

CASE STUDY

USING AUSTRALIAN HARDWOOD TIMBER

The use and specification of Australian Hardwood Timber in play and recreational environments for maximum longevity and minimum ongoing maintenance

THE IMPORTANCE OF TIMBER IN AUSTRALIAN PLAYGROUNDS



According to Planet Ark’s research, just a generation ago 75% of children played outside every day. Now, only one in three do.

From shrinking backyards to increased screen time and technology reliance, there has been a huge shift in how children play in just a single generation. We are now observing the devastating impacts nature deficit disorder is having on children’s health, such as the rise in obesity, attention and behavioural disorders and depression.

The provision of natural and nature-inspired play experiences are incredibly important for Australian kids, as just 30 minutes within a natural play environment can reverse these effects for our children.

Visually, hardwood timber play elements blend into the natural surroundings, creating a softer aesthetic presence that naturally ages and evolves over time. As a renewable resource, Australian Hardwood timber can be sourced locally, reducing the long-term environmental impacts of creating or upgrading a playspace.



Tactile Experience

The layering of multiple materials, colours and textures creates an extraordinary sensory and visual experience for all users.

Timeless Design

Over time, each timber element develops a unique patina through the use and touch of children as they play

Rustik Australian Hardwood Timber elements are incredibly durable when professionally prepared and protected and can also be sanded or re-finished if required. With a lower thermal conductivity than Steel, Aluminium or plastic surfaces, Australian Hardwood Timber surfaces can reduce the reliance on shade structures. In ground footings add optimal strength and long term resilience against flood and overland moisture ingress.

As a tactile structure, Australian Hardwood Timber play pieces offer different textures and surfaces for children to explore and engage with, activating their curiosity and imagination.



When fitted with nets and other activities, this unique style of playground equipment provides a variety of physical challenges such as climbing, balancing, and jumping, helping to develop gross and fine motor skills, alongside positive social interactions.

The provision of nature-inspired play experiences fosters a sense of environmental awareness and appreciation in children, encouraging them to become more conscious of their impact on the natural world.

THE BENEFITS OF NATURE PLAY

- ✓ Fosters more creative, imaginative play
- ✓ Helps build emotional resilience and reduces stress
- ✓ Improves physical health and overall coordination
- ✓ Develops cognitive, social and sensory skills
- ✓ Improves concentration and impulse control
- ✓ Builds creative problem-solving skills
- ✓ Establishes an appreciation for the natural environment





WHY RUSTIK?

SUSTAINABLY SOURCED

Timber for Rustik nature play elements and systems is sourced from the Pilliga region of NSW; sustainably grown and responsibly harvested Australian Ironbark (*Eucalyptus Sideroxylon*).

This region is renowned for growing dense, durable, and fine-grained timber, and because of the natural dry conditions the finished timbers have low moisture content, resulting in thin sap wood and minimal shrinkage when cut.

SELECTION PROCESS

Playscape Creations selects timber from wholesalers however specification is critical – we select from logs that would produce F23/F27 class timber if sawn, and all logs are classified as Class 1 Durable for inground use. The diameter of each log can be anywhere from 200mm to 400mm, with lengths from 2m to 10m, depending on the system's engineering requirements.

Our Australian hardwood timber logs are individually selected and purchased in bulk lots, allowed to cure in an open-air environment at Purga, SE QLD. As projects come to fruition logs are selected for the diameter, length and character suitable for each application.

SAPWOOD REMOVAL

Our unique sapwood removal process, while meticulous and laborious, exposes only the True Wood, or Heartwood of the log, and as such removes any future risk of splitting or peeling of the timber.

After the timber is stripped of sapwood, it is then ground, sanded, and profiled for a smooth and organic finish. Each post is precision drilled for net connections, with rebates formed for fixings. All points are then sanded again to a smooth finish.

Logs are painted with multiple coats of Timber Treatment; a protective and preservative coating that provides a 'furniture' quality finish. Any minor imperfections on the tops of posts are filled with Sika 11FC as a sealant, and then coated with Timber Treatment to maintain a natural effect and prevent any future moisture ingress.

Proven Timber Preparation

Sapwood removal is not a new process to ensure timber strength and longevity; ironbark stumps have formed the foundations for Queensland house construction for over 100 years, with the original sapwood removed with machetes and hours of intense labour.

The result was a foundation that tolerated pests, floods and cyclones, still standing strong 100+ years later.

We employ this same methodology in the preparation of our Rustik hardwood Australian timber products today, to ensure they're still standing for generations to come.



ENGINEERING

Each Rustik nature play system is individually engineered to the site and soil requirements of each project, with timber selection designed to provide maximum strength and durability.

Footings are then detailed and each system is supplied pre-drilled and orientated for efficient construction and installation.

