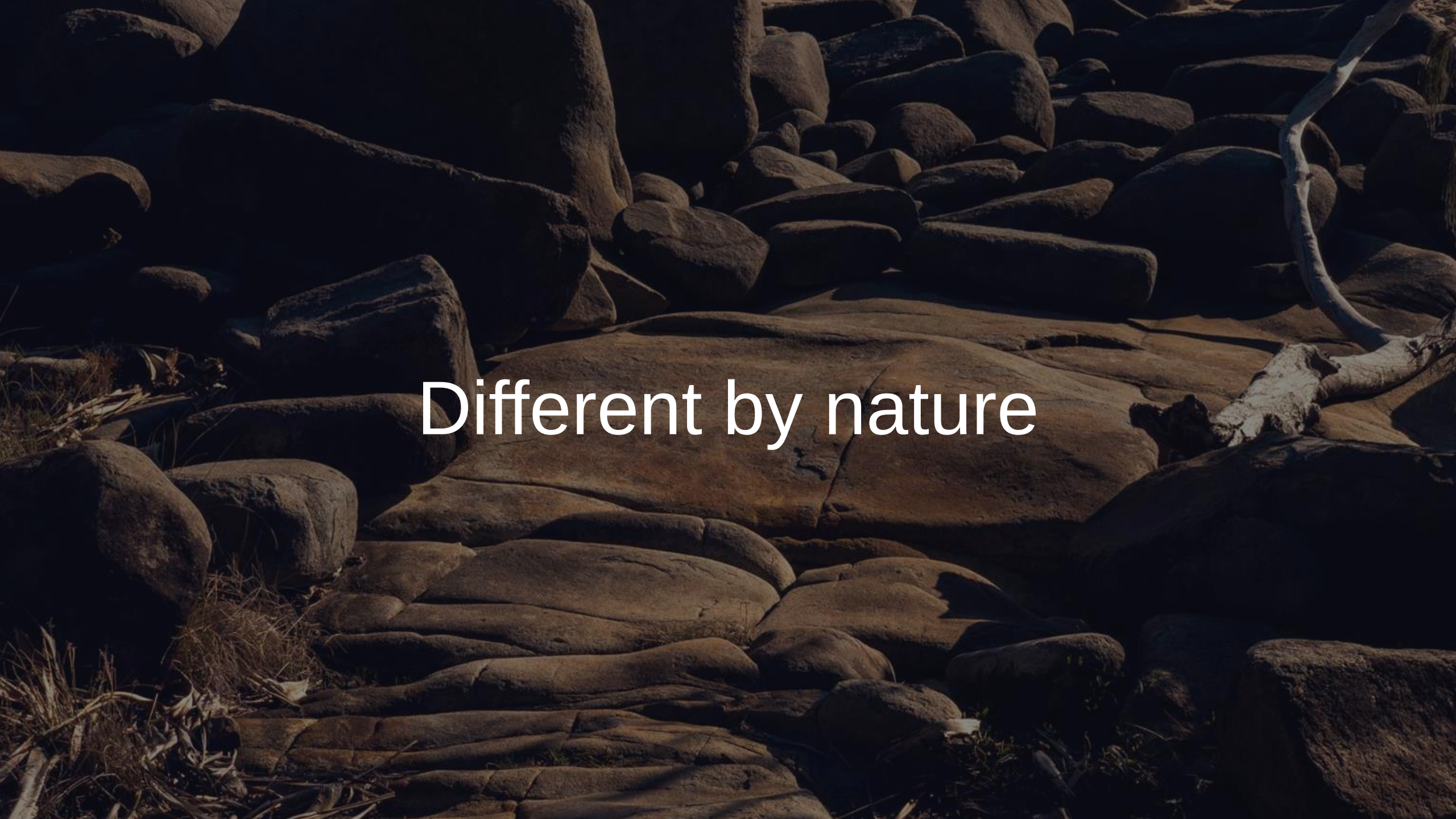
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