The Spit Master Plan

Embracing the past
Understanding the present
Looking to the future

Background Summary Report





DEICKE RICHARDS

ASPECT Studios™

E2DESIGNLAB



CAMBRAY

AUSTRALIAN **HERITAGE** SPECIALISTS



The Department of State Development, Manufacturing, Infrastructure and Planning is responsible for driving Queensland's economic prosperity and championing the interests of business and industry.

Copyright

This publication is protected by the *Copyright Act 1968*.

Licence

This work is licenced Department of State Development, Manufacturing, Infrastructure and Planning under a Creative Commons Attribution (CC BY) 3.0 Australia licence.



To view a copy of this licence, visit: creativecommons.org/licenses/by/3.0/au

You are free to copy, communicate and adapt this publication, as long as you attribute it as follows:

© State of Queensland, Department of State Development,

© State of Queensland, Department of State Development Manufacturing, Infrastructure and Planning, July 2018.



The Queensland Government is committed to providing accessible services to Queenslanders of all cultural and linguistic backgrounds.

If you have difficulty understanding this publication and need a translator, please call the Translating and Interpreting Service (TIS National) on 131 450 and ask them to telephone the Queensland Department of State Development, Manufacturing, Infrastructure and Planning on 13 QGOV (13 74 68).

Disclaimer

While every care has been taken in preparing this publication, the State of Queensland accepts no responsibility for decisions or actions taken as a result of any data, information, statement or advice, expressed or implied, contained within. To the best of our knowledge, the content was correct at the time of publishing.

Copies of this publication are available upon request via the contact details on the back cover.

Contents -

Part A – The Project	1
Project study area	2
Project scale and key measures	4
Purpose of this report	6
Overview of contents	6
Exclusions	6
Part B – Embracing the past	9
Evolution of The Spit landform – From sand bars to stability	10
Aboriginal cultural heritage and Traditional Owners	12
Settlement history and events	12
Protected cultural heritage places	18
Part C – Understanding The Spit today	21
Appreciating the Gold Coast context	
The Spit	28
Part D – Looking to the future	65
A growing and changing Gold Coast and local community	65
Strategic role and the making of a great place	66
Destination Gold Coast – The Spit	68
Natural hazard risk and climate change response	70
Part E – Identifying the key strengths, issues, constraints and potential	
responses	73
Strengths and values	
Issues	
Constraints	78
Potential responses	-
Part F – Key challenges for the Master Plan	
Breaking the cycle of conflict	
A "step change" moment	_
Key challenges	
Great expectations	
Next steps	•
References	-



The Spit Master Plan

Part A –The Project

The Queensland Government has committed to the preparation of a master plan for The Spit to establish a shared vision for the long-term future of The Spit.

The Queensland Government has announced that the master plan will provide for a low-rise future for The Spit in accordance with the current Gold Coast City Plan that aims to:

- enhance the public realm of The Spit to create a community space for local residents
- improve the connection to surrounding marine environment, including The Broadwater
- consider opportunities for job creation through tourism, entertainment and recreation
- seek to get the balance right between protecting environmental and community values and providing guidelines for any appropriate development opportunities.

The Department of State Development,
Manufacturing, Infrastructure and Planning (the
department) is leading the preparation of the master
plan in collaboration with the City of Gold Coast
(CoGC) and Gold Coast Waterways Authority (GCWA).

A consultant team led by John Gaskell Planning Consultants and Deicke Richards, and including ASPECT Studios, Cambray Consulting, Colliers International, E2Designlab, Robert Bird Group and Australian Heritage Specialists, has been appointed to prepare the master plan.



Project study area

Figure 1 outlines the extent of The Spit master plan study area. The focus of the master plan project is land on The Spit north of the intersection of Seaworld Drive and MacArthur Parade. This part of the study area is approximately 201 hectares.

For contextual purposes the study area also includes areas to the north (the southern tip of South Stradbroke Island), south (Main Beach residential neighbourhood, east (the Pactific Ocean) and west (The Broadwater and Wave Break Island) of The Spit.



Legend

Study area boundary

Figure 1. The Spit master plan study area

Project scale and key measures

At 201 hectares, the core land area of The Spit master plan study area represents an immense opportunity not only in its own right but also as a key place in the City of Gold Coast.

The Spit is 4 kilometres from end-to-end and varies in width from 200 metres at the narrowest point at southern end to nearly 800 metres at the northern end. The total length of the water interface and edge is 13 kilometres.

The potential scale of The Spit as a city building element and opportunity becomes clear when compared to Australian and international project and place examples as shown in Figure 2.

Each of these projects and places has strong connections with water, tourism and recreation to varying degrees of success and applicability. While the nature and scale of each place is different these places provide lessons for the master planning process that can be considered in the next phase.

Figure 2. Comparable city shaping places and projects



South Bank Brisbane

42 hectares
17 hectares (40%)
parkland
900m x 250/300m
Continuous public open
space to the Brisbane
River

Barangaroo Sydney

22 hectares

Just over 50% of the area
provided as public space.

1.15km x 220m

Continuous public open space to Darling Harbour

Australian

4,132people living in the Main Beach neighbourhood¹





The Spit Gold Coast

201 hectares

138 hectares conservation
and open space
4km x 215/800m

13km accessible/public
foreshore edge

 $^{{\}tt 1} \ \, {\sf Estimated} \ \, {\sf resident} \ \, {\sf population} \ \, {\sf in} \ \, {\sf 2016} \ \, {\sf for} \ \, {\sf the} \ \, {\sf Main} \ \, {\sf Beach} \ \, {\sf Statistical} \ \, {\sf Area} \ \, {\sf Level} \ \, ({\sf SA2}).$

68.5%

zoned Conservation or open space

81,000 people living within 5km

14.4%

zoned Tourism (Sea World)

11.4%

zoned for urban uses

201
Hectares



Gardens by the Bay Singapore

101 hectares
Part of 'City in a Garden'
concept
1km x 450/1000m
1km of waterfront to
Marina Bay



Governor Island New York

69 hectare island in New York Harbour 1.36km x 500/750m Limited transport options and access challenges 81% of the island set aside for public open space



Central Park New York

341 hectares
Lakes
4.1km x 500m
Strongly connected into the city grid with permeable edges

International



Purpose of this report

This report presents the culmination of background work in Phase 1 of the project (refer to Figure 3) to support the preparation of a master plan for The Spit.

The purpose of this report is to provide a comprehensive understanding, from a technical viewpoint, of the current site conditions, opportunities and challenges. This understanding is required prior to the preparation of concepts for The Spit which will be undertaken in consultation with the community in Phase 2 of the project.

Overview of contents

This report examines the past, present and future context of The Spit and provides a summary of the key strengths, issues, constraints and potential responses for consideration during Phase 2 of the project.

Exclusions

This report does not discuss past projects or proposals or seek to present the issues and ideas raised by the community to date, but reflects the findings of technical investigations which, together with community issues and values, will form the basis from which concepts for the future of The Spit will be developed.

This context and site analysis in Phase 1 does not seek to evaluate particular potential development proposals or projects.

Key sections of the report include:

Part B –Embracing the past

Part C –Understanding The Spit today

Part D –Looking to the future

- Part E -

Identifying the strengths, issues, constraints & potential responses

1,000 approx Accommodation rooms

490 approx.

13km of water edge

37ha
Wave Break Island

Preliminary

Inception & mobilisation

Sep 2017 - Mar 2018

Stakeholder meetings held

Communications & master planning consultants appointed

Pop-up consultation sessions held

Phase 1

Context, opportunities & visioning

Apr 2018 - Jun 2018

Workshop 1

Stakeholder groups and meetings

Site context analysis, opportunities and visioning

Phase 2

Master plan concepts

Jul 2018 - Dec 2018

Workshops 2 & 3

Concept options prepared

Public consultation

Identification of preferred concept option

Identification of priority implementation initiatives

Phase 3

Final master plan

Jan 2019 - Apr 2019

Workshop 4
Public consultation

Master plan finalised & released

Confirmation of priority implementation initiatives

Phase 4

Statutory provisions

May 2019 - Aug 2019

Identification and drafting of provisions to give effect to the master plan as appropriate



Part B –Embracing the past

Building a shared understanding of the history of The Spit helps to ensure an awareness of not only why The Spit exists in a particular form today, but also an appreciation of people's feelings about the place.

An understanding of the history of The Spit will help in the consideration of ways to appropriately acknowledge and embrace the past and recognise the importance or quality of place values and the connection that people have to The Spit. In essence, what places, values or stories should be reflected in the next chapter of the story of The Spit, not only those that are formally recognised through state or local heritage listing.

To build a common understanding of the history of The Spit, the timeline in this part illustrates the evolution of the landform of The Spit and the connections between people and this special place over time.

Evolution of The Spit landform – From sand bars to stability

In the early 1800s, the mouth of the Nerang River is known to have entered the ocean near to where The Star Casino is currently located at Broadbeach. At that time, where The Spit is now was most likely part of the ocean or a series of sand bars. Coastal processes gradually pushed the mouth of the Nerang River 8 kilometres to the north to roughly opposite Southport by the time the first lots were established there. Figure 6, a cadastre plan from 1887, shows a hook shaped sandbar or landform at what is now the southern end of The Spit.

Early maps and aerial images show a series of sandbars that concealed the southern passage into Moreton Bay from early European coastal explorers. Although the existence of a southern passage was established by expeditions from the Moreton Bay penal colony, the Southport bar quickly became known for its dangerous conditions and many shipwreck events are recorded.

Today, The Spit is a stabilised landform that has consolidated since the construction of the Gold Coast Seaway and sand bypass system in 1986. This had a dramatic effect on not only the shape of The Spit but also its attractiveness as an area of more permanent and substantial landscape character and for a diversity of activities. This is testament to the positive transformational effect that infrastructure can have on a place.

1961

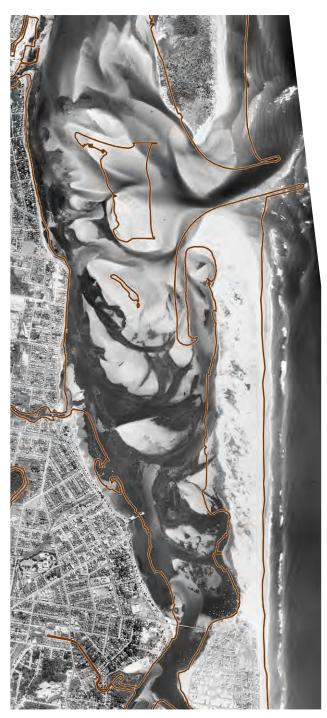


Figure 4. Historic aerial images - 1961, 1979 and 1987

1987 1979





1:40,000

Aboriginal cultural heritage and Traditional Owners

The Spit today has little in common with the indigenous landscape of the area prior to European settlement. With investigations in the Gold Coast region suggesting occupation of at least 20,000 years², the maze of continuously shifting sandbars filtering the Nerang River inlet would have undoubtedly figured in the life of traditional custodians and different visiting clan groups. Aboriginal people would have been active hunters, gatherers and fishers in the waterways and fringing land areas. Following European settlement, Aboriginal people were displaced and forcibly moved to different locations.

A better understanding of The Spit and The Broadwater's Aboriginal cultural heritage and the related connections to place is being sought as part of the master planning process in consultation with the Aboriginal Party, the Danggan Balun (Five Rivers) People.

Cultural heritage is the legacy of physical places, artefacts or intangible attributes of a group or society that are inherited from past generations, maintained in the present and bestowed for the benefit of future generations (UNESCO).

Settlement history and events

Aboriginal use and connection

Traditional custodians were known to be active hunters, gatherers and fishers, exploiting the rich resources of the marine, estuarine and rainforest environments that characterised the area. Traditional custodians are known to have harvested oysters along the waterways, their middens later being exploited for lime production³.

Figure 5. Summary timeline



Pre European Settlement



1820

1825 – 1839

The Moreton Bay penal settlement is established.

1826

The sea passage and southern entrance to Moreton Bay is identified by Captain Patrick Logan, now referred to as The Broadwater.
European settlers harvested oyster beds and exploited oyster middens for the

18405

Surveys show a south boat passage at Lat 27 56 30 Var 7 48 E.

extraction of lime.

² Neal and Stock, 1986.

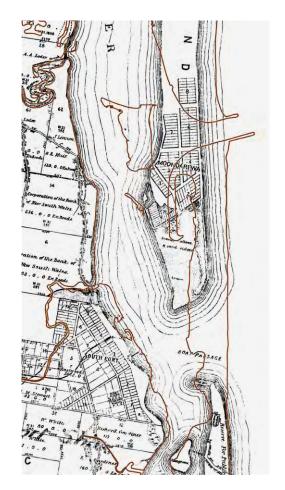
³ Gold Coast Stories, Oysters and Oystering, 2018.

European settlement

Southport was first settled in 1875 and was conceived as a "marine township". As a permanent settlement it grew rapidly in population and facilities in the late 1870s and 1880s with land set aside for government and community purposes.

Source: Natural Resources, Mines and Energy, 40 chain AG2 series 1887-1932-Moreton district API, sourced in May 2018.

Figure 6. 1887 cadastre plan
The Spit appears as a small hook shape and
the township of Moondarewa is evident on
South Stradbroke Island.



1:25,000



1850

1859

Queensland becomes a state, separate from New South Wales.

1860

1860s

A village reserve is proposed opposite the boat passage but no progress is made.

1868

Richard Gardiner selects 176 acres (71 hectares) of land in an area known as Nerang Heads Creek (now Southport). He establishes a home, store and later guest accommodation. He also works as a pilot for boats using the channels leading into the south boat passage. In 1897 he has a steam launch built for pleasure trips in the waterways.

1870

1874

The town of Southport is surveyed.

1879

The Nerang Divisional Board is formed and is delegated authority by the Queensland Colonial Government to provide local services and collect revenue.

Steamers transport visitors from Brisbane in 4 hours.

1879

A Cobb & Co service via Coombabah commences.

1870 - 1920

Commercial oyster fishing operates in The Broadwater.

1880

1883

A separate Southport Divisional Board is formed.

1887

The Scottish Prince runs aground off the southern end of South Stradbroke Island in a location that is now offshore of The Spit.

1889

A railway line is extended to Southport.

Seaside destination

At first Southport was an exclusive seaside destination mainly because transport was by boat only and the area was patronised by Brisbane's political and wealthy elite. The 1889 rail extension from Beenleigh enabled more tourists to access the area from Brisbane.

It was a place where "bathers and boaters may choose between the excitement of the open ocean, the tranquility of the waters of a bay, or the scenery of a river"⁴. This is still true today.

Dangerous bar

Nine shipwrecks occurred in the vicinity of the Southport bar from 1841 to 1975 as shown on Figure 8 on page 25.

Main Beach

Main Beach developed as a destination alongside Southport as it was the "main beach" for tourists visiting Southport. It is described as Southport East on some maps. It was noted as a "lovely and perfect camping spot". Tourists reached the beach by ferries across the Nerang River.



Main Beach, c 1934 (Queensland State Archives, Digital Image ID1922)

1890

1894

The Cambus Wallace runs aground off the isthmus connecting North and South Stradbroke Islands.

1890s

By the 1890s Southport is the favoured seaside destination of the Queensland Governor. Southport becomes a fashionable seaside resort and the town council undertakes improvement projects.



1900

1902

The Pacific cable station is established at Narrowneck. This provides an important connection to Canada and then England, until its closure in 1962.



1910

1918

The town of Southport is declared.



1920

1924

The Southport Lifesaving Club is founded.

1925

Jubilee Bridge is constructed and land is auctioned for holiday homes on the Main Beach side (referred to as Southport East).

1927

A new coastal road is built linking Brisbane with Southport.

1930s Main Beach grows

Main Beach began to grow and develop in its own right after the Jubilee Bridge was opened in 1925. Land reclamations and land sales followed with the filling of Shark Bay for a housing and business estate.

Commercial fishing and marine industries

One of the earliest commercial marine industries focused on oystering.

Infrastructure and private businesses gradually establish, such as the business set up by John Humphreys in the mid 1950s to support commercial and tourist water-based activities.

1960s tourist attractions

The development of Marineland on the oceanside of The Spit in 1966 started a new wave of interest. Sea World followed soon after and captured the growing tourism market.



Lifesavers, Main Beach, Southport, c. 1930s (QSL 124313)



Southport, 1970-79 (QSA, Digital Image ID 838)

1930

1935

Southport town hall is opened (a current heritage listed building).

1936

Southport surf lifesaving club is constructed (a current heritage listed building).

1938

Land reclamation occurs behind the Main Beach camping area to "convert the swamp into a fine residential and business area" according to the Sunday Mail on 15 May 1938. The area is known as Shark Bay.



1940

1940

The town of Moondarewa on South Stradbroke Island is abandoned after repeated storms.