FOOTINGS AND CONSTRUCTION

The Ironbark timber used in Rustik nature play elements is Class 1 Durable, suitable for in-ground use.

The section of timber designated as footing is sealed with a black bitumen paint to prevent moisture ingress, increasing the longevity of the timber. The top level of bitumen paint is also intended as a permanent softfall marker, giving maintenance teams a clear indication of organic softfall depth.

The use of in-ground footings adds both compressive and tensile strength to the system with a direct bury then concrete pier or concrete strip beam.

Rustik footings are designed to a total encapsulation of concrete, with concrete batter above ground level to prevent water pooling in instances of heavy rain or flood.



1 Timber Selection



2 Sapwood Removal



3 Timber Treatment and system setup



4 Bitumen paint application and softfall marker

CASE STUDY

Windsor Sports & Community Park

AT A GLANCE

The objective of the Windsor Sport and Community Park project is to activate one of Brisbane's valued open space assets, and to provide a 1.57ha green recreation haven for the precinct and the Brisbane community.

KEY STATISTICS

Windsor Sports and Community Park project was designed and delivered in collaboration between Playscape Creations, Naturform and Brisbane City Council, City Design Team.



WINDSOR, QLD
Project Location



\$1.25 M
Project Budget



12/2021
Project Delivered

CHALLENGES

The project site includes a flood prone former residential vacant land acquired by Council, presenting an ideal opportunity to demonstrate best-practice flood resilient park design.

The site features a mature Moreton Bay Fig Tree; well loved by the local community and paramount to the design of the park.

SOLUTIONS

Council engaged with various stakeholders, consultants and local residents to ensure the design of the playground was forward-thinking with planning objectives, remediation for restoration and flood resilience in mind.

The use of Australian Hardwood Timber equipment fulfilled the aesthetic desires of the community for a nature-based experience, along with positive sustainability outcomes.

OUTCOMES

1

LONG ASSET LIFE

Backed by a 15 year guarantee, the Australian Hardwood Timbers in this project can be sanded and refinished if required to keep the space looking brand new.

2

MINIMAL MAINTENANCE

Alongside standard visual inspections, the Australian Hardwood Timber equipment needs a simple 1-2 coat protection once a year, massively reducing maintenance costs.

3

MAXIMUM STRENGTH

In-ground footings add both compressive and tensile strength to the system with a direct bury then concrete pier or concrete strip beam.



IMAGE COURTESY OF MARK - @BB177VPIX INSTAGRAM



FLOOD MITIGATION DESIGN



After the Brisbane floods of 2022, the water level within the playground rose above the treehouse deck (more than 3m high), with the tops of the swings and some of the systems no longer visible above the flood waters.

When the water receded several days later, all footings were secure with no structural movement. The timber did not take on any additional moisture and the rubber softfall was intact.

The stainless-steel elements were surface rust and oxidation free and following a good wash down and debris removal, the play equipment is in fabulous working order. One year on, there have been no adverse reactions to the flood event.

WARRANTIES

We guarantee that the Australian hardwood timber used in Rustik Nature play elements have been manufactured within the guidelines of Timber Queensland - Technical Data Sheet 25; Specifically that the sapwood has been removed fully. This will be to the recommended H strength or above.

We guarantee that the timber species used in the construction of Rustik Nature play elements has been selected for maximum longevity and natural termite resistance. If additional protection from subterranean termite attack is deemed necessary, protection systems will be applied.

All Rustik equipment has been manufactured to conform in kind and in quality to AS4685:2021 and is free from defects in manufacturing and material.

PERFORMANCE GUARANTEES

Australian Hardwood Timber Class 1 Sustainably Derived	15 Years
Architectural 316 Stainless Steel	20 Years
Stainless Steel Structural Fasteners Fasteners and Arbor Ankers	10 Years
Stainless Steel Fasteners Fasteners and Chains	5 Years
Steel Cored Nylon Rope	12 months

MAINTENANCE

Although every precaution is taken in the preparation of the Rustik Australian hardwood timbers, it must be remembered that timber is a natural product, reactive to the climatic conditions to which it is exposed. To meet this demanding environment, it is imperative that timber is inspected regularly as part of your Safety Management System and obligations under the Australian Playground Standard AS4685 and maintained to ensure protective coatings are kept in premium condition.

The suggested maintenance schedule for Rustik timbers is regular cleaning – as you would with any playground asset – and then once a year, undertake a detailed inspection, cleaning and reapplication of the Timber Treatment coating.

The Timber Treatment is designed to be applied while the wood is still wet post-cleaning, with a wet edge maintained throughout the process. It is fast drying (1-2 hours at 25°C) and depending on the condition of the original coatings, may require just a single application.

We anticipate the inspection, sanding (if needed) and Timber Treatment application would take no more than 8 hours every 12 months, outside of normal playspace cleaning and inspections.

Rustik™

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