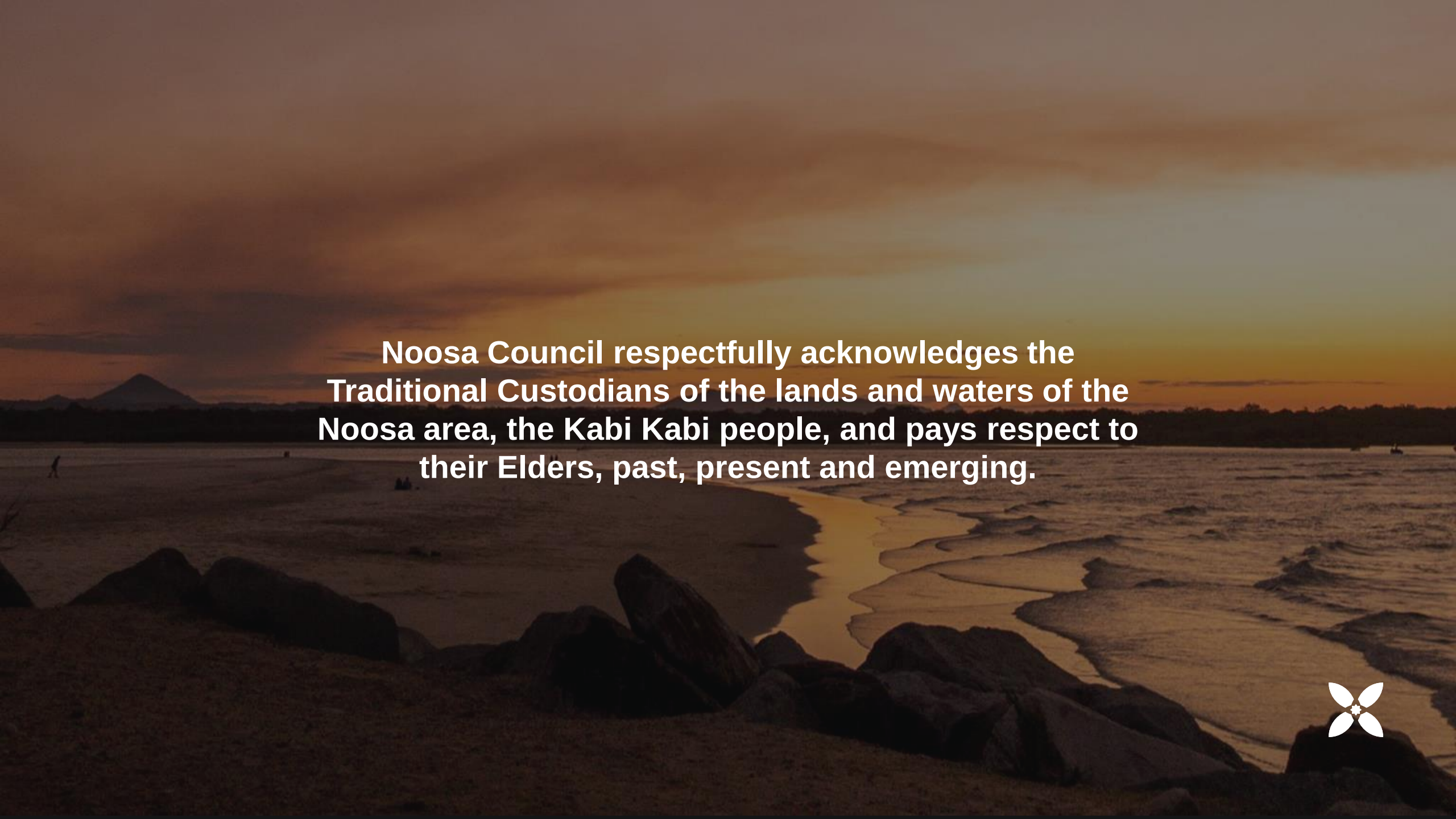