1946

Southport yacht club is established.



1950

1955

Humphreys boat shed established but is destroyed by fire in 2004.

1958

Surfers Paradise ski gardens are established by Keith Willliams at Carrara. The ski gardens area is later relocated to The Spit.



1960

1965

4 hectares leased by Reichelt syndicate from the state government to build a *Seaquarium*.

1966

Marineland Aquarium is opened.

1967

The town of Southport East is renamed Main Beach.

Stabilisation and safe passage

Construction of the Gold Coast Seaway in 1985/96 stablised The Spit landform and the sand bypass system ensures that South Stradbroke Island is not starved of sand.

Mid 1980s to 2000

In quick succession, the Sea World Resort, Sheraton Grand Mirage Resort and Marina Mirage were established. In 2000, the Palazzo Versace replaced Fisherman's Wharf and is the most recent major private development project on The Spit.

1990

Early 2000s

The early 2000s mark a period of redevelopment with the former Fisherman's Wharf replaced by the Palazzo Versace.

Beach protection and coastal management is supported by community groups and the state government with the gazettal of a large parcel for park, environment, beach protection and coastal management purposes.



Fisherman's Wharf, 1989 (Queensland State Archives, Digital Image ID 549)

1970

1970

Ski Land Australia relocates to The Spit to a 50 acre (approx. 20 hectare) site. Artificial ski lake created.

1970

The Gold Coast Fishermen's Co-Operative is established.

1972

Ski Land becomes Sea World.

1976

Marineland is purchased by Keith Williams and incorporated into Sea World.

The site is sold in 1986 and demolished.



1980

1985-86

The Gold Coast Seaway is constructed.

1987

Developed by Qintex on the former Marineland site, the Sheraton Mirage Resort opens.

1988

Sea World Nara Resort is established.



2000

2000

Palazzo Versace is developed by the Sunland Group on the Fisherman's Wharf site.

2000

Federation Walk is officially launched and Stage 1 opens in 2001.

2003

The Federation Walk coastal reserve is gazetted for park, environment, beach protection and coastal management purposes.

Palazzo Versace, 2018



Federation Walk

Place names

Many of the places in Southport, Main Beach and on The Spit are named after people from the past or reflect the history of the area.

Main Beach

The town of Southport East was officially renamed Main Beach in 1967.

The Spit

"The Spit" was gazetted as a place name on 1 January 1970. No details are available on the origin of the name other than the common meaning of the term "a narrow point of land projecting into the water".

Federation Walk Coastal Reserve

The name reflects the fact that funding from the Centenary of Federation Queensland fund was provided to create a management plan for the coastal reserve.

Moondarewa Spit

Named after the town that was gradually lost to the sea on South Stradbroke Island.

Doug Jennings

The former member for Southport (from 1980-87) and passionate advocate for The Spit.

Hollindale Park

Named after Allan Hollindale a prominent local businessman, cattle farmer, owner of the company "Gold Coast milk" and chairman of the Gold Coast Turf Club.

Humphreys Basin

Named after John Humphreys who was the first lessee of an area on The Spit and in 1955 established one of the first substantial buildings on The Spit - a boat shed, dry dock and slipway.

Jack Gordon Park

Named after Jack Gordon who served in the First World War, was a local businessman, councillor, deputy mayor and was involved in surf lifesaving clubs on the Gold Coast.



Figure 7. Main Beach pavilion

Protected cultural heritage places

Cultural heritage is the legacy of physical places, artefacts or intangible attributes of a group or society that are inherited from past generations, maintained in the present and bestowed for the benefit of future generations (UNESCO).

Only two places on The Spit are listed on relevant heritage registers, one of local significance and one of state significance.

Main Beach Pavilion and the Southport Surf Lifesaving Club – State cultural heritage significance

The Main Beach pavilion and Southport surf lifesaving club buildings are a place on the Queensland Heritage Register that is regarded as pivotal in understanding the development of the Gold Coast as a holiday resort and, in particular, the growth of the Southport area.

The buildings and associated grounds are now considered to be rare examples of the natural and built environment of the 1930s and particularly the Spanish Mission style of architecture. The place has a strong association with the Surf Lifesaving Association of Queensland and in particular the Southport branch.

Humphreys' Boat Shed and Slipway remnants - A place of local cultural heritage significance

The Humphreys' boat shed and slipway remnants located on The Broadwater side of The Spit, to the south of the TS Tyalgum Navy Cadets, is identified as a local heritage place in the Gold Coast City Plan (2016). John Humphreys was one of the first lessees of this area on The Spit and established a slip yard and marine salvage operation in the 1950s.

The boat shed and slipway were formerly listed on the Queensland Heritage Register (2001-2015) but were removed in 2015 as a result of their demolition following a fire in 2004.



Legend

	State heritage place
	Local heritage place
	Heritage items
‡	Historic shipwrecks
	Study area boundary

Figure 8. Heritage places and known shipwrecks

1:20,000



Historic shipwrecks

The Southport Bar's reputation as a dangerous place was firmly established between 1841 and 1897 when seven shipwrecks occurred in the area. A total of nine shipwreck events are registered in the Australian historic shipwrecks database in the project study area.

The remnants of one of these shipwrecks, the Scottish Prince that was shipwrecked near the south passage of South Stradbroke Island in 1887, is still known to exist. This wreck is not located in a protected or no-entry zone and divers are able to access the wreck site for recreational purposes. The physical fabric of the wreck must not be disturbed unless a permit has been obtained.

Aboriginal Cultural Heritage

There are no recorded Aboriginal cultural heritage sites or cultural heritage management plans on the cultural heritage database and register for The Spit study area.

The Department of Aboriginal and Torres Strait Island Partnerships' website cautions that the absence of recorded Aboriginal cultural heritage places may reflect the lack of previous cultural heritage surveys for the area.

As previously noted, further work to understand Aboriginal cultural heritage and connection with The Spit and The Broadwater is proposed as part of the master planning process.



Part C –Understanding The Spit today

The Spit is a significant part of the Gold Coast serving many economic, environmental, social, cultural and recreational purposes.

This part outlines how The Spit is influenced by its Gold Coast context, and how the landform, natural and built environment of The Spit shapes its existing character.

In particular, this part examines the context of The Spit where the city:

- is a globally connected significant Australian city"a world-class city"
- is an accelerating economy with strong economic drivers
- has a unique environmental setting and launching point for recreation and tourism activities
- has a continuously accessible beach of international renown
- is served by quality infrastructure.

This part also examines the following dimensions of The Spit:

- community and culture
- land form and elements
- ecological processes
- the environment flora and fauna
- land uses and activities
- economic drivers and employment
- access and movement
- sense of place
- built form character
- public realm, open space and landscape character
- visual amenity and views
- infrastructure
- land tenure and management
- statutory planning and development parameters.



Appreciating the Gold Coast context

Natural forces and human influences continue to shape The Spit today. An appreciation and understanding of these forces and influences is important when considering the future of The Spit.

A globally connected significant Australian city

The Gold Coast is the sixth largest city in Australia and largest non-capital city. With an estimated resident population of 592,330 in 2017⁵, it is much larger than other regional cities close to capital cities such as Newcastle, Woollongong and Geelong. As a city, the Gold Coast is moving to a position in the South East Queensland region where critical mass, population growth and infrastructure investment are diversifying and strengthening its economy. Growth and change can bring challenges and tensions. Minimising impacts on community and environmental values, while maintaining quality of life and employment opportunities for residents, can be a difficult balancing act.

The Gold Coast's reputation is built on its strong foundation as a seaside tourist destination with a stunning rainforest hinterland. The Gold Coast airport provides a direct gateway for domestic and international tourists offering a range of flights within Australia, to New Zealand and Asia with onward connections to many other destinations. In this context, The Spit plays a significant role in the Gold Coast's visitor and tourist experience, as a destination and launching point for nature and water-based adventure recreation activities.

⁵ Oueensland Government Statisticians Office, 2018.



An accelerating economy with strong economic drivers

The Gold Coast economy has accelerated leading up to the hosting of the Commonwealth Games in early 2018.

It is forecast that there will continue to be growth off the back off this substantial investment.

Underscored by higher tourist visitation, infrastructure investment, continued construction momentum and higher demand for services, the overall rate of economic growth in the Gold Coast economy is expected to continue in the immediate future.

There are five key factors influencing the Gold Coast economy. These include:

- Significant investment in infrastructure projects.
 Road, light rail and heavy rail investments over the last decade will continue to support the Gold Coast economy in the short to medium term.
- Strong migration and population growth.
 Gold Coast net migration has increased 266 per cent from 1,706 in 2010-11 to 6,247 in 2015-16, equivalent to an average annual growth rate of 31 per cent over that five year period⁶. This trend is anticipated to continue.

- Increased tourism numbers.

Tourism has and continues to grow on the Gold Coast. Overnight domestic visitation to the Gold Coast grew by 8.1% to 4 million in the year ending December 2017, outpacing the state's overall growth rate of 4.9%. International visitor numbers also increased by 4.1% to reach 1.069 million⁷.

Strong employment growth.

The Gold Coast is anticipated to accommodate an additional 37,040 workers by May 20228.

- National residential hot spot.

Domain Group data shows median house prices on the Gold Coast have grown by nearly 8 per cent in the past year (December 2017) to a new median of \$615,000.

⁶ ABS Migration, 2015-2016

⁷ Gold Coast Tourism Corporation, 2018.

⁸ Department of Employment, 2018.

⁹ Domain Group Data, 2017.



A unique environmental setting

The Gold Coast is defined by its golden beaches, green hinterland ranges and patchwork of waterways that set the city in a unique environmental setting with natural assets and scenic values.

Within this broader context, the immediate context of The Spit contains all of the elements of the Gold Coast's essential identity.

The big blue to the east of The Spit, also known as the Temperate East marine region of Australian waters, is home to numerous threatened species. The Spit presents a jumping off point from the Gold Coast for both commercial and recreational trips. Whale watching tours also operate from The Spit, primarily between June and early November, to catch the north and south journeys of the whales.

The Broadwater estuary to the east and passages to Moreton Bay contain significant aquatic fauna, including threatened species, and wetlands of national and international importance (also known as Ramsar wetlands).

The Moreton Bay Ramsar site immediately to the north of The Spit master plan study area contains internationally significant wetlands that support protected migratory bird species. Migratory species, together with resident shorebirds, have been reported in The Broadwater and in and around The Spit.

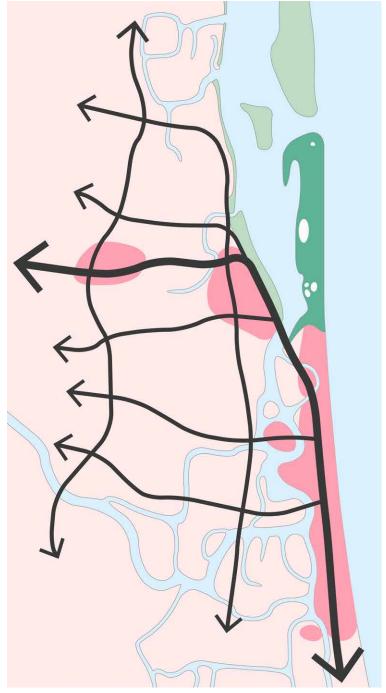
The Spit sits within this world class natural environment but also next to the Gold Coast's most urbanised areas. Urban development, waterway use and increasing population brings with it significant challenges to the protection and enhancement of national, state and local environmental significance.

City shape - the tip of the accessible coastal strip

The Gold Coast is predominantly a linear city surrounded and united by a green, gold and blue framework. As shown in Figure 9, the Gold Coast's city shape is comprised of a strong linear urban spine close to the coastline and the urban ladder - a series of east-west connections, intricate network of waterways and urban development to the foothills.

The Spit is poised between the intense and dense neighbourhoods of Main Beach and Surfers Paradise to the south and the natural, green and gold ribbon of sand islands of Moreton Bay to the north. Defined by water on three sides, The Spit is a highly identifiable component of the landscape and structure of the city.

Within the Gold Coast coastal tourism strip, Sea World is a significant landmark and termination point of the structured urban tourist experiences of the city.



Legend



Figure 9. City shape

Not to scale





City infrastructure

Four key pieces of infrastructure that serve a city-wide function are located in The Spit master plan study area. These are:

- the recycled water release system
- Gold Coast Seaway
- sand bypass system
- A-line seawall.

The preparation of concepts for the future of The Spit must support the ongoing operation of these facilities and where necessary the augmentation of services.

The City of Gold Coast has advised that additional recycled water could be made available on The Spit from the recycled water systems to support vegetation establishment and rehabilitation. This provides an opportunity to strengthen The Spit landscape and its environmental values.

Development of concepts for the future on The Spit must support the ongoing operation of city-wide infrastructure and where necessary, the augmentation of services.



Legend Seawall infrastructure

Foreshore seawall (A-line): future development requires a foreshore seawall to be in place along the foreshore seawall line Sand bypass system Sand pumping jetty Sand bypass infrastructure Recycled water release system Existing trunk recycled water release

system upgrade Study area boundary

Figure 10. City-wide infrastructure located in The Spit



The Spit

The Spit's natural amenity and recreation opportunities including uninterrupted views, beach and Broadwater frontages, open space, recreational facilities and tourist accommodation and attractions, make it a popular destination for both residents and visitors.

It is a highly identifiable part of the Gold Coast landscape and provides a transition from the intense urban spine to the natural environment on South Stradbroke Island.

The Spit's natural assets are examined in this section to build an understanding of this special part of the Gold Coast and the key issues, opportunities and challenges that need to be considered as part of the preparation of the master plan.

Community and culture

There is no doubt that people love The Spit and are passionately interested in its future.

Visitors and locals come from near and far to enjoy what The Spit has to offer. It is the place in this part of the Gold Coast to access The Broadwater, visit the dog off-leash areas, enjoy the natural surroundings or visit the many shopping or recreation attractions.

The spirit of entrepreneurial small business is also alive and well, with a range of water-based adventure recreation and tourism businesses, based on or launching from The Spit. Small business owners are passionate stakeholders whose livelihoods depend on the natural or built resources of The Spit.

There is a strong culture of volunteering with numerous volunteer organisations located and working from The Spit. There appears to be a culture of cooperation, mutual respect and connection between these marine recreation, public safety (surf and The Broadwater) and environmentally focused community organisations, many of which are actively imparting skills and knowledge to the next generation and bringing young people to The Spit.

In terms of the permanent population, Main Beach¹⁰, is now home to over 4,100 people¹¹. Although The Spit is part of the suburb of Main Beach, many people think of Main Beach as the mixed use neighbourhood south of MacArthur Parade. It comprises of both high and low rise residential development, a busy neighbourhood centre on Tedder Avenue and the Main Beach Tourist Park. Residents of this neighbourhood are frequent local users of the parkland and recreation resources given the close proximity to The Spit. Tourists and visitors staying in this area may also use the facilities and amenities of The Spit.

¹⁰ The Spit is part of the Main Beach Statistical Area 2 (SA2) that encompasses not only the residential area included in The Spit Master Plan study area for context, but also extends south to the area known as Narrowneck.

¹¹ QGSO Estimated resident population, 2016.

¹² DNRME (2004) 1:100,000 Geological Mapping of South East Queensland.

The demographic profile of the Main Beach statistical area (including The Spit) is markedly different to that of the wider Gold Coast community. The 2016 Census recorded that the Main Beach community has:

- a high median age (51) with more than one in four people aged over 64
- a high proportion of single person households
 (37.5%) and couple households with no children
- a high proportion of employed persons who walked (5.1%) and used public transport to travel to work (8.6%).

Of note is that 31.8% of private dwellings were unoccupied on Census night in 2016. This could reflect the nature of accommodation, with a high proportion of tourist accommodation or "lock-up and leave" holiday homes.

In terms of the wider community, in 2016 over 81,000 people lived within five kilometres and approximately a 10 minute drive of The Spit¹¹. Many residents in the surrounding suburbs of Labrador, Bundall, Southport and Surfers Paradise are likely to be regular users of The Spit's facilities and services, and some have direct views to The Spit.

Land form and elements

The Spit land form and elements provide the basic building blocks from which urban and recreation uses and facilities have emerged over the last 50 years together with new vegetation and emerging areas of environmental significance. It is important to consider these essential elements and the ongoing climatic and coastal processes that are working to shape the landform and the experience of users on The Spit.

Topography

The Spit is relatively flat with heights ranging from sea level to approximately RL 6.0, with the exception of areas along the eastern coastline that include local steeper undulating terrain and higher levels of the sand dunes up to approximately RL 9.0. Local mounding is also present in Doug Jennings Park, Philip Park and Hollindale Park.

