mesh Grating RailEX® ROUND FRP Handrails

Kangaroo Island boasts incredible scenery, which contributes to its significant tourism industry. With a long list of things to do, recreational boating is one of the key activities. After being in operation for over two decades, it was deemed that the Emu Bay boat ramp required an overhaul.

The new ramp was designed to include better ramp and roadway access, as well as two stepped jetties. These jetties required structural profiles, decking and handrails. Treadwell was engaged to provide the FRP solution in the construction of these jetties.

## Treadwell Solution:



1

As part of the Treadwell NatureTREAD™ range, high performance GratEX® FRP Mini Mesh grating and RailEX® round handrails were specified in building the structure as a preferred solution over traditional materials.

2

ArchitEX™ structural profiles provided the durable and strong foundation of the structure.

3

EX-Series® StormChief® system is the optimal maritime grating fixing system to handle wave zone loading and is easily installed from the top surface.

4

FRP is simply fabricated and modified on site. This means there is no need for any hot works permit.

5

Being lightweight and easy to install, FRP is very manageable during construction.

6

Given the nature of FRP, any system utilising it is virtually maintenance free, keeping maintenance costs to a minimum.



# CASE STUDY - SWANSEA JUBILEE BEACH BOAT RAMP JETTIES



## PROJECT INFORMATION

Project Category:	Recreational Public Infrastructure
Scope of Work:	Supply FRP products
Treadwell Products:	NatureTREAD™ ArchitEX™ FRP Structural Profiles ArchitEX™ WPC Fenders & Wave Attenuator System GratEX® FRP Square Mesh Grating & Stair Treads

Swansea, Tasmania – As part of the Lower East Coast Marine Infrastructure project, this boat ramp was redeveloped. Known for being a scenic coastal town and a prime fishing area, this project has improved safety and access to the water for fishers, and boosted recreational fishing and tourism in the area. With a double lane boat ramp, jetty extension and the installation of a breakwater wave attenuator screen, this project has been forecasted to provide economic growth in the area for many decades to come.

Treadwell was engaged to supply the FRP decking, stair treads, structural profiles fenders and wave attenuator screen for these new jetties.

## Treadwell Solution:



**1** As part of the Treadwell NatureTREAD™ range, high performance GratEX® FRP Square Mesh grating and ArchitEX™ FRP Structural Profiles were specified in building the structure as a preferred solution over traditional materials.

**2** Treadwell's FRP products are constructed from premium quality resin systems that include corrosion resistant properties and UV inhibitors, and maintain structural integrity even when exposed to extreme weather conditions.

**3** GratEX® FRP grating panels offer anti-slip properties for enhanced safety for the user.

**4** GratEX® FRP Stair Treads are moulded with the solid leading edge as a joint single component, increasing the rigor and sturdiness of the entire leading edge.

**5** ArchitEX™ WPC Fenders are manufactured to withstand the sudden impact loads of berthing vessels and also the harsh marine environment.

**6** Being lightweight and easy to install, FRP is very manageable during construction.



# CASE STUDY - STURT LINEAR PARK PEDESTRIAN BRIDGES



## PROJECT INFORMATION

Project Category:	Recreational Public Infrastructure
Scope of Work:	Supply FRP products for 3 pedestrian bridges
Treadwell Products:	NatureTREAD™ ArchitEX™ FRP Structural Profiles GratEX® FRP Mini Mesh Grating

Sturt River Linear Park in the Coromandel Valley, South Australia is part of a 30 year masterplan for recreational activity for Greater Adelaide. The third stage was recently completed, allowing for easy and safe commute for pedestrians, cyclists and equestrian use. The future stage of this masterplan will see a continuous trail link all the way to the Patawalonga Basin in Glenelg North. Bridges were constructed at river crossings to provide the community with the opportunity to enjoy the views of the wildlife and rock foundations along the river.

Treadwell was engaged to design, engineer and supply three bridges, complete with collapsible handrail system for major flood events. This also included an additional boardwalk to complement one of these bridges.

## Treadwell Solution:



1

Shear pin bolts were used on the handrail posts stanchions. This allowed the railings to be collapsible in the event of flooding, minimising flood damage.

2

GratEX® FRP Mini Mesh is constructed with an anti-slip surface, corrosion resistant properties and UV inhibitors. This allows for enhanced safety for the user, and assures structural integrity even in this exposed application.

3

This structure was constructed according to the relevant compliance codes for pedestrians and cyclists.

4

As FRP is easily modified on site without the need for any hot works permit, fire risk concerns are eliminated.

5

Given the nature of FRP, any system utilising it is virtually maintenance free, keeping maintenance costs to a minimum.



# CASE STUDY - BARMAH FOREST BRIDGE



PROJECT INFORMATION	
Project Category:	Recreational Public Infrastructure
Scope of Work:	Design, engineer and supply FRP products
Treadwell Products:	NatureTREAD™ ArchitEX™ FRP Structural Profiles GratEX® FRP Mini Mesh Grating

This forest in Victoria, together with an adjoining forest in New South Wales, form the largest River Red Gum forest in the world. This forest supports nearly 300 native species of birds, fishes, reptiles, frogs and other animals and over 500 species of native plant species, some of which are endangered or vulnerable. As part of efforts to minimise the damage caused by floods, traffic and wildlife, this leveling bridge was installed as part of a strategic plan.

Treadwell was engaged to provide design and engineering services, along with the supply of structural profiles and grating for a bridge that would help this effort.

## Treadwell Solution:



1

As part of the Treadwell NatureTREAD™ range, high performance GratEX® FRP Mini Mesh grating and ArchitEX™ Structural Profiles were specified in building the structure as a preferred solution over traditional materials.

2

Treadwell's FRP products are constructed with corrosion-resistant and fire-retardant characteristics, as well as UV stabilisers.