Noosa Council respectfully acknowledges the Traditional Custodians of the lands and waters of the Noosa area, the Kabi Kabi people, and pays respect to their Elders, past, present and emerging.

Noosaville Foreshore Infrastructure Master Plan & Concept Designs to Resilience

November 06, 2024

NOOSA Council

Why a Master Plan

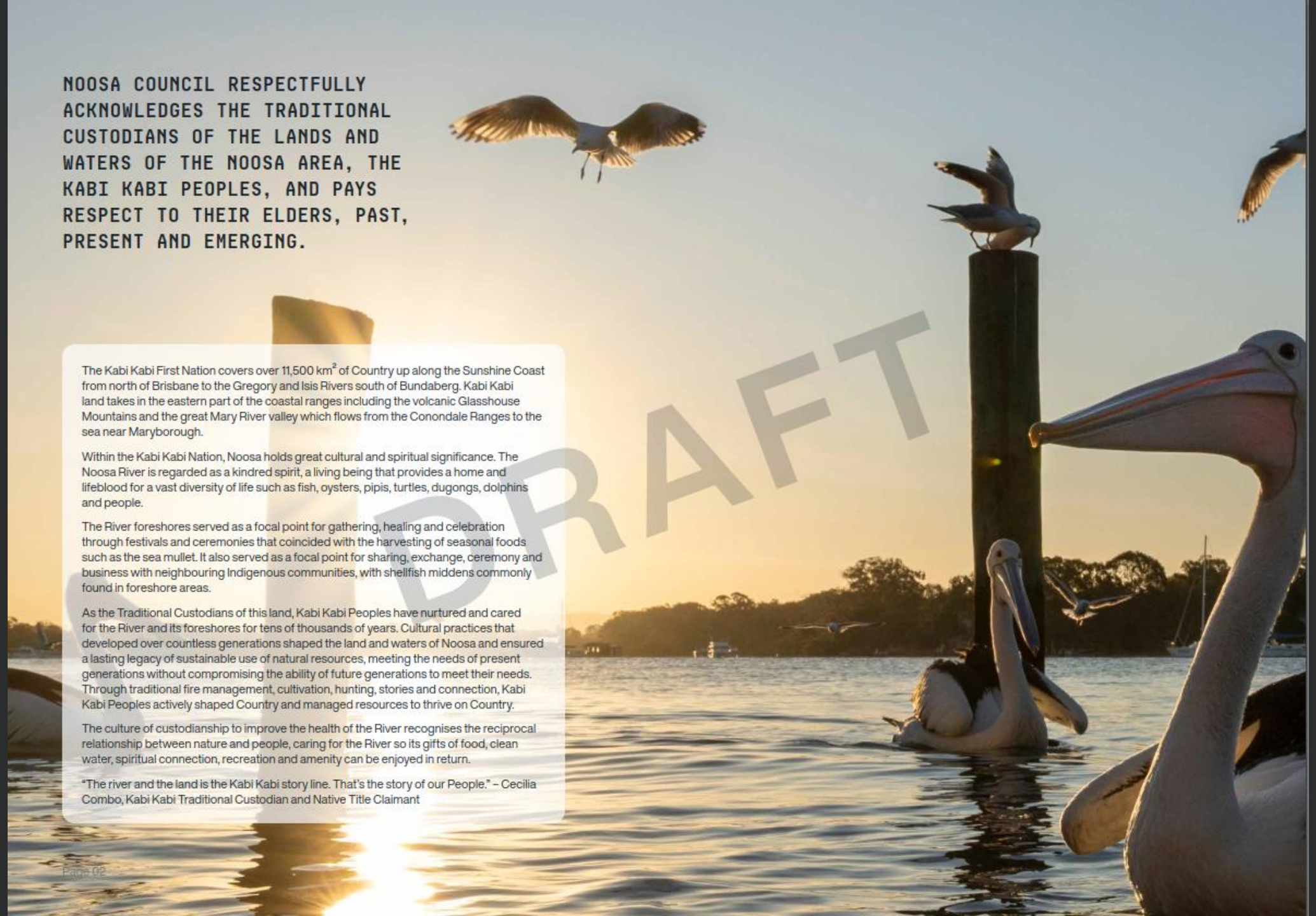
‘Have You Say’ Video Link -

https://yoursay.noosa.qld.gov.au/noosaville-foreshore-master-plan

NOOSA Council

Why a Master Plan

- $10M+ Asset renewal & maintenance costs
- Address failing and degraded infrastructure
- Long-term cost savings
- Manage threats of erosion and sea level rise
- Efficient resource allocation
- Attract external funding
- Meet necessary standards of service
- Attract & retain local investment
- Enhance liveability & community wellbeing



NOOSA COUNCIL RESPECTFULLY ACKNOWLEDGES THE TRADITIONAL CUSTODIANS OF THE LANDS AND WATERS OF THE NOOSA AREA, THE KABI KABI PEOPLES, AND PAYS RESPECT TO THEIR ELDERS, PAST, PRESENT AND EMERGING.