The higher land forms to the east of Seaworld Drive means that there are no visual connections to the ocean when travelling along the central movement spine from one end to the other. Views across The Broadwater are interrupted by the intermittent two to four storey built form along The Broadwater edge. It is not until the end of The Spit that expansive water views are realised and the sense of enclosure in some parts of Seaworld Drive is released.

Soil

Department of Natural Resources, Mines and Energy (DNRME) mapping¹² indicates that the site consists of Quaternary (MG-Qhb): estuarine, flood plain, tidal delta deposits.

Soil composition may be a factor in the success of vegetation and rehabilitation work and requires further consideration along with dunal profile and irrigation. The profile of soil on South Stradbroke Island is for example more complex and advanced, with natural enrichment over time as the ecological profile has matured. In developed areas of The Spit, particularly around the resorts, it is likely that enrichment including the importing of new material has been undertaken.

The Spit is mostly below RL 5.0 and therefore it is likely to contain acid sulphate soils. Any construction activities will require site investigation and management of acid sulphate soils during construction.

Climate

Truly, "beautiful one day – perfect the next", the Gold Coast's mean daily temperature (between 9am and 3pm) very rarely drops below 15°C. Historical data shows that summer temperatures range between a comfortable mean minimum of 20.5°C and mean maximum of 28.8°C. Winter temperatures range between a mean minimum of 12.0°C and mean maximum of 22.0°C. February is the wettest month historically with data showing a monthly average of 170.4mm. Sea surface water temperatures in 2017 were recorded between 18.3 to 27.9°C¹³.

Finding shade on The Spit on a hot day can be difficult as there are no picnic shelters at the northern end and the nature of existing vegetation is such that only partial shade is provided.

Prevailing wind conditions

Data collected from the Gold Coast Seaway weather station between September 2006 and March 2018 shows predominant trends as shown on Figure 11. Summer breezes predominantly originate off-shore from the south-southeast to the north-northeast. Winter winds originate from the mainland and cross The Broadwater from the south to the northwest.

Users of The Spit are able to choose the oceanside or more protected Broadwater side, which provides great flexibility and diversity of experiences.

Prevailing wave conditions

Wave direction is generally between 78 and 130 degrees of true north, with the outermost recordings at 27.11 and 157.11. In 2017, the maximum wave height recorded was 7.23 metres. The highest ever recorded was 12.0 metres in 1996¹³.

Channel depths and maximum vessel draughts

Figure 11 includes the current maximum vessel draughts advised by Maritime Safety Queensland for the Gold Coast Seaway entrance, South Channel to The Broadwater marinas and North Channel towards the Gold Coast Marine Precinct via the Coomera River. The maximum draught of 2.1 metres plus tide and underkeel clearance of 0.5 metres restricts the size of vessels, such as superyachts, that may be able to move from The Broadwater to the Marina Precinct near Coomera for repairs or other work. This has an impact on the potential economic benefits and linkages from one area to another.

Hydrographic surveys (2014) show depths in the Seaway in excess of 12 metres but only depths to 5 metres in the delta area to the east of the Seaway. The leading edge of Wave Break Island and an accretion area immediately to the north-west of Doug Jennings Park significantly narrow the southern channel into The Broadwater.

¹³ Oueensland Government Gold Coast wave monitoring buoy jointly operated with the City of Gold Coast.

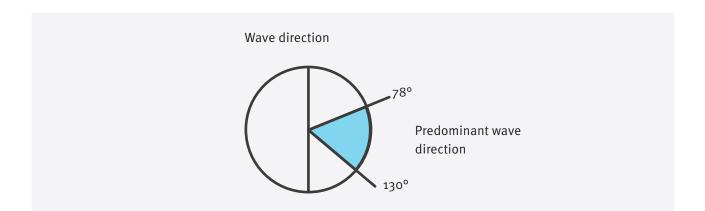




Figure 11. Summary of land form and climatic elements impacting on The Spit

1:30,000



Ecological processes

Coastal processes

As detailed in Part B of this report, The Spit has been formed by coastal processes and it is subject to ongoing coastal and climate change impacts that require proactive management. Much of The Spit, except for Sea World, the marina, hotel and commercial precinct and Southport yacht club, is included in a coastal management district (CMD) declared under the *Coastal Protection and Management Act 1995*. This requires that planning and development decision-making employs risk-management approaches that take into account the projected impacts of climate change. This issue will be further discussed in the Planning for natural hazards and climate change section of this report in Part D.

On the ocean-side, The Spit has a four kilometre interface with the ocean. South of the Sheraton Grand Mirage Resort, the A-line seawall provides a level of protection against coastal erosion from major storm events. North of the Sheraton the vegetated sand dunes of The Spit are a critical element of coastal and beach protection, absorbing the erosive energy of waves and stopping sand from being blown inland and lost from the active beach and dune system. Protecting dune vegetation is vital to avoiding sand blowouts and the migration of the dune inland.

Water quality

Water quality in The Broadwater, being a semienclosed embayment or use estuary, is influenced by a large number of factors including:

- tidal movements and flushing
- catchment inflows from the Coomera River and Pimpama River to the north and Nerang River to the south; and direct inflows from the smaller catchments of Biggera Creek and Loders Creek
- recreational boating and live-a-boards
- stormwater runoff and piped inflows from urban areas
- treated wastewater releases.

Between 2009 and 2017, water quality monitoring and annual performance rating showed that the health and condition of The Broadwater improved from a C- to an A, noting that there were some fluctuations during this period.

Maintaining a high water quality rating will require an integrated approach to managing pressures in both the catchment and immediate estuary environment. In particular, it is important to manage nutrient levels, turbidity and the health and extent of seagrass beds.



Water systems and values

The Spit master plan study area is host to an array of ecosystems including marine waters, foredunes, sandy beaches, rocky seawalls, coastal woodlands and sandbanks.

The marine waters in the study area are highly valued, with The Broadwater forming one of the top ten dugong habitats in Queensland, supporting several endangered shorebirds and a high diversity of fish species. This diversity of fish makes the Gold Coast Seaway one of the premier mainland dive locations along the east coast of Australia.

The ecological sustainability of The Broadwater and Gold Coast waterways depends substantially on the health of seagrasses and marine plant habitats and their associated animal communities¹⁴.

The connection between land and water is critical and both have implications for the water quality of the immediately surrounding ocean and estuary environments.

The environment – flora and fauna of The Spit and surrounds

The Spit is a unique environmental testament to its transition from a dynamic dune system to a stabilised landform.

Through planting and assisted rehabilitation, The Spit now contains and is sustaining habitats and species that are of national, state and local environmental significance. The surrounding shorelines and marine environment, particularly in The Broadwater contain high value ecosystems that support fauna species of environmental significance. The seagrass beds and shorebird foraging sites are particularly important habitats to protect in perpetuity.

Figures 12 and 13 summarise the matters of state and local environmental significance and particular environmental values of flora and fauna that are currently protected under Queensland legislation. Notes on field observations in March 2018 regarding the general condition of vegetation are also outlined.

Areas that are considered to be of national environmental significance exist immediately to the north and east of The Spit and the potential impacts on these areas from increased activities or development on The Spit need to be considered.

¹⁴ Griffith University, 2016.

Land systems and flora values

Terrestrial (land) ecosystems in the study area vary. These ecosystems are mostly in the early stages of colonisation and propagation due to The Spit's recent origin. These areas predominantly include a broad cross-section of Casuarina and Coastal Banksia of a similar maturity. Wave Break Island shows greater signs of ecological maturity and is marked as a locally environmentally significant biodiversity area, although weed infestations are reported. The recently named Curlew Island, south of Wave Break Island is also environmentally significant, in providing both foraging opportunities and high-tide refuge for resident and migratory shorebirds.

In summary:

- one nationally listed threatened ecological community, Casuarina glauca (endangered) has been observed and further detailed mapping is required to understand the extent and health of this community
- the mapped matters of state environmental significance may correlate with *Casuarine glauca* communities near Philip Park, to the east of Marine Stadium and on Wave Break Island
- one locally significant species Eucalyptus robusta (swamp mahogany) - is known to occur on Wave Break Island
- wetlands of state and local significance are mapped in patches in The Broadwater (refer to Figure 12).

The Spit's closest comparable ecosystems are the littoral rainforest that existed to the south and on South Stradbroke Island to the north. These ecosystems present the best 'natural' community templates for vegetation and rehabilitation work on The Spit.

Seagrasses

Seagrasses are a widespread and very important marine plant habitat on the Gold Coast with multiple ecosystem benefits.

During 2012 ecological investigations¹⁵, 48.9 hectares of seagrass were mapped north of Wave Break Island. It was reported that this represented a decline in coverage and an increase in fragmentation of seagrass meadows when compared with previous studies. There are no more recent detailed studies available, but from the perspective of The Spit master planning process the key messages are that the drivers of change could be attributed to altered sedimentation and accumulation of sand patches resulting from natural and/or human activities. Other localised factors related to nutrient levels and anchoring in areas on the eastern edge of The Broadwater adjacent to The Spit, could be a factor in seagrass occurrence and distribution.

The planting of seagrass as part of The Broadwater Parklands project has been trialled with two areas planted. Together with more traditional management practices in relation to access and recreation activities, this represents an opportunity for proactive aquatic revegetation.

¹⁵ VDM Consulting, 2012.



Matters of state environmental significance (MSES)

High ecological significance wetlands

Regulated vegetation (category B)

Matters of local environmental significance (MLES)

General priority vegetation management

Local significant wetlands

Coastal wetlands and islands core habitat system

Study area boundary

Figure 12. Environmentally significant flora and key issues





Fauna

A broad cross-section of terrestrial and aquatic fauna is found on The Spit and in The Broadwater. Particular species rely on both land and water resources and the intertidal littoral zone. Fauna groups include:

- shorebirds
- terrestrial fauna
- intertidal macroinvertebrates
- marine fauna.

Shorebirds

The sandbanks and low islands within The Broadwater provide important roosting and foraging sites for migratory and resident waders. Increasing recreational disturbance is an ongoing management issue for the protection of these areas.

Recent ecological investigations¹⁶ identified several shorebirds of conservation significance protected under international agreements and the Commonwealth (*Environment Protection and Biodiversity Conservation Act 1999*). Three of the shorebird species were identified as endangered, vulnerable and near threatened under Queensland and Commonwealth legislation. At the time these species were all recorded on and/or in the vicinity of Wave Break Island.

Terrestrial fauna

The most recent field studies¹⁷ on The Spit in 2017, which covered the majority of the vegetated zones on The Spit, found a total of 47 terrestrial vertebrate fauna species including 44 bird species and three reptile species. There were no threatened or near threatened species (under either the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) or *Nature Conservation Act 1992*) recorded on the eastern side of The Spit.

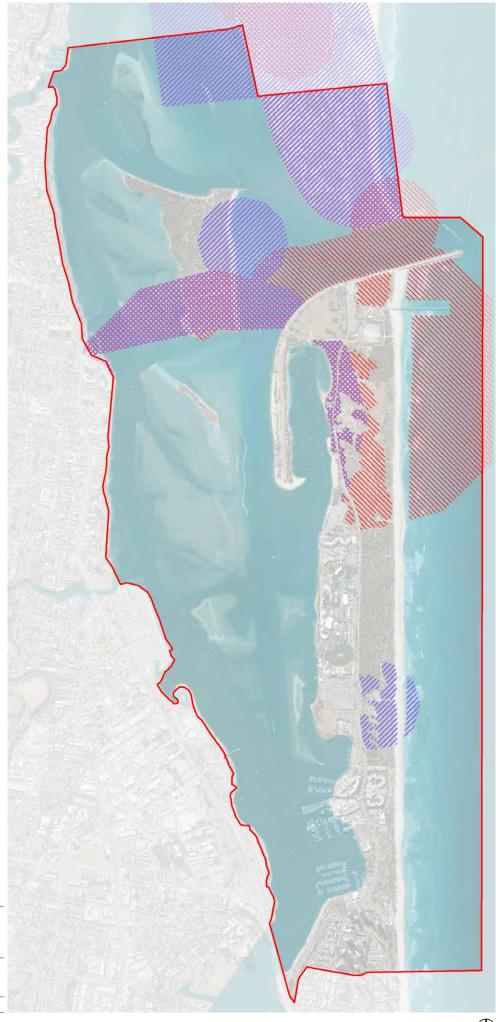
One threatened species, the Grey-headed Flying-fox (*Pteropus poliocephalus*; EPBC Act: vulnerable), has potential to occur as a rare seasonal visitor attracted to flowering trees in littoral and woodland habitats.

There have been anecdotal reports of large populations of Brown snakes and a reduction in the numbers of Red-bellied black snakes.

The bushfire in 2015 at the northern end of The Spit may have impacted on fauna quantity and distribution.

¹⁶ VDM Consulting, 2012.

¹⁷ BAAM, 2017.



Matters of state environmental significance (MSES) - State significant species (wildlife habitat)
Matters of local environmental significance (MLES) - Local significant species
Study area boundary

Figure 13. Fauna 1:25,000



Land uses and activities

The majority of existing land uses and activities on The Spit can be categorised into non-urban or urban as shown in Figure 14.

Non-urban (coastal environment, open space and recreation reserves) are the dominant land use on the northern and eastern parts of The Spit, accounting for nearly 68% of the core land area¹⁸. Urban land uses are mainly contained in the middle and southern part of The Spit on the western edge between Seaworld Drive and The Broadwater and currently cover 9.75 hectares (4.8%) of The Spit.

Sea World, while not a highly visible or connected land use on The Spit, is the single largest urban land use and covers approximately 27 hectares with an additional 2 hectares in the resort area. Together, the Sea World theme park and resort cover 14.4% of The Spit land area.

Only two commercial activities are located to the east of Seaworld Drive, the Sheraton Grand Mirage Resort and the small collection of businesses and utility installations near the Seaway and sand pumping jetty. The Golden Door Spa and Health Club located to the east of Seaworld Drive is a sport and recreation use given the nature of the facility.

A range of other small-scale non-residential uses are located in The Spit master plan study area, including:

- community uses and facilities (including clubs and volunteer organisation bases)
- utility installations including city-wide infrastructure
- mobile businesses operating from vehicles parked along the roads or in car parking areas at the northern tip of The Spit.

The public open spaces and coastal reserves of The Spit support a broad cross-section of land, ocean and Broadwater based recreation and commercial tourist activities as shown in Figure 14. Both active and passive recreational uses can be observed at The Spit from scuba diving to Tai Chi. This diverse range of large and small land uses and activities contributes to the vibrancy of The Spit.

While many of the uses and activities occurring require limited infrastructure, some activities are infrastructure dependent. For example, the launching of larger watercraft is limited to Muriel Henchman Park and Proud Park that have public boat ramps and pontoons. Small-scale non-motorised personal watercraft (e.g. canoes and kayaks) are easily launched from a number of other locations where car parking enables relatively direct access.

While the land mass of The Spit enables it to absorb a broad range of uses and activities, competition for space, safety issues and environmental impacts are starting to emerge and be reported in adjacent areas in The Broadwater.

The challenge for the master planning process is to understand the interaction and connection between land and water activities and the carrying capacity of The Broadwater and/or management issues that may have land use planning implications. A complementary examination of the management of adjoining on-water activities would be of benefit as the master planning process proceeds.

User studies are currently being undertaken into the recreational use of The Spit and the results of these studies will be considered in the preparation of the master plan when available.

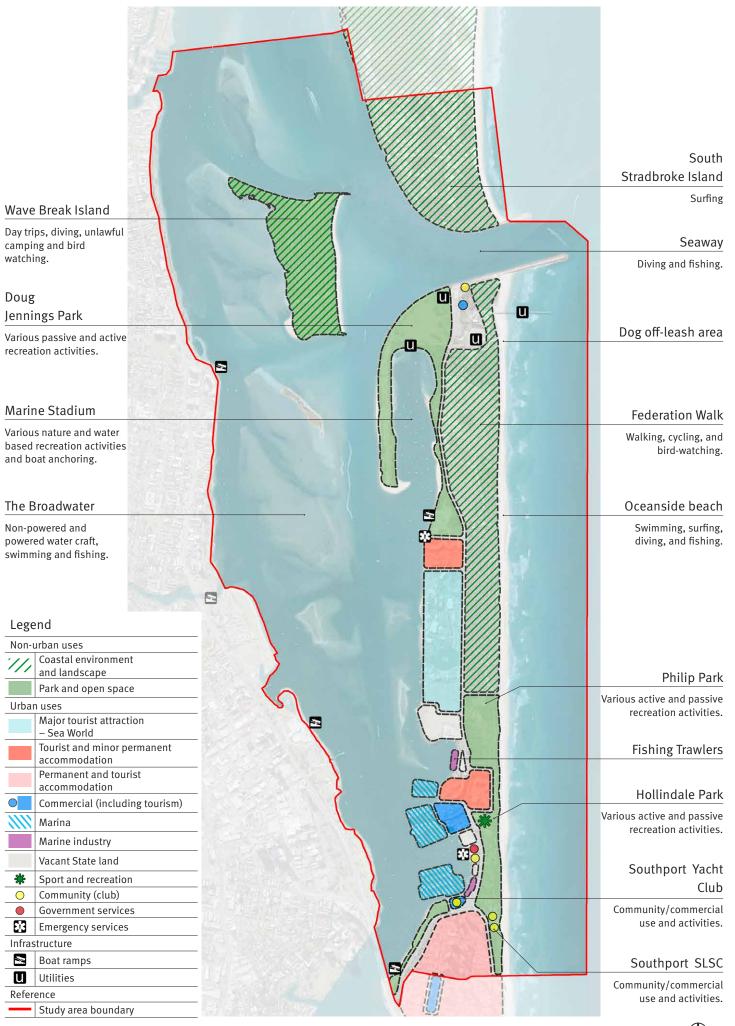


Figure 14. Land uses and key activities on The Spit

Economic drivers and employment

Contribution to the Gold Coast economy

The contribution of The Spit to the tourism sector on the Gold Coast is significant.