3

Lightweight and durable, Treadwell's FRP products are easy to install without the need for heavy machinery, and is very manageable during construction.

4

Treadwell's FRP products can be simply modified on site, without the need for any hot works permit. This makes any variance on task easily accommodated.

5

Given the nature of FRP, any system utilising it is virtually maintenance free, keeping maintenance costs to a minimum.



# CASE STUDY - HENLEY BEACH SHELTER AND BALUSTRADE



## PROJECT INFORMATION

Project Category:	Recreational Public Infrastructure
Scope of Work:	Designing and fabricating the shelter and balustrade
Treadwell Products:	NatureTREAD™ ArchitEX™ FRP Structural Profiles

One of the liveliest places in Adelaide, the Henley Beach area has over the last couple of years undergone major upgrades including the Henley Square. Long stretches of pristine sandy beach where the jetty sits, picturesque coastal walks, delightful dining and entertainment nearby, with magnificent sunsets draw locals and visitors to this beautiful beach.

Treadwell Group was engaged to assist with the supply of a fibreglass reinforced plastic (FRP) shelter and balustrading system for the construction of the entirely new jetty.

Treadwell assisted throughout the entire project which included design consultancy, material supply & fabrication services.

## Treadwell Solution:



1

As part of the exclusive NatureTREAD™ range, high performance ArchitEX™ FRP structural profiles were specified in building the structure and providing a more sustainable solution over traditional materials.

2

The fibreglass beams, columns and associated sections from the extensive ArchitEX™ range are produced from high quality FRP through a pultrusion process, which ensures satisfactory results even in challenging conditions.

3

FRP is simply fabricated and modified on site. This means there is no need for any hot works permit.

4

To make the structure aesthetically appealing, the standard colours of the system can be made to match the design team's requirements.

5

Being lightweight and easy to install, FRP is very manageable during construction.

6

Given the nature of FRP, any system utilising it is virtually maintenance free, thus keeping maintenance costs as low as possible.



# CASE STUDY - HENLEY BEACH JETTY DIVERS ACCESS STAIRCASE



## PROJECT INFORMATION

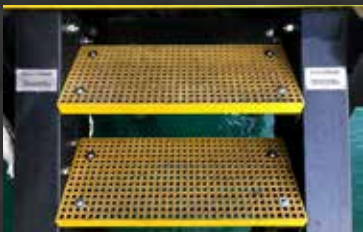
Project Category:	Recreational Public Infrastructure
Scope of Work:	Fabrication and installation of safe access staircase system
Treadwell Products:	NatureTREAD™ GratEX® FRP Mini Mesh Grating Associated fixings and hardware

Henley Beach has so much to offer visitors and locals alike. A long stretch of fine beaches draws swimmers, paddleboarders and walkers. The jetty is a pretty popular fishing spot too.

Treadwell Group was tasked to assist with the supplying a fibreglass reinforced plastic (FRP) staircase system and anti-slip grating solution for the new jetty being constructed.

The ideal staircase system has to be equipped to deal with the harsh environmental forces, withstand the corrosion and humidity as well as be easy to install while leaving minimal impact on the environment.

## Treadwell Solution:



1

As part of the exclusive NatureTREAD™ range, high performance GratEX® FRP grating was specified in lining the structure and providing a much more sustainable solution over traditional materials.

2

To make the structure aesthetically appealing, the standard colours of the system can be made to match the design team's requirements.

3

FRP is simply fabricated and modified on site. This means there is no need for any hot works permit.

4

Being lightweight and easy to install, FRP is very manageable during construction.

5

Given the nature of FRP, any system utilising it is virtually maintenance free, thus keeping maintenance costs as low as possible.















BOARDWALKS

ACCESS RAMPS

STAIRCASES

JETTIES

BALUSTRADE

WATERCRAFT ACCESS

BRIDGES

SHELTERS

## Australia

### SOUTH AUSTRALIA

► **ADELAIDE (HEAD OFFICE & WAREHOUSE)**

58 DEEDS ROAD  
NORTH PLYMPTON, SA 5037

► **STRATHALBYN (FACTORY & WAREHOUSE)**

22 DUNREATH ROAD  
STRATHALBYN, SA 5255

### VICTORIA

► **MELBOURNE (BRANCH OFFICE & WAREHOUSE)**

38-40 AYLESBURY DRIVE (1 CAILIN PL),  
ALTONA, VIC 3018

### NEW SOUTH WALES

► **SYDNEY (SERVICED OFFICE)**

SUITE 3, BUILDING 6, 49 FRENCHS FOREST ROAD EAST,  
FRENCHS FOREST NSW 2086

► **WAGGA (REGIONAL OFFICE)**

3 BALL PLACE  
EAST WAGGA WAGGA, NSW 2650

### NEW SOUTH WALES

► **SYDNEY (DISTRIBUTION CENTRE)**

2 COAL PIER ROAD  
BANKSMEADOW, NSW 2109

### QUEENSLAND

► **BRISBANE (BRANCH OFFICE & WAREHOUSE)**

UNIT 3, 6 GOODMAN PLACE  
MURRARIE, QLD 4172

### WESTERN AUSTRALIA

► **PERTH (BRANCH OFFICE & WAREHOUSE)**

UNIT 2, 4 ELMSFIELD ROAD  
MIDVALE, WA 6056

### TASMANIA

► **BURNIE (DISTRIBUTION CENTRE)**

8 RIVER ROAD  
WIVENHOE, TAS 7320

## New Zealand

### NORTH ISLAND

► **AUCKLAND (BRANCH OFFICE & WAREHOUSE)**

UNIT B, 110 CRYERS ROAD  
EAST TAMAKI, AUCKLAND 2013

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