The Kabi Kabi First Nation covers over 11,500 km^2 of Country up along the Sunshine Coast from north of Brisbane to the Gregory and Isis Rivers south of Bundaberg. Kabi Kabi land takes in the eastern part of the coastal ranges including the volcanic Glasshouse Mountains and the great Mary River valley which flows from the Conondale Ranges to the sea near Maryborough.

Within the Kabi Kabi Nation, Noosa holds great cultural and spiritual significance. The Noosa River is regarded as a kindred spirit, a living being that provides a home and lifeblood for a vast diversity of life such as fish, oysters, pipis, turtles, dugongs, dolphins and people.

The River foreshores served as a focal point for gathering, healing and celebration through festivals and ceremonies that coincided with the harvesting of seasonal foods such as the sea mullet. It also served as a focal point for sharing, exchange, ceremony and business with neighbouring Indigenous communities, with shellfish middens commonly found in foreshore areas.

As the Traditional Custodians of this land, Kabi Kabi Peoples have nurtured and cared for the River and its foreshores for tens of thousands of years. Cultural practices that developed over countless generations shaped the land and waters of Noosa and ensured a lasting legacy of sustainable use of natural resources, meeting the needs of present generations without compromising the ability of future generations to meet their needs. Through traditional fire management, cultivation, hunting, stories and connection, Kabi Kabi Peoples actively shaped Country and managed resources to thrive on Country.

The culture of custodianship to improve the health of the River recognises the reciprocal relationship between nature and people, caring for the River so its gifts of food, clean water, spiritual connection, recreation and amenity can be enjoyed in return.

"The river and the land is the Kabi Kabi story line. That's the story of our People." – Cecilia Combo, Kabi Kabi Traditional Custodian and Native Title Claimant

Executive Summary

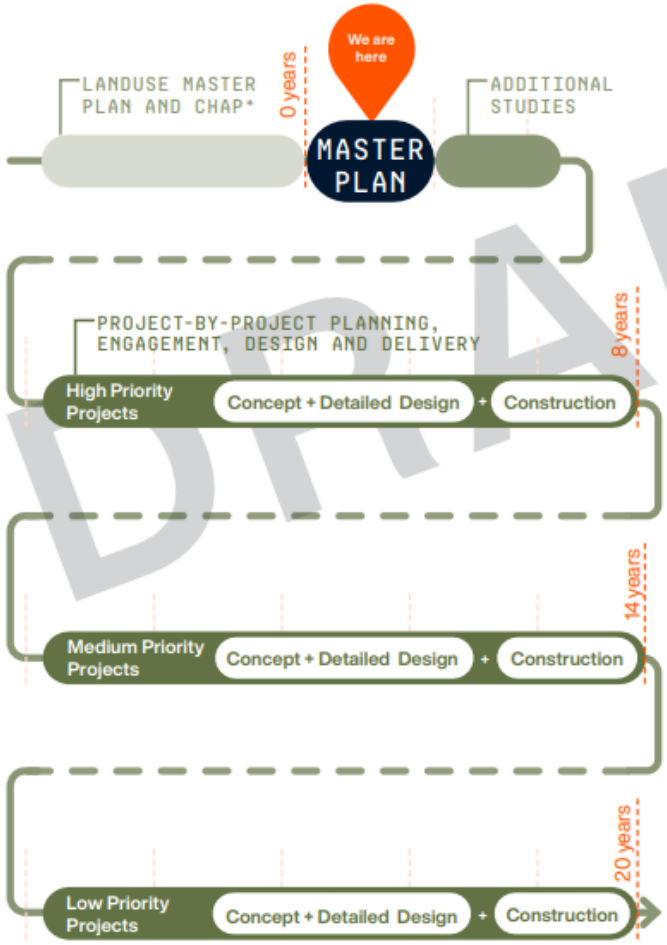
The Noosaville foreshore parkland is a beloved recreational, riverside destination for residents within the Noosa region and also for visitors seeking a laid-back holiday experience. Interaction with the Noosa River has shaped the history and development of Noosaville, and it is this special relationship that is so important to preserve and protect for the next generation.

The Noosaville Foreshore Infrastructure Master Plan has been developed to provide a future-focused strategic framework for the enhancement of the Foreshore, guided by fundamental community values.

The Noosaville Foreshore Infrastructure Master Plan, sets a vision for the next 20 years with a timeline to progressively implement various projects and small infrastructure upgrades.