In terms of tourist accommodation, the most recent data shows the Main Beach area accounted for approximately 7.1% of the total hotels on the Gold Coast in the year ending June 2016, but provided for 11.6% of the total takings from accommodation. Main Beach also has the highest average takings per occupied hotel room at \$238 per night¹⁹, which is 20% more than that of the next highest (Tamborine-Canungra), which reflects the high quality of hotel offerings and the sought after location of The Spit and Main Beach.

According to a report released by TripAdvisor in 2016, four of the top five attractions rated on TripAdvisor on the Gold Coast (with more than 100 reviews) were located at The Spit, highlighting the importance that this area provides to the broader Gold Coast tourist market.

Competitive advantages

The Spit has a range of competitive advantages to other locations on the Gold Coast, that present an opportunity to maintain and attract visitors, investment, businesses and experiences to The Spit.

Key competitive advantages relate to location and amenity offerings, primarily in the form of access to population centres, Broadwater marine access, beach frontage and open space.

From an economic perspective the competitive advantages of The Spit are apparent in industry specialisation in the arts and recreation services and accommodation and food service sectors, both of which leverage the location and amenity offerings available. Localised agglomeration (where productivity gains are derived from the proximity of businesses in the same industry - in the case of The Spit, tourism and recreation) are significant strengths.

Striking an appropriate balance between leveraging commercial investment opportunities and protecting and promoting the natural assets of The Spit is a key challenge to the long term sustainability of the attraction, amenity and experience of The Spit.

Employment

According to the 2016 Census, there were 2,907 people who had their place of work in Main Beach statistical area (which includes The Spit). A significant Gold Coast employer is Sea World where more than 1,700 people work.

As shown on Figure 15, employment is concentrated at the southern end of The Spit. Small businesses, in individual tenancies in Marina Mirage and Mariner's Cove are important employment opportunities. The Saturday farmer's market in Marina Mirage offers visitors and residents a different experience and enlivens the internal space of the shopping centre.

Other more mobile businesses that utilise The Spit are taking advantage of the public access to and infrastructure on The Spit.

The challenge for the master plan is to support existing businesses while enabling new enterprises to emerge where complementary to the vision for the future of The Spit.

¹⁹ ABS Tourist Accommodation, Australia, 2015-2016.



Employment densities

o -4 persons

5-19 persons

20-199 persons

200-999 persons

1000+ persons

Reference

Cadastre

Study area boundary

Figure 15. Employment densities on The Spit

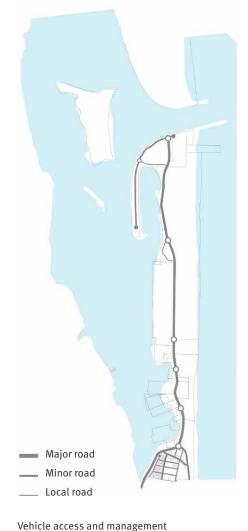


Figure 16. Access and movement

1:50,000



vernete decess and managemen

Access and movement

Access and movement throughout The Spit is generally linear in nature and focused north-south for vehicles, pedestrians and cyclists. Connections eastwest are generally less well defined.

Peak traffic congestion

During peak holiday season when Sea World closes or there is a storm event, visitors leave Sea World and the beaches in a short period and significant congestion can occur on Seaworld Drive, MacArthur Parade and Waterways Drive as the intersection to the Gold Coast Highway can not accommodate the volume of northbound vehicle movements. At most other times, traffic appears to move freely.

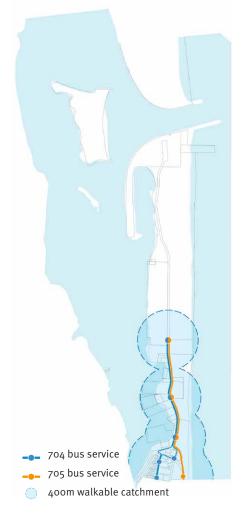
The City of Gold Coast has commenced an investigation of options to improve the carrying capacity of the Gold Coast Highway and the Sundale Bridge.

Vehicle access and management

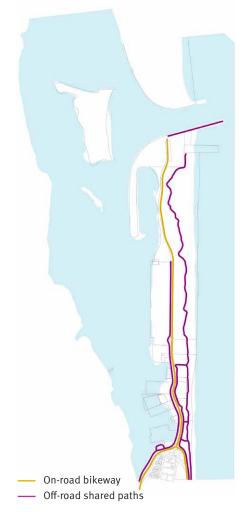
Vehicle access to The Spit is via one point at the roundabout between MacArthur Drive and Seaworld Drive.

Seaworld Drive is two lanes each way from this roundabout to the roundabout entry to Sea World with kerbside parking and a cycle-lane on each side. From this point to Muriel Henchman Drive, Seaworld Drive then becomes one lane in each direction with kerbside parking lanes but no on-road cycle lane. Beyond Muriel Henchman Drive the road narrows and includes on-road cycle lanes. Informal parking in this section on the verges of the road is of concern from a cyclist safety perspective.

The series of roundabouts at key locations along Seaworld Drive appears to assist in ensuring free flowing traffic. The median strips south of Seaworld Drive necessitates the use of the roundabouts to access sites on the opposite side of the road. The curvilinear alignment of Seaworld Drive has an ameliorating effect on vehicle speeds.







Cyclist facilities

Public transport

Two public bus routes, the 704 and 705, service
The Spit with a 15 minute frequency, seven days a
week. These routes service Sea World but do not
continue past this point. The closest stop to The Spit
on the G:link light rail network approximately one
kilometre south of the roundabout entry to The Spit.
It is possible to connect from the G:link to the 704
bus route north into The Spit but this requires a walk
between the two stops of approximately 200 metres.

The Gold Coast City Plan identifies a corridor for light rail investigation on The Spit. This would be a spur route off the main north-south line currently located parallel to the Gold Coast Highway. No route has been confirmed or funds committed to this project at this time. Demand and viability of such a service is linked to the nature and intensity of uses proposed on The Spit in the future. A prudent and future proof approach would be to ensure space is reserved for this potential opportunity in future as part of the master plan.

Cyclist connections and facilities

On-road cycle lanes are marked on Seaworld Drive and appear well used. Some encroachment of parked buses into the cycle land has been observed.

Off-road cyclists have the option of using a sealed pathway to the north as part of the Oceanway connection and then continuing on a wide gravel path as part of Federation Walk to the tip of The Spit. This is popular with mountain bike riders.

Few facilities such as bike racks have been provided for cyclists in key locations. During site inspections, ride share bikes were observed unattended near the entry to the Sea World Resort and Water Park and in the Federation Walk coastal reserve.



Pedestrian facilities

Pedestrian connectivity

The Oceanway and Federation Walk provide a strong north-south off-road connection for pedestrians.

Within the Seaworld Drive streetscape, pedestrian pathways are provided on both sides as far north as Philip Park and the roundabout providing access to the Gold Coast Fishermen's Co-operative. North of this point and as far as Muriel Henchman Park, there is only a footpath on The Broadwater side of the road. From Muriel Henchman Park to the tip of The Spit there is no pedestrian path.

There are few direct formalised pedestrian connections on The Broadwater side of The Spit. A public promenade extends from Mariner's Cove to the Palazzo Versace. This varies in width and quality and is not generally suitable for cyclists.

In terms of east-west connections across Seaworld Drive, there are limited dedicated crossing points or protected pedestrian refuges with kerb ramps. The pedestrian overpass from the Marina Mirage to the Sheraton Grand Mirage Resort provides for direct and safe movement in this location but there is limited pedestrian access to the overpass from street level. A zebra crossing is located near the entrance to the Sea World Resort and Water Park.

Minor east-west connections to the oceanside beach provide some access, but in Federation Walk the entry points to these connections are not well signposted and the legibility of the network can be an issue for unfamiliar users.



Parking

Figure 16. Access and movement

1:50,000



Parking

Large public parking areas are located at key points on The Spit. Parking along the roadside in the northern section of Seaworld Drive is well utilised and it has been observed that Sea World staff and users of Muriel Henchman Park are the predominate users.

Private parking areas are well utilised during peak times but where these areas are at ground level, there are issues (as mentioned elsewhere) in terms of visual and water quality impacts.

Other

Mini-buses are a common transport option for tourist businesses on The Spit and an effective door-to-door option for small groups. There appears to be a need for additional dedicated parking for this form of transport.

Events

Transport to events is restricted depending on the scale and nature of the event. The single point of vehicular access to The Spit makes event management simple in some ways but can have flow on effects to business located on The Spit.

The use of vacant state land for overflow parking during events could be considered along with shuttle buses. Event management plans appear to benefit from considering a mix of transport modes.

Overall, connectivity on The Spit for all modes, but particularly pedestrians and cyclists, could be improved.



Sense of place

The Spit can be seen as a linear place comprised of two parallel halves with a clear termination (at the "Tip of The Spit").

Seaworld Drive forms a strong central spine that separates the ocean-side coastal dune system from The Broadwater foreshores on the western side. Each area has its own character, identity, range of associated uses, visual amenity and characteristic views.

The "Tip of The Spit", is the one place on The Spit where there is a connection, physically and visually to both the ocean and The Broadwater environment. This area has a very strong sense of place.

Within this broad structure, five key spatial areas as shown on Figure 17 are identifiable places and precincts on The Spit.

- 1. The marina, hotel and commercial precinct in the south
- 2. Sea World and the associated Sea World Resort and Water Park in the middle
- 3. The coastal foreshore along the east
- 4. The Marine Stadium
- The Tip of The Spit encompassing Doug Jennings Park, the eastern seawall and associated infrastructure.

Seaworld Drive is a strong north south link and defining element for discrete parts of The Spit, although it does not provide continuous pedestrian and cycle paths. Federation Walk is a nature based north-south link for pedestrians and cyclists. Ongoing rehabilitation of vegetation, east west link and clearer way finding elements would improve the experience of Federation Walk.

Access to The Broadwater is limited and discontinuous in central (Sea World) and southern parts, contrasting with the highly valued and accessible Moondarewa Spit adjacent to the Marine Stadium and The Broadwater.

A positive aspect of the access point that Seaworld Drive provides is that there is a clear sense of entry and, for many people, The Spit begins at the roundabout at the intersection of MacArthur Parade and Seaworld Drive.



- The marina, hotel and commercial precinct
- Sea World and the Sea World Resort and Water Park
- (3) The coastal foreshore
- 4 Marine Stadium
- 5 The Tip of The Spit

Figure 17. Five key spatial areas of The Spit $\,$

1:20,000





Built form character

The majority of substantial buildings on The Spit are located to the west of Seaworld Drive and extend south of Sea World along the edge of The Broadwater to the yacht club.

While there is a collection of buildings on the southern edge of Sea World that form the entrance and gateway to the theme park, Sea World buildings remain largely unseen.

Buildings are generally low rise and do not exceed four storeys in height. The shade sails of the Marina Mirage and to a lesser extent the Sea World Resort are striking visual elements in the landscape when viewed from the west or The Broadwater.

Overall, the architectural character of the Gold Coast and The Spit is diverse, eclectic and vibrant, reflecting its relatively recent history and origins and as a holiday destination. More recent periods of development activity has resulted in a greater diversity of architectural styles on The Spit. These styles coincide with various trends in resort style architecture in the 1980s to early 2000s.

The Spit's built form can be described in relation to a series of themes including:

- Pre-1970s Main Beach Pavilion, Southport Surf
 Lifesaving Club and TS Tyalgum Australian Navy Cadets
- Maritime character buildings and structures –
 Mariner's Cove, Sea World entry building, Seaway kiosk and jetty
- 1980s modernism Marina Mirage, Sheraton
 Grand Mirage Resort, Sea World Resort, Southport
 Yacht Club
- **Nostalgic** Palazzo Versace, Sea World attractions
- Contemporary sustainable Doug Jennings
 Park toilet building
- Temporary structures Sea World Cruises ticket and departure offices, Friends of Federation Walk site office and various shipping storage containers

Immediately to the south in the Main Beach neighbourhood, a mix of low and high-rise buildings exist in a variety of low rise and tower forms.



Streetscape type ${\sf A}$



Streetscape type B



Streetscape type C

Figure 18. Streetscape types





Public realm, open space and landscape character

Public realm character and experience

Many of The Spit's public spaces are beginning to show their age and once well-established and maintained public and private landscape treatments in the developed areas of The Spit have ceased to exist. Other treatments in the road reserve such as pedestrian pavements and urban furniture are also looking dated or are in disrepair. Materials and finishes used in the streetscape are inconsistent and in some places present a hazard to pedestrians due to a lack of maintenance.

Publicly accessible, but privately maintained, Broadwater side promenades are also looking tired and in need of a refresh. Vacant shops, signage and poorly maintained awnings and furniture do not present a high-end finish to the core commercial precinct and this otherwise vibrant marine edge.

The most obvious shortcoming in the public realm of The Spit is a lack of pedestrian amenity in the form of shade and urban furniture that would make it a more inviting and comfortable place.

Open space and landscape character

Figure 19 illustrates the diversity of open space landscape character units currently evident on The Spit.

The Spit has displayed a dichotomy in its landscape character since the resort hotels Sheraton Grand Mirage Resort and Palazzo Versace were constructed in the 1980s and 1990s. The Sheraton Grand Mirage Resort was constructed with the "tropical" planting themes that were very popular at the time. Similarly Palazzo Versace was designed with tropical planting themes albeit with a Mediterranean influence. These treatments contrast with adjoining natural coastal vegetation that is of variable density and condition.

This dichotomy of landscape character is not unusual on the Gold Coast and contrast in itself can be a positive. However, the question remains as to whether this kind of discordant approach to landscape is the best outcome for The Spit or new work should follow a landscape ethos of places being true to their location and their context.



Seaway edge

Informal interface to The Broadwater Vegetated coastal dunes & landscape Beach and foredunes Resort landscape 6 Theme park Seaside park 8 Maritime Undeveloped / vacant state land - fenced Main Beach neighbourhood low 10 to high rise Commercial character

Sand bypass system

Streetscape type A
Streetscape type B
Streetscape type C

infrastructure

Figure 19. Public realm, open space and landscape



Open space and recreation infrastructure

Recent improvements in Doug Jennings Park appear to have been well received by the community and support access and management outcomes, while establishing comfortable, safe and accessible paths of travel for users. The emergency access stairs are a valuable piece of public safety infrastructure.

The range of recreation infrastructure located within The Spit is variable and in some areas is surprisingly minimal. A full overview is provided in Figure 20. While there is a good spread of public toilet facilities across The Spit from north to south, there are few formal picnic shelters, barbecues and high quality play facilities. Older public toilet amenity blocks in Muriel Henchman Park, Philip Park and Hollindale Park are not consistent with current best practice principles regarding crime prevention through environmental design (CPTED). These facilities and public safety would benefit from upgrading or replacement.

The challenge is to find the right balance between the provision of new public space and recreation assets and the retention of the sense of escape to a natural environment where urban elements recede into and are dominated by the landscape qualities of the place.