This Master Plan is guided by the vision and voice of the community as captured in the *Noosaville Foreshore Land Use Master Plan (2018)* and responds to climate as captured in *Coastal Hazards Adaptation Plan (CHAP, 2021)*. Further studies are needed to ensure suitability and viability of the proposed Master Plan outcomes, including concept and detailed design stages.

The staging of projects is essential to ensure that each upgrade has proper planning and funding, whilst also making certain that the foreshore can continue to function as upgrades and improvements are undertaken in particular areas. This Master Plan will help in identifying high, medium and low priority projects over the next 20 years.



Master Plan Purpose

The *Noosaville Foreshore Infrastructure Master Plan* aims to upgrade, protect and improve what we love about this two-kilometre foreshore.

The purpose of the *Noosaville Foreshore Infrastructure Master Plan* is to serve as a tool to guide the ongoing activation and upgrade of the foreshore. This allows us to protect what we love about the foreshore into the future, and enhance the experiences of community and visitor alike.

The Master Plan outlines holistic and adaptive solutions to the challenges we face. The Master Plan is key in achieving the following:

- Enhance liveability and community wellbeing
- Upgrade failing and aging infrastructure and facilities and provide new community infrastructure and much needed facilities
- Adapt to erosion, higher temperatures, and sea level rise
- Respond to changing community needs
- Meet necessary standards of service for the community
- Achieve long-term cost savings on multi-million dollar asset renewal and maintenance
- Ensure efficient allocation of Council resources
- Attract external funding to reduce ratepayer costs
- Attract local investment
- Ensure an accessible and inclusive foreshore that reflects the diverse needs of our community

Challenges the Master Plan Must Address

FORESHORE EROSION

High tidal events, wind and wave action, boat wash and foot traffic all cause erosion on the Noosaville Foreshore. Erosion eats away at beaches and sandy areas along the foreshore.

Erosion has impacts on infrastructure, assets and vegetation. It creates level changes and presents public safety challenges.

Heavily engineered solutions such as retaining and sea walls have been constructed in the past however are at the end of their life. Beach nourishment is currently being undertaken by Council, however more sustainable and nature-based solutions are preferred to reduce the recurring cost and improve natural values.

Figure 1. Example of erosion impacting vegetation and collapsing the riverbank

FORESHORE INUNDATION

Tidal inundation is the abnormal rise of the sea level over normal tide levels. Currently, inundation impacts a number of low lying areas along the Noosaville Foreshore, most notably within Chaplin Park and Lions Park as this was once a swampy ground which was filled to create what we have today.

We know certain areas are already more regularly inundated than other areas. In areas with expensive infrastructure such as playgrounds, we need to think longer term on how we manage the impacts.

Modelling shows that tidal inundation due to sea level rise is likely to increase in some areas of the Noosaville Foreshore.

Figure 2. Low lying areas within Chaplin Park are particularly susceptible to tidal inundation.

PEDESTRIAN EXPERIENCES

Pedestrian experiences are impacted by safety, heat, quality, and user conflicts.

The pathway hierarchy requires upgrade to meet standards for accessibility and shared use. The foreshore in parts lack wayfinding/legibility and requires improvement. The pathway network is interrupted by vehicle crossovers and loading bays and passes through parking and maritime facilities creating safety risks.

Some segments of the pathways are exposed to increased heat due to their materiality and limited or no tree canopy cover.

Figure 3. Foreshore pathway users have limited space between the boat ramp and parking along Gympie Terrace

AGEING STORMWATER INFRASTRUCTURE

The foreshore has twenty-nine drainage outfalls and two open drainage channels to the river. In many cases these outlets along the foreshore are in poor condition, blocked or buried. The stormwater infrastructure is vulnerable to tidal inundation and backflows.

We have outlets in areas used by swimmers and recreational watercrafts, exposing the river and users to pollution and harmful run-off after weather events.

Inefficient and compromised outfalls can affect the stormwater network's ability to function, potentially worsening flooding and inundation. Both the river and users of the river may experience negative health effects as a result of the polluted run-off.

Figure 4. Some stormwater outlets have been impacted by blockage, reducing effectiveness.