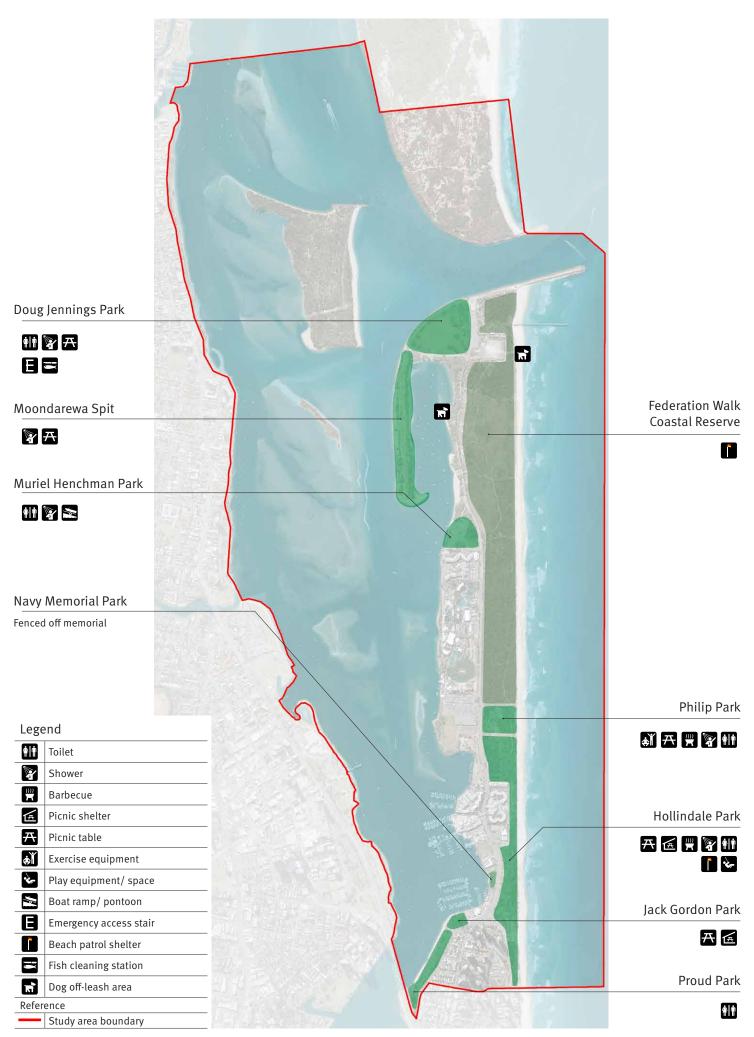


Figure 20. Open space and recreation infrastructure

Visual amenity and views

Scenic amenity is the relative contribution of each place in the landscape to the collective appreciation of open space as viewed from places that are important to the public.

The scenic value of an area can bring great economic and amenity benefits to a local community.

These values can be enhanced or degraded in various ways including by the presence, absence or type of public access, viewpoints and development.

Overall, The Spit presents the opportunity for both residents and visitors to experience a different visual amenity in terms of scale and character than that available elsewhere on the Gold Coast.

Within The Spit, views to the ocean or The Broadwater are relatively limited from Seaworld Drive given that coastal dunes rise to the east and buildings and fences block and filter views to the west. Currently the main public vantage points for clear open views to the west are from the northern end of The Spit and Sea World car park (although this is impeded by temporary structures and shipping containers).

Views from The Broadwater promenade between the Palazzo Versace and Mariner's Cove are also valued although these views are filtered through the dense forest of yacht masts and substantial floating building structures.





Image location

Views from The Spit are highly valued and the "Tip of The Spit" is reported to be a favourite place for locals to bring visitors.

The view from the Seaway groin wall or sand pumping jetty south towards the high-rise spine of the Gold Coast is a favourite of both locals and visitors alike. The juxtaposition of the golden sand, low coastal dunes and vegetation with high-rises in the distance gives that feeling of being "in the city, but a world apart".





The Spit, as a landform and distinct place in the city, is most often viewed from public spaces to the west and south-west across The Broadwater. When viewed from Southport both the landform and the built form of The Spit sit unobtrusively between the blue expanses of The Broadwater and the sky. Given the topography and that dunes rise to the east behind buildings, building generally do not present against the skyline and do not dominate the view. In contrast, the Main Beach neighbourhood south of MacArthur Avenue presents as the terminus of high-rise development and there is a dramatic drop in scale on The Spit.





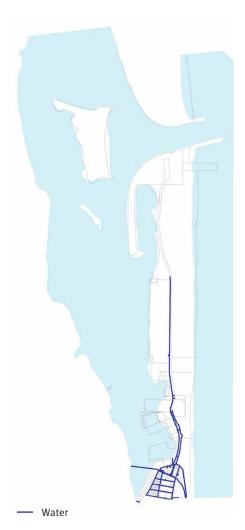
Views from the northern tip of The Spit towards the west take in the busy Seaway in the foreground, with Wave Break Island and the high-rise buildings of Runaway Bay in the middle distance and the mountain ranges in the far distance. The visual connection between the sea and the mountains speaks to the notion of "the green behind the gold" and serves to promote the Gold Coast region as a diverse landscape providing visitors and residents alike within an exciting range of experiences.





Image location

Another easily accessible vantage point is the end of Moondarewa Spit. Views from this point look down the western edge of The Spit taking in Sea World with the high rise buildings of Main Beach and Surfers Paradise in the distance.



Potable water

Figure 21. Infrastructure



Stormwater

Infrastructure

The Spit is currently serviced by trunk water supply and sewerage infrastructure from the south along Seaworld Drive. Stormwater drainage systems discharge to the road and site flows to The Broadwater in a number of locations along the western edge of The Spit.

No improvements or extensions to trunk water or sewer services are known to be proposed at this time. Further consideration of available capacity and demand analysis may be required during the consideration of options for The Spit once the nature and intensity of development proposed is understood.

Water supply

As shown in Figure 21 an existing pipeline under The Broadwater from the west and trunk mains in the Main Beach area service The Spit. The water main extends along Seaworld Drive terminating at the northern end of Sea World, possibly servicing Muriel Henchman Park. There is no other existing water infrastructure north of Sea World.

Stormwater

Stormwater drainage infrastructure is located in various locations along the length of Seaworld Drive extending as far north as the northern end of Sea World. It primarily collects road drainage and services existing facilities in the area.

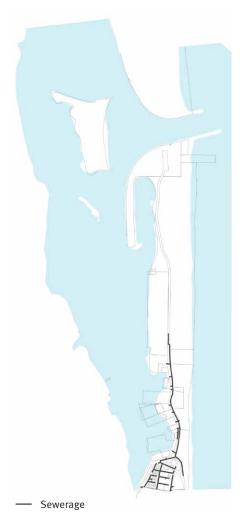
Generally stormwater mains connect from Seaworld Drive and discharge flows into The Broadwater at a number of locations between the Sundale Bridge and the Sea World Resort and Water Park. Three of these stormwater lines are covered by easements through leased areas.

There is no existing stormwater infrastructure north of the Sea World Resort and Water Park. Drainage of the road pavement is provided by surface runoff between formed crests from the crown to swales and surfaces along each side of Seaworld Drive.

Further investigation and consideration of water quality initiatives and treatment measures is recommended to manage discharges into The Broadwater.



Electricity network



Sewerage system

1:50,000



Electricity supply and management

Power is located underground on The Spit and this significantly benefits visual amenity particularly in the more natural landscape at the northern end of The Spit.

The underground electrical cables extend along Seaworld Drive to Doug Jennings Park.

There has been consideration of alternative energy sources to offset the energy costs of operating the sand bypass system.

Gas

There is an existing 90mm diametre gas main along the eastern side of Seaworld Drive.

Sewerage

Existing gravity trunk sewer along Seaworld Drive services urban uses up to and including Sea World. This gravity sewer line connects with the downstream trunk sewer in MacArthur Drive. New toilets in Doug Jennings Park have been serviced from by a GCWA private rising main to the existing gravity sewer network.

Telecommunications

Two telecommunications towers are currently operating on The Spit:

- VMR Tower Muriel Henchman Drive
 Optus to 4G 2100MHz and Vodafone 4G1800Mhz
- Sheraton Grand Mirage Resort
 Telstra 4G2600MHz and Optus 3G2100MHz.

Both of these towers are visually unobtrusive and present the Voluntary Marine Rescue service (VMR400) with the opportunity to offset operational costs.

Land tenure and management

All land north of the MacArthur Parade roundabout on The Spit is under the control of the State of Queensland. State land can be subject to a lease, licence or permit, reserved for a community purpose, dedicated as a road or subject to no tenure at all.

Over 78% of the land in The Spit is classified as state reserve, and approximately 15% is categorised as leasehold tenure. Figure 22 illustrates the current pattern of land tenure across The Spit.

Reserves comprise land that has been set-aside for a particular public or community purpose. A reserve is typically subject to a deed of grant in trust, which in most instances defers effective "ownership" and control to the local government or a community association. Reserves can be held in trust and currently both the City of Gold Coast and Gold Coast Waterways Authority hold land in trust on The Spit and are therefore responsible for the day-to-day management and maintenance of this land. Should alternative activities be proposed, or deemed appropriate, changes to the tenure arrangements or trust deeds may be required to facilitate the use.

Term leases and perpetual leases are the predominant type of lease for the commercial activities on The Spit. A term lease is issued for a specific purpose and the land must only be used for the purpose for which the lease is issued. The maximum term of a term lease under the *Land Act 1994* is 50 years, except for state leases over reserves, which have a maximum term of 30 years.

Perpetual leases do not expire, therefore they have a level of security equivalent to that of freehold. The Sheraton Grand Mirage Resort and Palazzo Versace Resort are subject to perpetual leases.

Tenure arrangements, in particular term leases, may present significant barriers to investment and reinvestment in larger scale commercial activities due to uncertainty regarding use timeframes, and associated risks regarding funding and return on investment. This limits operators and businesses to respond to changing markets and needs, and limits the quantum of re-investment to variables such as the return on investment over the remaining term of the lease.

On The Spit there are only a handful of state land sites that are vacant. These sites are marked A, B and C on Figure 22.

Site A is approximately 6 hectares and is located between Sea World and the Gold Coast Fishermen's Co-operative and comprises of a number of parcels. Part of this site is used by Sea World for overflow car parking purposes. This site has been the subject of previous development proposals.

Site B is much smaller (9,858m2) and is located between Mariner's Cove and the Queensland Government Gold Coast regional office that is home to the GCWA, Gold Coast Water Police, Maritime Safety Queensland (MSQ) and a customs officer. Site B is unallocated state land reserve strategic land, meaning that the land is to be held from sale or disposal because of its potential to contribute to the future strategic development of the state.

Site C is a small area that is part of an existing state reserve between TS Tyalgum Navy Cadets and Southport Yacht Club. This site includes the remnants of the Humphreys boat shed and slipway.

Subject to further investigation, these sites potentially represent an opportunity to support the delivery of the vision and concepts for The Spit once determined through the master plan process in consultation with the community and stakeholders.

Easements

There are a number of easements across The Spit in both reserve and leased land areas. The specific purpose of these easements is primarily for public utility purposes and infrastructure. These easements ensure public utility providers can protect, access, operate and maintain their infrastructure.

Native Title/ Aboriginal Party(s)

The Aboriginal Party for the area is the Danggan Balun (Five Rivers) People.



Study area boundary Figure 22. Land tenure 1:25,000

Legend Land tenure

RE - Reserves held in trust

LL - Land leased

SL - Special leases

NP - National Park

FH - Freehold

ABC Vacant State land

Cadastre

Reference

District centres are intended to support a mix of employment activities as well as other population needs related to goods and services for a catchment of between 20,000 and 40,000 and provide around 3,000 jobs.

Statutory planning and development parameters

The current statutory planning framework for The Spit is established by the Gold Coast City Plan (Version 4.0).

Strategic framework

In relation to The Spit, the strategic framework, which has a time horizon to 2031, indicates that The Spit is intended to provide:

- a diverse range of marine-based tourism and recreation, commercial fishing and event activities
- a high standard of low-rise resort accommodation, tourist attractions and entertainment facilities within a recognised area of outstanding natural beauty
- low-rise accommodation, commercial, retail and marine industvry activities at a scale and intensity that protects local character
- major tourism attractions located within The Spit and nearby.

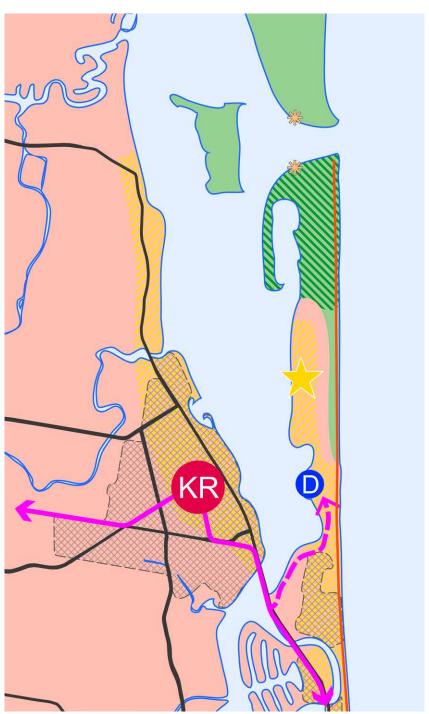
The Gold Coast City Plan Strategic framework map 1 identifies the whole of The Spit as part of the Urban area of the city. As shown in Figure 23 this is further refined in the broad settlement pattern map with the northern part of The Spit shown as natural landscape and the southern part in the urban neighbourhood category with a District centre. No specific outcomes are outlined for The Spit district centre.

Generally, district centres are intended to support a mix of employment activities as well as other population needs related to goods and services for a catchment of between 20,000 and 40,000 and provide around 3,000 jobs.

Given the proximity of the Southport Central Business District (CBD) and the Tedder Avenue neighbourhood centre, further consideration of the role of the district centre on The Spit is required as part of the master planning process to understand if this categorisation fits with the future role of The Spit.



Figure 23. Current strategic framework



Zoning

Land within The Spit study area is included in a range of zones as shown on Figure 24.

A large portion (68.5%) of The Spit's land area is included in the Conservation zone and Open space zone (roughly equal portions).

Sea World (including the Sea World Resort and Water Park) is zoned Major tourism, and at **14.4**% of land on The Spit, is the second largest single consolidated use.

Land included in the Community facilities zone is the third largest area at **4.6%**. This land includes the Gold Coast Fishermen's Co-operative. This use is considered to be a commercial marine use. This zone currently does not comprise any operating community uses.

Only 1.5% of the total land area is included in the Centre zone, but when combined with the two major resorts in this precinct (zoned Medium density residential), the total area of the precinct is 4.8%.

The Waterfront and marine industry zone comprises **2.0%** of the total area.

Small-scale and temporary land uses or businesses are an important part of the land use and activity mix and require flexibility and opportunities to establish and operate.

The appropriateness of current zonings, specifically the Community facilities zone, Medium density residential zone and Waterfront and marine industry zone, requires further consideration as the vision and preferred master plan concept are prepared in consultation with the community and key stakeholders, considering desired built form and amenity issues.

The interface and amenity between long-term accommodation (or potential permanent residential uses) and marine industries also needs to be considered.

Building heights

Buildings heights are illustrated in Figure 28.

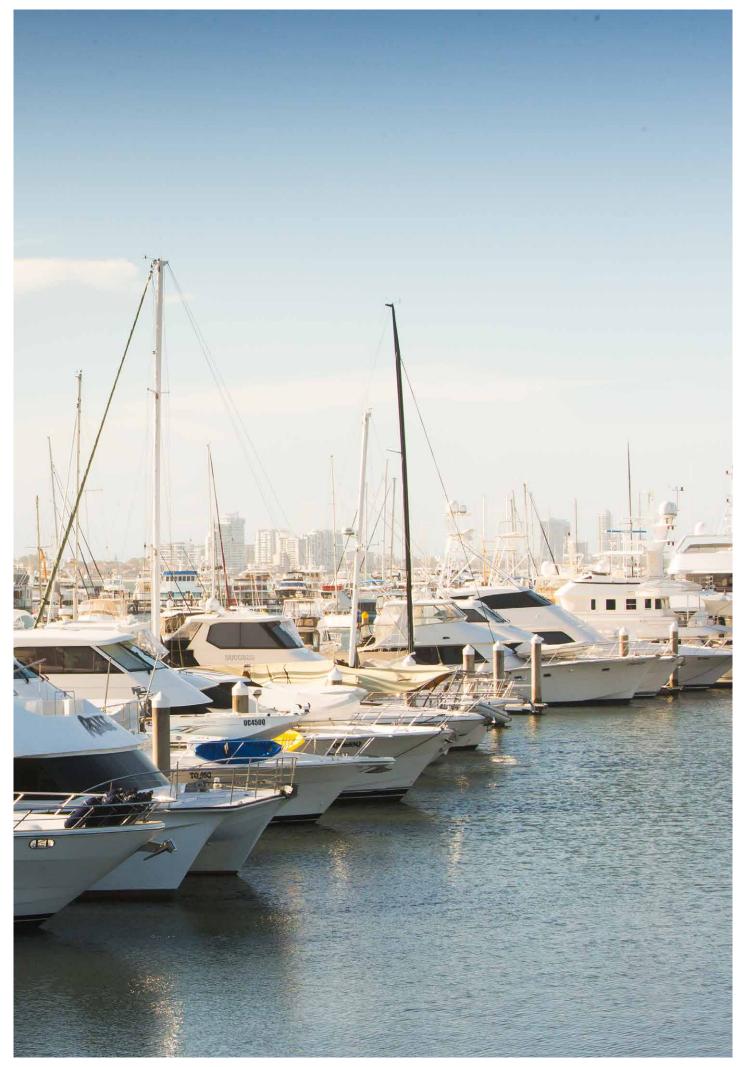
In terms of building heights, the building height overlay map includes land on The Broadwater side of The Spit from the Sea World Resort and Water Park to Mariner's Cove in an area where buildings can be up to 3 storeys or 15 metres in height, whichever is the lesser. The Sheraton Grand Mirage Resort on the ocean-side is also included in this building height category.

Building heights for other areas zoned for urban development, such as the yacht club, are set down in the relevant development use code. The Gold Coast City Plan provides for impact assessment of increases in building height up to a maximum of 50% above the Building height overlay map in limited circumstances where specific outcomes are satisfied. In the case of The Spit, this would mean a building height up to 4 storeys might be considered on its merits.



Zoning Conservation Open space Major tourism, Sea World Community facilities Centre Waterfront and marine industry Medium density residential High density residential Reference Cadastre Study area boundary

Figure 24. Zoning 1:25,000



Part D –Looking to the future

The next phase of The Spit master planning project involves envisaging and producing concepts for the future of The Spit.

This part examines expected population changes, current strategic projects and key trends and emerging issues that should be considered as part of the preparation of the master plan.

In terms of the size of the population, an additional 53,000 people are projected to be living within five kilometres or a 10 minute drive of The Spit by 2036.

A growing and changing Gold Coast and local community

Globally and locally, the age profile of our communities is changing along with the total population.

Over the next ten years, a big proportion of the "baby boomer" generation is projected to reach retirement age. Already, one in four people living in the Main Beach neighbourhood are over 64 years old with a corresponding low level of households with children. As The Spit is also this neighbourhood's "local park", planning for all spaces should incorporate best practice age-friendly design principles.

In terms of the size of the population, an additional 53,000 people are projected to be living within five kilometres or a ten minute drive of The Spit by 2036, taking the total number of people living close to The Spit to 134,000.

This growth in the permanent residential population and ongoing visitor demand is expected to place pressure on the local road network, open space facilities, community infrastructure and use of The Broadwater as a water playground. The City of Gold Coast and Queensland Government have a number of projects and investigations underway to provide additional infrastructure capacity where it is most needed.

Strategic role and the making of a great place

In the city structure, The Spit is clearly poised between the highly urbanised coastal tourism strip that extends along the eastern oceanside of the Gold Coast and the natural expanses of South Stradbroke Island to the north. The Gold Coast Seaway presents a distinct break between the predominantly urban and environmental areas of the coastal strip, with parkland, open space and coastal environmental reserves providing a transition of land use and activity mix and intensity.

A key challenge for the master planning process is to determine and confirm, in consultation with all stakeholders, the preferred strategic role and function of The Spit into the future. Both the community and development industry will benefit from the certainty brought by a master plan. It is likely that new proposals will arise over time, but the master plan will provide a platform for the Queensland Government, City of Gold Coast and Gold Coast Waterways Authority to jointly evaluate these proposals.

The Spit is located in close proximity to a number of strategically important planning, development and capital works project areas that aim to establish the Gold Coast as a world-class city. The Spit needs to find and establish its place and offering in this mix.

Key committed projects include:

- G:Link, the Gold Coast Light Rail network that connects to heavy rail at Helensvale with further stages planned
- the Southport Central Business District (CBD) planned as a high density commercial, residential and civic 24/7 hub servicing a city of over 900,000 by 2041

- the Gold Coast Health and Knowledge Precinct,
 a Gold Coast 2018 Commonwealth Games legacy
 project, that will see 29 hectares transformed into
 a hub with the Gold Coast University Hospital,
 Gold Coast Private Hospital and Griffith University
 at its core
- the city's new arts and culture heart, the Home of the Arts (HOTA) on 17 hectares at Evandale west of Surfers Paradise
- the Broadwater Parklands project that involves ongoing improvements to foreshore parkland in Southport
- master planning is underway to examining the potential for improvement in the Surfers Paradise business centre.

The City of Gold Coast has proposed that a cruise ship terminal be located on the oceanside of The Spit. The master planning process will consider the potential effects of the proposed oceanside cruise ship terminal at Philip Park in relation to its built form, access arrangements, servicing layout and infrastructure requirements.

The Spit already has strengths in tourism and recreation and there are opportunities to build on these to secure and create it as a special place into the future. The Spit contains open space and ecological values extremely close to the Southport CBD which accentuates its value and future role to the local area, CBD and City of Gold Coast.

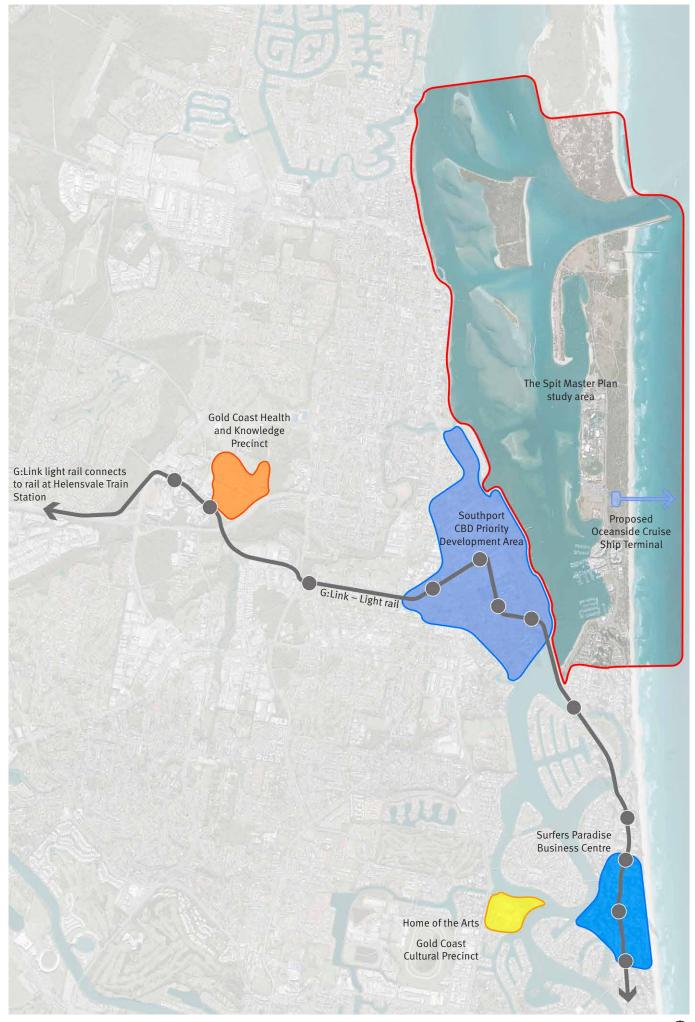


Figure 25. Strategic projects 1:40,000



Destination Gold Coast – The Spit

Tourism will remain a core part of the Gold Coast's economy strategy, but the size of the population means that the service economy is growing along with employment in the health and aged care sectors to support the changing needs of the population.

The *City of Gold Coast Economic Development Strategy* 2013 – 2023 (Version 2.0 October 2013) envisages the coastal corridor, The Broadwater and islands, of which The Spit is part of, as providing opportunities in:

- marine facilities
- tourism, recreation and leisure activities
- tourism infrastructure
- destination beach and surf districts
- dive attractions
- creative incubators
- collaborative workspaces.

Another challenge for the master plan is how to consider global mega-trends in tourism including those listed in the following table (Table 1).

The application of best practice destination management will enable tourism to add value to the economy, social fabric and ecology of the community. Tourism can be an economic driver, generating jobs and contributing lifestyle benefits, but equally needs to be managed to ensure that it establishes a positive legacy for future generations²⁰.

Moreover, this focus on the visitor experience not only benefits the tourism economy but enhances local recreation and open space use. Brisbane's South Bank is a good example of a locally valued and well used tourism destination that combines open space, tourist attractions, retail space, commercial development, permanent accommodation and hotel accommodation close to cultural facilities and the Southport CBD.

²⁰ Australian Regional Tourism Network.

Table 1. Analysis of tourism megatrends and The Spit's ability to respond

The Future of Tourism in Queensland:

 $Megatrends\ creating\ opportunities\ and\ challenges\ over\ the\ coming\ twenty\ years\ CSIRO\ Futures^{21}.$

The orient express	The Gold Coast is well placed to take advantage of this trend that involves increasing visitors numbers from Asian and India with major growth opportunities associated with attracting new tourists from the developing Asia region, with an international airport and differentiated destination. As previously mentioned, within the Gold Coast, The Spit presents an opportunity to provide a point of difference and attraction to both premium and budget visitors.
A natural advantage	Tourists are expected to be drawn to nature-based experiences and the natural assets and on the Gold Coast, The Spit will increasingly be an important drawcard for permanent residents and visitors alike. Managing nature based experiences to enhance the Gold Coast tourism offer is a key consideration, as is the prospect of cultural tourism including Aboriginal cultural heritage and connection.
Great expectations	The Spit is well placed to take advantage of the anticipated rise in demand for experiences over products and the rising importance of social relationships. The Spit offers nature-based and adventure tourism opportunities within the context of a world-class city. It has authentic connections to the immediate neighbourhood and numerous public spaces and clubs that support community and social development. These experiences will become more highly valued by all visitors over time.
Bolts from the blue	Extreme weather events or other negative events have the potential to negatively impact on tourist perceptions. Good coastal planning and management is critical to the stability of The Spit and condition of The Broadwater. The southern end of The Spit is protected by the A-line seawall but the tip of The Spit is more vulnerable to coastal erosion processes.
Digital whispers	The virtual world is here and the Gold Coast's brand is on the rise with carefully crafted messages and images.
On the move	With an international airport and established light rail network with connections to rail, the Gold Coast is building infrastructure for the future and will be well placed to take advantage of mobility trends.
	The strong linear nature of the tourism strip also assists with orientation and legibility.
The lucky country	Australia is seen as providing a relatively stable political, social and natural environment compared to other destinations in the southern hemisphere. It is noted that Australia and Queensland are considered to be expensive relative to other destinations. It is beholden therefore on all levels of government to minimise red-tape and support both large and small tourist operations.
Other insights	The Future of Tourism report also outlines five defining characteristics of Queensland's unique value proposition for domestic and international tourist markets: - safe and secure - clean - green - friendly and authentic - worth it. The Gold Coast and The Spit is well placed to deliver on these defining characteristics.

²¹ S Hajkowicz, H Cook and N Boughen, 2013.



Natural hazard risk and climate change response

Natural hazard risks on The Spit can come from three key directions:

- the ocean through coastal erosion, storm surges and rising sea levels resulting from climate change
- from the Nerang River through flooding
- on land through bushfire.

The impact of climate change on the frequency of disaster events is relevant when considering the future of The Spit.

Planning and development must appropriately consider the risks to people, the environment and property from these potential natural hazard events. Development is generally located or designed to avoid high hazard and risk where there is an intolerable risk. Actions to avoid risk or reduce the risk to a tolerable level may be required.

Coastal erosion

Coastal erosion planning, capital works and management on the Gold Coast is ongoing and the risk along the Gold Coast foreshore is managed through the last line of defense, the A-line, a boulder wall that is mostly sand covered. The A-line only extends as far north as the northern end of the Sheraton Grand Mirage Resort. The positioning of new public or private infrastructure on The Spit north of this point will require the consideration of coastal management implications and requirements.

Development located on sites affected by the foreshore seawall mapping in Figure 10 will need to ensure that a foreshore seawall constructed in accordance with Gold Coast City Plan exists on the foreshore seawall line and the development appropriately mitigates coastal hazard impacts.

²² Major floods or events between 1896 and 1996 have been documented in a publication by the Queensland Government Statisticians Office.



Flooding

It can be easy to forget that there have been at least three major flood events in the last 100 years associated with the Nerang River²², in 1939, 1954 and 1974. In each case, low-lying areas of the Gold Coast were flooded, requiring evacuations. Wave action caused damage in many areas along the coastline, and tragically in the 1954 event 26 people died. The Nerang River rose to a record level in the 1974 flood and heavy swells caused severe beach erosion along the coastline.

The City of Gold Coast is in the process of completing amendments to flood overlay mapping that reflects Queensland Government policy directions on planning for climate change.

The new mapping includes:

- an 8o cm sea level rise
- a 10% increase in storm tide intensity
- a 10% increase in rainfall intensity
- the most up-to-date flood related topographic, land use, technological and hydrological data.

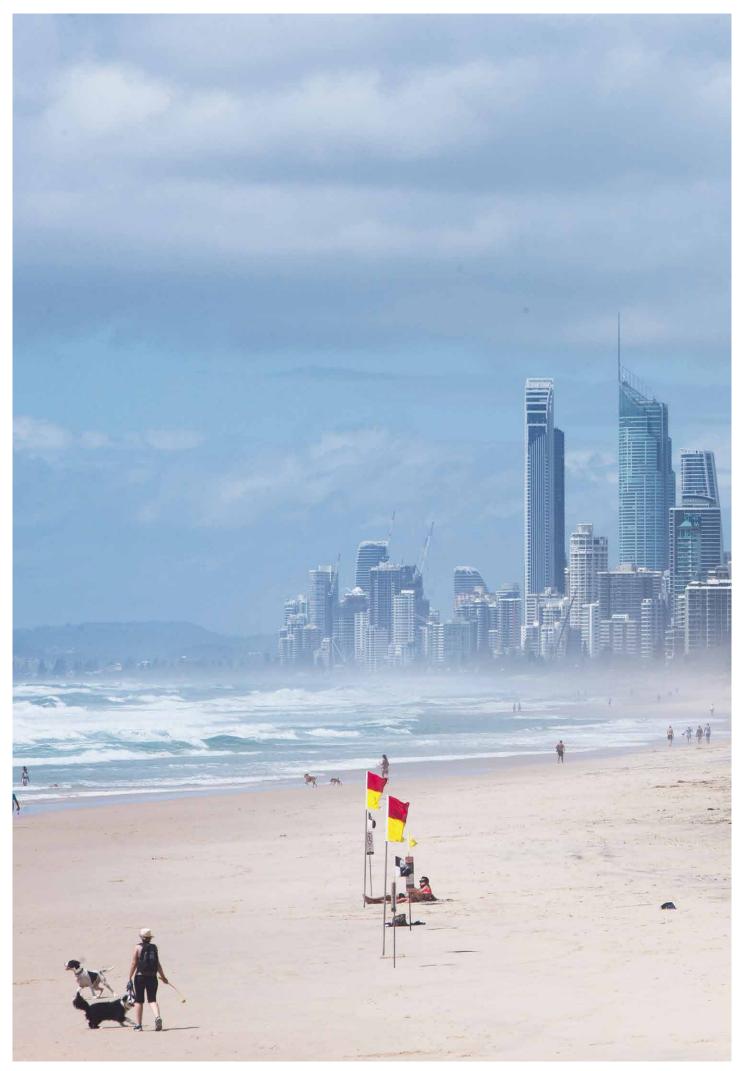
The implications for The Spit (based on draft mapping) are shown in constraints mapping in the next part (Part E).

Bushfire

Although The Spit is not identified on state mapping as a bushfire hazard risk area, in November 2015, a large fire rapidly destroyed a significant area of vegetation in the Federation Walk coastal reserve. This fire was fanned by strong northerly winds and temperatures in excess of 31°c. As the fire was fast moving, it was reported²³ that hundreds of people were trapped at the northern end for at least four hours until the blaze was brought under control. Police evacuated Sea World as a precaution and restricted northbound traffic and access.

Ongoing best practice hazard and fuel-load reduction in consultation with all stakeholders and the Friends of Federation Walk is critical to managing risk in the context of greater extreme weather events.

²³ Gold Coast Bulletin 21 November 2015.



Part E – Identifying the key strengths, issues, constraints and potential responses

Various issues have been identified through the background studies undertaken as part of Phase 1 of The Spit master planning process. These issues were outlined in Part C and D of this report.

This part brings together the background analysis to support the development of the vision and concepts for the future of The Spit and presents an understanding of:

- existing strengths
- current issues
- constraints
- potential responses.

The potential responses provide an insight into what could be considered to capitalise on The Spit's strengths and to address the issues and constraints that have been identified.

The potential responses serve to inform how the visions for The Spit could be given effect and provide the basis for the exploration of opportunities during the process of producing and evaluating master planning options.



Figure 26. Key strengths and values

Community

Strengths and values

The Spit has strengths in each of the three key dimensions of a successful and balanced place – community, environment and economic values.