HEAT AND COMFORT

Urban Heat Islands (UHI) within the foreshore make it uncomfortable when temperatures are high. Current UHIs have been defined on the foreshore by areas of limited shade and tree canopy cover, structures that block cooling breezes, and hard surfaces that absorb and radiate heat.

As a society we are much more cognisant of health effects such as skin cancer and heat stress. The characteristics of Urban Heat Islands (lack of shade, hot surfaces and limited cooling breezes) and the length of exposure to these characteristics may increase the risk of such heath effects.

Figure 5. The boat ramp is one of the hot spots identified along the foreshore

LOSS OF HABITAT & BIODIVERSITY

The clearance of vegetation along the foreshore post European settlement has impacted both flora and fauna, with a loss of biodiversity and habitat, and reduced opportunities for fauna foraging and refuge.

Currently, the foreshore is a less welcoming home for birds, fish, reptiles, amphibians and mammals. The loss of habitat and biodiversity degrades our natural and environmental values that underpins liveability and amenity on the foreshore.

Furthermore, research has shown that access to natural areas of high biodiversity has a range of positive health impacts for our community.[2]

Figure 6. The eastern foreshore of Gympie Terrace is one example of an area of limited biodiversity

20 Year Vision

MAINTAIN & ENHANCE A PEACEFUL, RELAXING PUBLIC OPEN SPACE FOR PEOPLE TO ENJOY THE RIVER, WHILST ADAPTING & RESPONDING TO FUTURE CHALLENGES.

Principles

COUNTRY

EMBED OPPORTUNITIES FOR FIRST NATIONS TRADITIONAL CUSTODIANS TO CARE FOR COUNTRY

RIVER

CREATE MEANINGFUL CONNECTION TO THE NOOSA RIVER, WHILST PROTECTING ITS FUTURE

RECREATION

PROTECT & ENHANCE THE RECREATIONAL FUNCTION & SENSE OF PLACE

ENVIRONMENT

MAINTAIN AND REPAIR THE ENVIRONMENT, WELCOMING BACK BIODIVERSITY

COMMUNITY

FOSTER CONNECTIONS BY PROVIDING INCLUSIVE COMMUNITY SPACES WITH ACCESSIBILITY FOR ALL

COMFORT

DESIGN COOL SPACES WHERE PEOPLE CAN GATHER DURING HOT DAYS, WITH ACCESS TO SHADE, COOLING BREEZES, WATER, AMENITIES & ESSENTIAL SERVICES

Resilience Strategies for Climate Change

BEACH NOURISHMENT

Beach nourishment is the topping up of sand levels along a foreshore with sand sourced from dredging. In a river setting, it is typically pumped from the river bed to restore eroded sand edges along the waterway.

Beach nourishment along the Noosaville Foreshore is currently being undertaken by Council. Sand pumping, reshaping and regrading, helps us maintain access to the sand beaches for recreational amenity.

Figure 29. Low Planted Slope

LOW PLANTED SLOPE

Introducing planting with deep/ strong root systems to beach nourishment areas will help to capture, stabilise and hold sand, and protect the rivers edge from erosion. Planting beach nourishment areas reduces the frequency of recurring beach nourishment activities and maintenance.

Beach nourishment planting can be a staged process and adapted over time. Plant species would be predominately groundcovers/grasses and would not affect sight lines and views to the river.

Figure 30. Grassed Slope

GRASSED SLOPE

Although planted slopes (see left) are a more effective way to establish stability to the foreshore edge, we recognise the community values uninterrupted beach access. Therefore, some key areas of the foreshore (near playgrounds, popular swimming areas and gathering spaces) are proposed to have a grassed slopes.

Grass does not have a deep and strong enough root system to provide long-term protection from erosion. These areas will require more frequent maintenance (than low planted slopes), longer establishment and recovery periods after severe weather events and use.

Figure 31. Vegetated Swale

NATURE-BASED STORMWATER MANAGEMENT

Nature-based stormwater management aims to mimic the characteristics of natural creeks.

Upgrades to Chaplin Park's existing drainage corridors with additional revegetation will help increase resilience and biodiversity.

There are opportunities to use planted swales and rain gardens in the parkland. Unlike traditional underground pipes, these nature-based systems help slow down and clean stormwater runoff before it enters the Noosa River. They also encourage passive irrigation, accelerate shade tree growth and provide cooler spaces.