Community spirit and volunteering

The Spit is a well-known and valued local and regional landscape. Individuals and groups contribute to its strong community spirit and sense of place.

The Spit hosts a range of community groups that have a strong sense of attachment to the land, ocean and Broadwater. These include:

- Southport Surf Lifesaving Club
- Southport Yacht Club
- TS Tyalgum Navy Cadets
- Friends of Federation Walk
- Volunteer Marine Rescue (VMR400).

Each of these groups is comprised of volunteers that contribute to the strong sense of community on The Spit.

It is also evident that there are connections between community groups and local businesses. These connections help to strengthen not only the community and social dimensions of The Spit, but also its economic diversity and network strength. Community attachment and business connection is a strength that could be built on into the future.







Economy





A place connected to water

The Spit is a highly identifiable component in the regional landscape that connects the people and urban fabric of the Gold Coast to nature, particularly water and aquatic ecosystems. Water surrounds and defines The Spit and is a focus for both land and water uses and activities.

The natural elements of The Spit are highly valued by the community as a place to escape from what some describe as the "concrete jungle", to unwind and get some breathing space from the city. The coastal foreshore reserve provides a point of difference and through ongoing revegetation is becoming a place of environmental significance in its own right.

The Spit's marinas, boat ramps and beaches provide a launching point for locals and visitors alike and reinforce the connection between land and water.

Access to water based active activities provided by The Spit are highly valued by the community, along with opportunities for passive activities, such as walking, dog walking and fishing on the water's edge with relaxing and restorative views.

Economic advantages and synergies

The Spit has a range of competitive advantages not available in other locations on the Gold Coast.

Key competitive advantages relate to location and amenity offerings, primarily in the form of access to population centres, The Broadwater marine access, beach frontage and open space. The agglomeration of tourism, accommodation and recreation services builds synergies and economic strength through specialisation.

While The Spit is home to premier tourist attractions and resorts, including Sea World and its associated resort, the Sheraton Grand Mirage Resort and Palazzo Versace, it is also home to a range of small to medium water based recreation businesses, such as dive and surfing schools, water-craft hire (powered and unpowered) and is a launching point for fishing, whale watching and tours of The Broadwater.

Striking an appropriate balance between commercial investment and amenity protection of The Spit, in key industry sectors that leverage the amenity offerings of The Spit is a key challenge to the long term sustainability and protection of amenity, attractions and experiences of The Spit.

Issues

The following issues have been identified.

Community and cultural heritage

- There is limited information available on Aboriginal cultural heritage and connection.
- Local heritage places are not accessible or historical connections are not visible.

Strategic role

- The lack of an agreed vision and strategic framework for The Spit is causing uncertainty for both the community and development sector.
- Looking forward, the demands of a growing and changing population profile are likely to bring new pressures and challenges for The Spit.

Ecological processes and the environment

- Vegetation communities are not sufficiently established, resilient or self-regenerating.
- The mono-culture and similar age of plantings increase the risk of these plantings failing.
- The simple dune system inhibits diversity and evolution of species.
- Increasing visitor numbers increases the risk and likelihood of impacts on environmental values (e.g. impacts on shorebird roosting sites in The Broadwater).

Urban structure and built form

- There is not a cohesive urban core or strong civic focal point at the southern end of The Spit.
- Existing development and built form do not positively contribute to the quality or character of key public spaces.
- It can be difficult for visitors to find their way to key destinations and departure points in the marina area.

Public spaces and landscape

- The quality of public spaces (Seaworld Drive, parks and privately owned public walkways) in terms of user amenity, safety and comfort is variable.
- There appears to be no clear strategy or coordinated approach to the role of different open space elements on The Spit.

- Recreation amenities are limited north of Philip Park and only support short-stays (e.g. no picnic shelters, or bbqs).
- Large asphalt car parking areas affect the visual amenity and character of The Spit, generate heat island effects and impact on stormwater quality.
- There has been a proliferation of temporary small scale storage (i.e. shipping containers).

Access and movement

- Delays are experienced when large volumes of traffic exit The Spit during peak times.
- Public transport does not service the full length of The Spit.
- On-road cycle lanes are not consistent.
- Pedestrian connections along The Broadwater edge are fragmented.
- Pedestrian connections east-west are poor.
- The legibility of pedestrian connections is poor.
- Parking for mini-buses close to pick up and drop off points is limited.

Infrastructure

- The role and integrity of city-wide infrastructure that is located in The Spit needs to be protected and maintained.
- Site infrastructure is generally limited to the southern end.

Land tenure and management

- Different land tenure arrangements may be constraining renewal, redevelopment and ongoing investment.
- Unclear land and water management responsibilities are confusing for the community and resulting in inconsistent implementation of strategies.

The Broadwater use and management

- Growing demand and uses means that conflicts and competition are occurring between different users groups.
- There are reported water safety concerns due to poor visibility and water craft speeds.

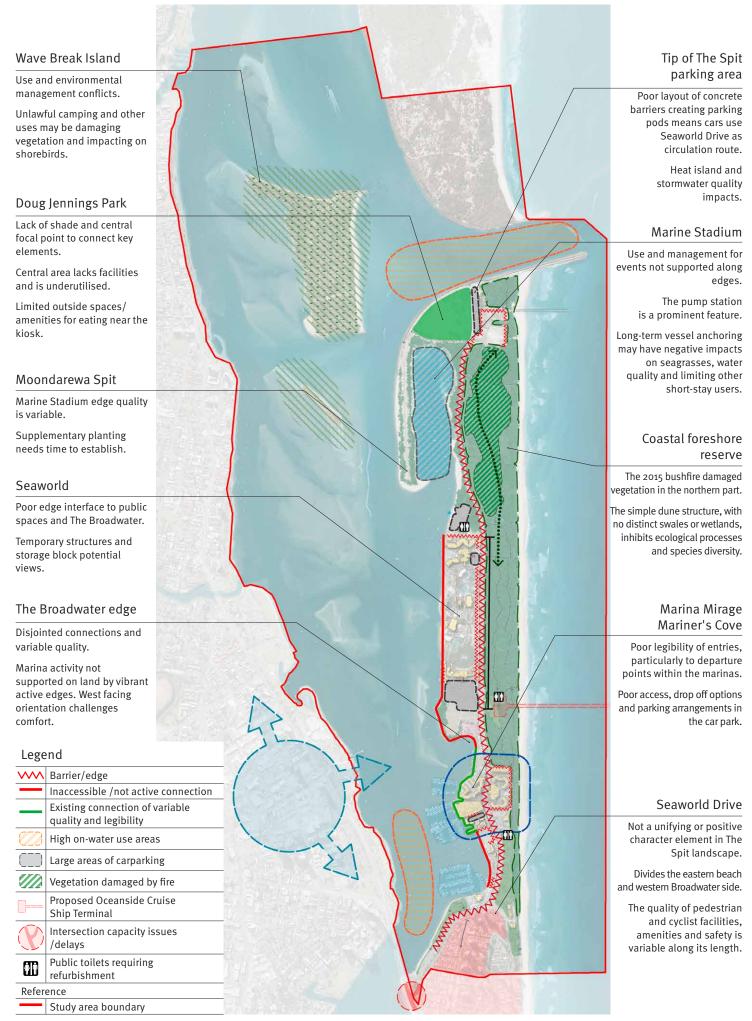


Figure 27. Issues 1:25,000



Constraints

Constraints that need to be considered during the preparation of concepts for the future of The Spit include matters where change may:

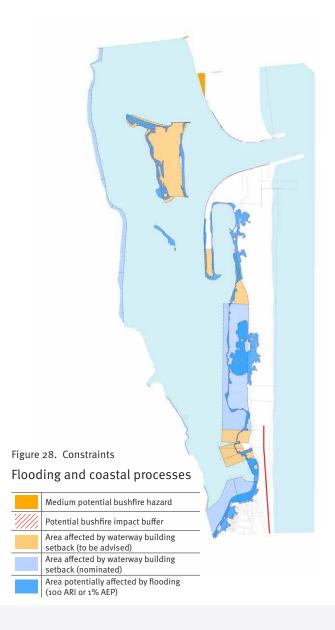
- pose a significant risk to people or property from natural hazards or climate change
- negatively impact on environmental processes, values or significant species of flora or fauna or cultural heritage values
- have implications on policy decisions and commitments made to the community.

Constraints may be direct or indirect, for example where a change has a negative impact on an important value.

Key constraints relate to:

- flooding and coastal processes
- environmental processes and values
- building heights.

Information for each of these constraints is drawn from the Gold Coast City Plan current and draft overlay mapping that sets out requirements and development parameters.



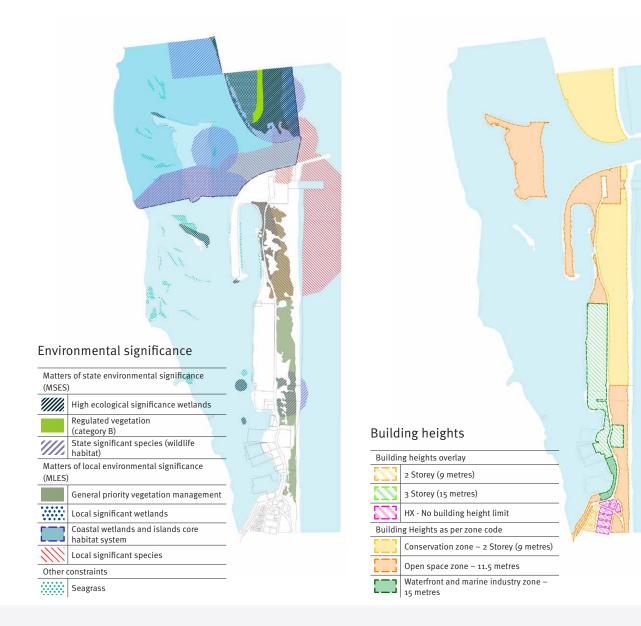
Flooding and coastal processes

Buildings and public spaces are located and designed to reduce hazards to people and property from flooding, storm surge and climate change. Figure 28 shows areas of The Spit identified in the Flooding overlay that may be subject to a 100 year Average Recurrence Interval (ARI) event (also known as 1.0% AEP). This constraint and consideration is more applicable on the western side of The Spit.

Further flooding analysis is required to determine the appropriate levels for development of facilities on a site-by-site basis, depending on the land use and nature of development proposed. Some land uses, for example, require a higher level of flood immunity such as accommodation for the aged (200 year ARI) or disaster management facilities (500 year ARI). Facilities or areas that can more easily be evacuated in advance of an event, such as parks and theme parks, may be subject to a higher degree of hazard risk.

On the oceanside, the A-line seawall is intended to provide a last line of defence during coastal erosion events. The integrity of the wall is protected where development occurs, and buildings are appropriately set back from the line.

Building setbacks and edge treatments are required to appropriately consider and address natural hazard risks from flooding and coastal processes.



Environmental processes and values

Areas of environmental significance in terms of flora and fauna are existing and emerging on The Spit. Figure 28 illustrates that many of these values are concentrated at the northern end of The Spit and are overlapping.

Further detailed studies may be required to confirm species and the exact extent of significant areas as specific proposals for parts of The Spit are developed.

The core approach to the protection of areas of environmental significance is firstly avoid negative impacts and then, where impacts cannot be avoided, mitigate or offsets the impacts.

In terms of other ecological processes, development should not impact on the water quality of The Broadwater. Where new development or redevelopment of private or public spaces is proposed, best practice stormwater planning and design and water sensitive urban design principles, should be applied to protect and enhance natural water systems.

Building heights

The Queensland Government has decided that the master plan is to promote a low-rise future for The Spit in accordance with the current Gold Coast City Plan building heights.

The City Plan allows for development up to 3 storeys or 15 metres (whichever is the lesser), with an opportunity for a 50% increase in height in urban neighbourhoods within the building height overlay. This means that buildings up to 4 storeys, being the lessor of the two measures (rounded down), could occur in specific areas where strategic outcomes are achieved and subject to impact assessment processes.

Potential responses

There are many potential responses to the results of the foregoing analysis of strengths, issues and constraints.

These potential responses are presented for further consideration in the next phase of the project as the vision, opportunities and options are explored.



Growing land ecological systems and environmental values

The stabilised landforms of The Spit, Wave Break Island and tip of South Stradbroke Island have emerging vegetation communities that could become locally and regionally significant supporting a greater diversity of fauna species.

On The Spit, the response could be to showcase best practice revegetation work and transform the landscape into a more complex system that further evolves in the future. This could be pursued in partnership with key stakeholders and existing community groups such as the not-for-profit Friends of Federation group. Making the most of recycled water supplied for irrigation is part of this response.

••••

Seaworld Drive as a unifying element

At the moment Seaworld Drive supports vehicle movement but is not an attractive, comfortable or safe (in some areas) environment for pedestrians. The road is not a unifying element in the landscape.

A potential response could be to establish distinct character and place treatments along its length relating to the land uses, activities and environmental factors. For example, a more natural character in the north and urban/resort feel in the core marina, hotel and commercial hub transitioning to local seaside park character in the south.



Multiple civic focal points

The scale of The Spit is such that it can accommodate multiple civic focal points to spread the load of events and opportunities across the area. A range of public space types that are suitable for events, including large grassed areas or more formalised areas with flexible hardstand space, may be appropriate.

Such a response could be explored in existing public spaces, including in Doug Jennings Park in the north and vacant State land within the marina, hotel and commercial hub towards the southern end.



Embracing and connecting with Sea World

Sea World has already stepped outside its front door with whale watching and helicopter tours departing from facilities that are accessible at different times than the main theme park. This extends the parks offerings and hours.

One response to this situation could be that Sea World builds on its world class location, providing glimpses and connections to The Broadwater and a better interface to Seaworld Drive.



Marine Stadium

Marine Stadium is defined and fringed by key places, including Moodarewa Spit, Doug Jennings Park, Muriel Henchman Park and Seaworld Drive. It hosts a broad cross-section of uses and activities but the condition of its edges and environmental quality is variable. A potential response to this circumstance could be to establish better land and water connections and manage this space to ensure it delivers community, environmental and economic benefits.



Wave Break Island

The primary role of Wave Break Island is to protect land areas in Labrador behind the island from ocean and coastal processes associated with the seaway. Use and management issues appear to be arising as there is no clear on the ground "caretaker" for the island and surrounding sand banks which are home to protected species. The island is sufficiently stable and a response to this situation may be that a small-scale commercial use could be established associated with its land and/or water activities, for example "glamping" for divers or birdwatchers.



Linking seaside parks and local history

At the southern end of The Spit, there are places and buildings of local and state cultural heritage significance that provide evidence of the areas use as a seaside tourist destination during its early European settlement. Tall stands of pine trees in Hollindale Park and Jack Gordon park reflect plantings in the 1960s and 1970s. These parks could be better connected to each other and the history of The Spit.



Demonstrating best practice planning and design that balances community, environmental and economic values

A potential response to the existing unallocated state land on The Spit is to utilise it as an asset to reinvigorate the commercial and economic role of The Spit, delivering multiple benefits and embracing connections.



Access by water transport

As a response to the need for improved transport, The Spit could be connected with other locations by small-scale water transport. This can be further examined as the preparation of the master plan proceeds to consider potential locations and infrastructure requirements.



Public transport to the Tip of The Spit

Two bus services currently run along Seaworld Drive to Sea World. With minimal capital investment a service could loop to the end of The Spit providing another access option for users.



Supporting and connecting community groups, business, education institutions and government

Forging stronger connections between community groups, business, education institutions and government for projects and work experience is a potential response for future consideration.

Celebrate Aboriginal cultural heritage and connection

There is an opportunity to celebrate Aboriginal cultural heritage and connection with the local area and The Broadwater on The Spit. As with other opportunities, strategies and concepts that connect community, the environment and economic advantage could be explored as part of the master plan.