TRADITIONAL STORMWATER MANAGEMENT

Our piped infrastructure can be made more resilient through upgrades and the addition of backflow prevention mechanisms.

Figure 32. Living seawall tiles

LIVING SEAWALLS

Living seawall tiles and rock units mimic the features found in natural rocky shores. They can be retrofitted to our existing seawalls, making our foreshore more supportive of marine life by creating intertidal ecosystems and river habitats.

Each tile and rock unit features tiny nooks and alcoves that provide marine life a place to live and hide, just as they would in a natural mangrove ecosystem.

Once established these systems improve marine biodiversity and water quality.

When complimented with signage these interventions can provide a great education opportunity for children and the community on the subject of marine biology.

Figure 33. Fish friendly sea wall

FISH FRIENDLY LOW SLOPING SEA WALLS

Innovative alternatives to traditional sea walls include low sloping fish friendly walls. The use of a gentle slope mimics a natural rock edge and has many environmental and recreational benefits. For maximum benefit, the gentler the slope of the seawall the better.

These slopes are created using rock steps and benches. The mix of horizontal and vertical faces on these steps/benches create prime habitat opportunities for intertidal plants and animals which will lead to greater diversity of species.

These slopes offer protection against erosion, increase fauna and flora biodiversity and have the flexibility to increase heights to reduce the impacts of inundation as needed.

The stepped characteristic of the walls have added benefit in allowing/encouraging the community to interact with the river.

Figure 34. Cool Street

COOL REFUGE

In the context of public open spaces, a cool refuge is an area or feature (such as a cluster of large shade trees) that provide relief and comfort to people during hot weather.

Source: University of the Sunshine Coast

COOL STREET

A 'cool street' has effective street tree planting which reduces the urban heat island effect and makes the street more walkable and pedestrian friendly during hot weather.

Source: University of the Sunshine Coast

20 Year Vision

"MAINTAIN & ENHANCE A PEACEFUL, RELAXING PUBLIC OPEN SPACE FOR PEOPLE TO ENJOY THE RIVER, WHILST ADAPTING & RESPONDING TO FUTURE CHALLENGES."

PRINCIPLES

- Embed opportunities for First nations traditional custodians to care for country
- Create meaningful connection to the noosa river, whilst protecting its future
- Protect & enhance the recreational function & sense of place
- Foster connections by providing inclusive community spaces with accessibility for all
- Maintain and repair the environment, welcoming back biodiversity
- Design cool spaces where people can gather during hot days, with access to shade, cooling breezes, water, amenities & essential services


KEY FEATURES:
- Retain existing car parking bays, loading zones, and maintenance and delivery access
- Establish two swimming areas, where boat users are restricted to promote safety
- Widen shared path, enhance riverside promenade and upgraded bridge to improve accessibility and create an inclusive pedestrian user experience
- Enhance two 'Cool Refuge Areas' with large shade trees and cool breezes
- Upgrade and enhance parkland facilities and propose one new amenities
- Retain and enhance existing recreation, sports and play opportunities
Reorganise the street to enable equitable pedestrian access
Widen riverside promenade to an acceptable standard for all abilities access
Introduce over water structure for all abilities access and enjoyment of the rivers edge
Establish a swimming area protected from motor boats
GYMPIE TERRACE EAST FORESHORE
WILLIAM ST
HOWARD ST
PELICAN BEACH PARK
GYMPIE TCE
Upgrade existing amenities
Upgrade and widen the shared path throughout the parkland
Retain and improve existing car park
Retain car parking
WEYBA RD
Enhance picnic facilities ensuring all abilities access
BOAT RAMP AND ELY PARK
Enhance picnic facilities and ensure all abilities access
Upgrade existing amenities
Retain and enhance Boat Ramp facilities
Introduce bike and motorbike parking
GYMPIE TCE
Introduce small play and fitness nodes along the foreshore
Retain and upgrade tennis court facility
EDWARD ST
JAMES ST
ELIZABETH ST
Redirect a safe, wide and shaded shared path to the rivers edge
Create a safe, wide and shaded shared path around the Boat Ramp facility
Prioritise pedestrians at road and driveway crossings
THOMAS ST
TIMELINE LEGEND
High Priority Projects
Medium Priority Projects
Low Priority Projects
1:2750 (A3)
0 20 40 100


BOAT
HIRE


BOAT
HIRE

THANK YOU

NOOSA

Council