A range of other public space opportunities exist to:



Signify the entry to The Spit



Celebrate key views from The Spit



Improve the visual and water quality outcomes of large car parking areas

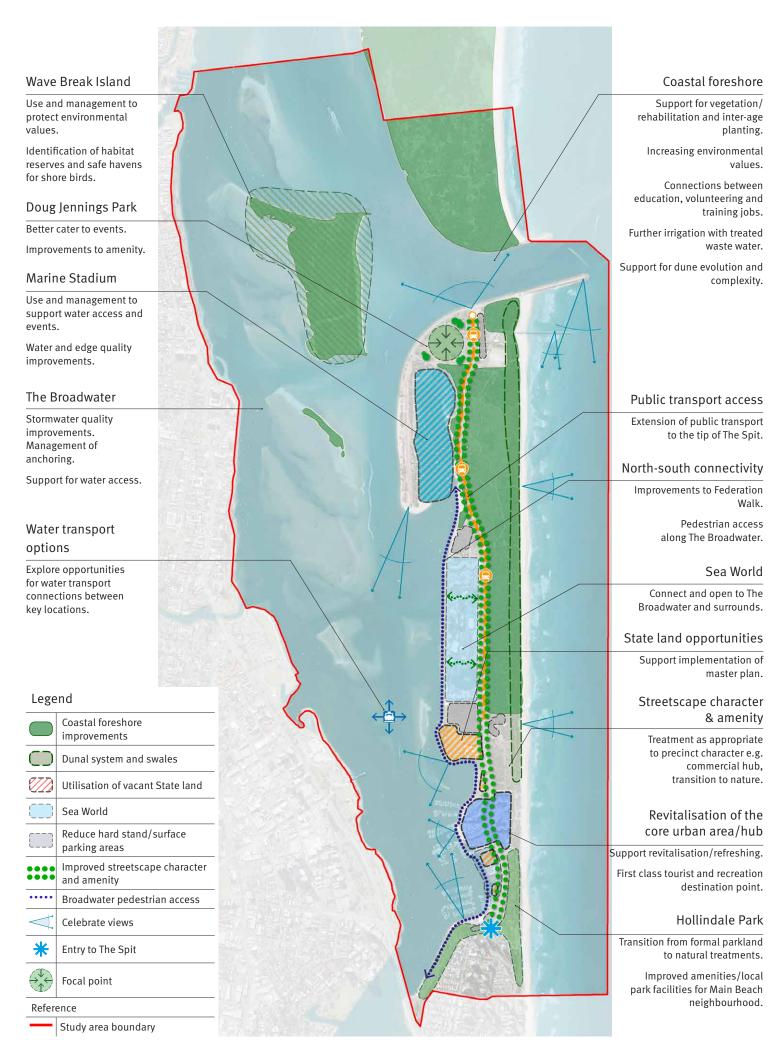
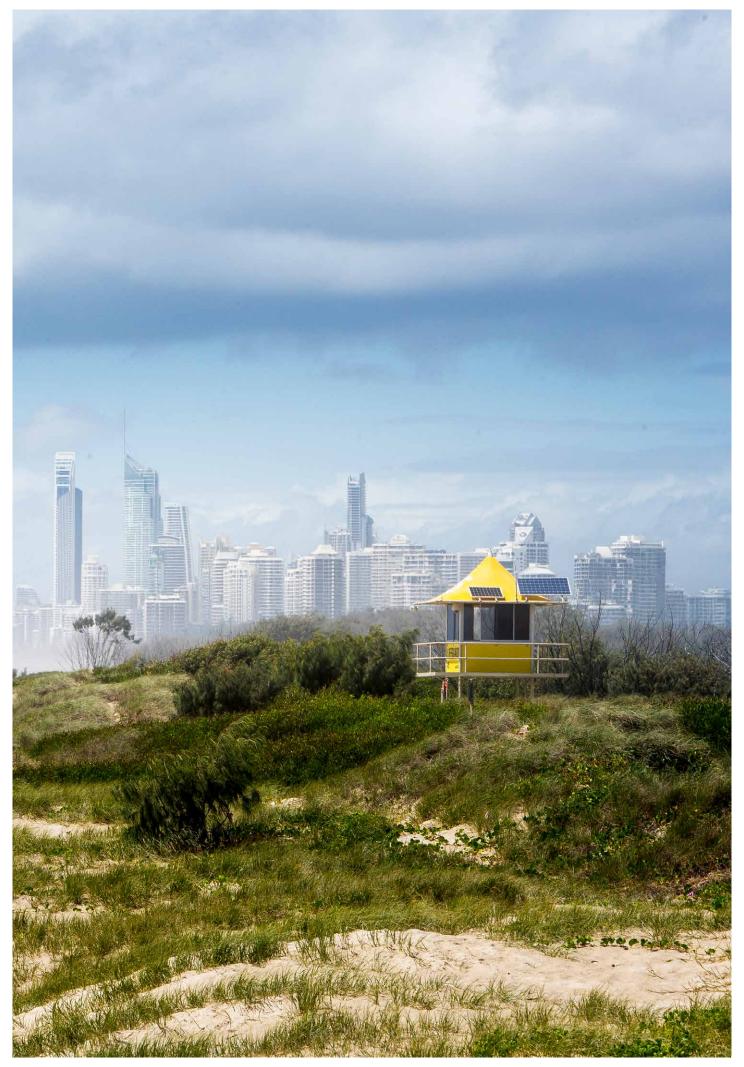


Figure 29. Potential responses



Part F –Key challenges for the master plan

Moving forward and revitalising The Spit requires breaking the cycle of conflict and embracing the past, understanding the present and looking to the future together.

This document provides the foundation for stakeholders and participants to acquire a shared understanding and zappreciation of The Spit and will enable the master planning process to be informed by an understanding of the history of The Spit, the current environment, and future demands and constraints that may shape its future.

Breaking the cycle of conflict

The Spit has been in a holding pattern for many years as a cycle typified by proposed change is followed by conflict, uncertainty and the shelving of ideas.

The Spit has suffered from this uncertainty. Decisions tend to be short term in nature and long term solutions have remained elusive. For example, shipping containers appear in various places providing temporary storage but detracting from impacting visual amenity. This is a symptom of a bigger problem. A world-class destination does not have its "back of house out the front" or if it does, it is fully integrated and appropriately resolved.

A "step change" moment

The master plan offers the prospect of a "step change". Some might see this as taking the form of a "game changing" piece of infrastructure, an iconic building or a major annual event.

The master plan for The Spit will be a step change in itself and provide the platform for the next "game changing" projects in the context of an agreed framework.



Key challenges

Key questions and challenges the master plan needs to address include how to:

- see The Spit as comprising both vacant real estate in a prime position and as a complex network of existing community and economic connections set within a unique environmental place context
- appreciate the strategic scale of the opportunity that The Spit presents and its transitional location between the dense urban coastal tourism strip and the natural land and water environment
- embrace and celebrate the past including Aboriginal cultural heritage, local heritage and community connections
- respect the present environment and current community's values while providing intergenerational equity and opportunity in terms of natural and recreation activities but also jobs
- build on The Spit's natural and built environment, strong sense of community and key economic drivers, both big and small

- create an authentic destination for both residents and visitors
- envisage the most culturally, environmentally and economically appropriate, attainable and sustainable strategic role for The Spit in the future Gold Coast
- craft a plan that is resilient enough to be responsive to changing needs, evolving trends and technology, and climate change impacts, while robust enough to stay the course of time and leadership changes;
- imagine a world class future for The Spit that can be something special for the Gold Coast
- scale the opportunities and concepts to the foreseeable horizon, the potential resources available and set out a practicable actionable guide for all stakeholders
- manage change with less conflict.

Great expectations

As the master plan process moves into phase 2, there are great expectations of both the process and outcomes. There is still a long way to travel and the next phase will involve difficult conversations and the testing of existing and new ideas that not everyone will agree with.

Given the 201 hectare expanse of The Spit, it cannot be expected that the master plan will design the whole of The Spit to a fully resolved end state but it will provide the framework for public and private sector endeavours and the forging of connections between community, environment and economy.

Next steps

Learning from best practice

A key next step in the master planning process will be a scan of the globe for best practice exemplars of not only what, but how to produce solutions and ideas that are place-based not simply imported from another context.

Singapore, for example, is a fairly small city-state, with limited natural resources that has been described as an exercise of desperate imagination, with innovation necessary for survival²⁴. It is a place where multi-purpose solutions are essential, for example an ecological offshore dump where waste is processed becomes a wildlife and tourist attraction.

In Singapore, there is an expectation that there will be a next "big thing" or attraction to keep visitors coming back or using it as a hub to get to other places. The Gardens by the Bay for example, while a unique attraction, doesn't necessarily get repeat visits or support local use.

At the other end of the spectrum, community feedback has referred to The Spit as the Gold Coast's Central Park. At 341 hectares, Central Park in New York is much larger than The Spit and is highly connected to the city with multiple entry points and relatively porous edges, but it does provide other lessons for the project.

Central Park is an authentic place and open space for the city and its people that has become a destination for both locals and visitors and perhaps the world's greatest urban park. It is a place that hosts multiples uses, icon landscapes and views, tours and a structured program of summer events. Information on things to do for art, history, nature, fitness, dog and bird lovers is provided along with the must-do list for first time visitors.

The management of Central Park also presents an interesting case example that will be further explored during the master planning process.

Unlocking potential

The Spit has the potential to become the epicentre of the Gold Coast's connection to water and a premier attraction for both residents and visitors.

The master plan should provide the key to unlocking this potential and the next phase of the project will explore key concepts for the area in partnership with the community.

²⁴ Dr Vivian Balakrishnan reported by Quartz Media for Singapore Exhibition and Convention Bureau, https://qz.com/629993.

References -

Cultural heritage

Allom Lovell Marquis-Kyle, Henshall Hansen Associates, Context, HJM, & Staddon Consulting. (1997). Gold Coast Urban Heritage & Character Study. Retrieved from City of Gold Coast website www.goldcoast.qld.gov.au/documents/ps/southport-urbanheritage-character-strategy-review.pdf

Allom and Lovell Architects, & The Office of City Architect and Heritage City of Gold Coast. (2010). Southport Urban Heritage and Character Review. Retrieved from City of Gold Coast website http://www.goldcoast.qld.gov.au/documents/ps/southport-urban-heritage-character-strategy-review.pdf

Australia ICOMOS. (1999). Charter for Places of Cultural Significance (Burra Charter).

Australian Heritage Commission. (2002). Ask First: A Guide to Respecting Indigenous Heritage Places and Values. Retrieved from National Library of Australia Australian Government Web Archive website http://webarchive.nla.gov.au/gov/20171114035941/http://www.environment.gov.au/heritage/ahc/publications/ask-first-guide-respecting-indigenous-heritage-places-and-values Australian Government, Department of the Environment and

Energy. (n.d.). Australian National Shipwreck Database. Retrieved from http://www.environment.gov.au/heritage/historic-shipwrecks/australian-national-shipwreck-database

Barton, E.J.T. (1910). Jubilee History of Queensland: a record of political, industrial and social development from the landing of the first explorers to the close of 1909. Brisbane: Diddams.

Brisbane Courier. (1898, May 18).

Brisbane Courier. (1922, February 2).

Centre for the Government of Queensland. Southport. Retrieved from http://queenslandplaces.com.au/southport

Fox, M. (1919). The history of Queensland: its people and industries (Vol 1). Brisbane: States Publishing Company.

City of Gold Coast. (2007). Part 6: Local Area Plans, Division 2: Local Area Plans, Chapter 26: The Spit (Gold Coast Harbour). Gold Coast Planning Scheme. Retrieved from http://www.goldcoast.qld.gov.au/gcplanningscheme_0107/Support_files/scheme/06_26_lap_the_spit.pdf

City of Gold Coast. (2011). Gold Coast Rapid Transit: Repositioning the City, Corridor Study August 2011.

Retrieved from http://www.goldcoast.qld.gov.au/documents/bf/GCRT_Corridor-Study-Aug2011-full-report.pdf

City of Gold Coast. (2013, July 23). Local Heritage Register: Heritage Places, A to M. Gold Coast Local Heritage Register. Retrieved from http://www.goldcoast.qld.gov.au/documents/bf/local-heritage-register-a-m.pdf

City of Gold Coast. (2013, July 23). Local Heritage Register: Heritage Places, N to Z. Gold Coast Local Heritage Register. Retrieved from http://www.goldcoast.qld.gov.au/documents/bf/gc-local-heritage-register-n-z.pdf

City of Gold Coast. (2018). Humphrey's Boatshed. Gold Coast Stories. Retrieved from http://www.goldcoaststories.com.au/ humphreys-boatshed

City of Gold Coast. (2018). Keith Williams. Gold Coast Stories. Retrieved from http://www.goldcoaststories.com.au/keith-williams City of Gold Coast. (2018). Main Beach. Gold Coast Stories.

Retrieved from http://www.goldcoaststories.com.au/main-beach/

City of Gold Coast. (2018). Oysters and Oystering. Gold Coast Stories. Retrieved from http://www.goldcoaststories.com.au/ oysters-and-oystering

City of Gold Coast. (n.d.). The Gold Coast Seaway. Retrieved from http://www.goldcoast.qld.gov.au/documents/bf/fs-gc-seaway.pdf
City of Gold Coast. (n.d.). The Spit History. Retrieved from http://
www.goldcoast.qld.gov.au/thegoldcoast/the-spit-history-2787.html
Gold Coast Bulletin. (n.d.). 130 Years: Our top 130 news moments –
from 130-107. Retrieved from https://www.goldcoastbulletin.com.
au/news/special-features/in-depth/130-years-our-top-130-newsmoments--from-130-to-107/news-story/24aea6c6010161545fea55
839b4bod62

Gold Coast Waterways Authority. (2017, April 22). History of the Gold Coast Seaway. Retrieved from http://www.gcwa.qld.gov.au/goldcoastseawayhistory

Haglund, L. (1976). The Broadbeach Aboriginal Burial Ground: An Archaeological Analysis. Brisbane: University of Queensland Press.

Jabree Ltd. (2017, April 18). Reflecting on history: how the Gold Coast has evolved. Retrieved from http://jabree.com.au/reflecting-on-history-how-the-gold-coast-has-evolved

Morcombe, J. (2016, August 25). Look how much land has been reclaimed from Middle Harbour. Manly Daily. Retrieved from https://www.dailytelegraph.com.au/newslocal/manly-daily/look-how-much-land-has-been-reclaimed-from-middle-harbour/news-st ory/213ed4432eadff75919ffb7901189513

Morrison, W.F. (1888). The Aldine History of Queensland. Sydney: The Aldine Publishing Company.

Neal, R. & Stock, E. (1986). Pleistocene occupation in the southeast Queensland coastal region. Nature, 323, 618-620.

Queensland Country Life. (1905, December 1).

Queensland Government. (n.d.). Heritage Context Report (Preliminary). Southport Spit Masterplan 36.

Queensland Government, Department of Aboriginal and Torres Strait Islander Partnerships. (2003). Aboriginal Cultural Heritage Act. Retrieved from https://www.legislation.qld.gov.au/view/html/inforce/current/act-2003-079

Queensland Government, Department of Environment and Science. (2017). Queensland Heritage Act 1992. Retrieved from https://www.legislation.qld.gov.au/view/html/inforce/current/act-1992-009

Queensland Government, Department of State Development, Manufacturing, Infrastructure and Planning. (n.d.). History of The Spit: The Spit Over the Years. Retrieved from https://www.statedevelopment.qld.gov.au/resources/factsheet/the-spit-factsheet-history.pdf

Queensland Government, Queensland Heritage Register. (1995). Main Beach Pavilion and Southport Surf Lifesaving Club: 601265. Retrieved from https://environment.ehp.qld.gov.au/heritageregister/detail/?id=601265

Queensland Government, Queensland Heritage Register. (1995). Southport Bathing Pavilion: 601514. Retrieved from https://environment.ehp.qld.gov.au/heritage-register/detail/?id=601514

Queensland Government, Queensland Heritage Register. (n.d.). Humphreys Boatshed and Slipway: 602324 (Former listing).

Queensland Government, The Coordinator-General, & GHD. (n.d.). Cultural Heritage. Notional Seaway Project Draft Environmental Impact Statement. Retrieved from http://www.broadwatermarineproject.com.au/documents/4.3/Part%2oC%2o-%2017%2o-%2oCultural%2oHeritage.pdf

South Coast Bulletin. (1946, April 10).

South Coast News. (1954, July 17).

Southport Yacht Club. (n.d.). About. Retrieved from www. southportyachtclub.com.au/about

Steele, J. (1972). The Explorers of the Moreton Bay District 1770-1830. Brisbane: University of Queensland Press.

Steele, J. (1984). Aboriginal Pathways of Southeast Queensland and the Richmond River. Brisbane: University of Queensland Press.

The Telegraph. (1875, March 18).

Ward, W.T. (1978). Notes on the Origin of Stradbroke Island. Papers (Department of Geology), 8(2), 97-104. Brisbane: University of Queensland Press.

Economics

ABS Migration, Australia (ABS cat. No. 3412.0) 2015-16
ABS Tourist Accommodation, Australia, (ABS cat. No. 8635.0) 2015-16

Department of Employment (2018). 2017 Regional Projections – five years to May 2022.. [online] Available at: http://lmip.gov. au/default.aspx?LMIP/EmploymentProjections [Accessed 4 April. 2018].

Domain Group Data, December 2017, Median House Price Report, 2017

Gold Coast Tourism Corporation. (n.d.). Gold Coast Tourism: Calendar Year 2017 Summary. Retrieved from http://www.destinationgoldcoast/corporate/research

Environment and ecology

AECOM. (2016). Ocean-side Cruise Ship Terminal – Matters of environmental significance. Gold Coast: City of Gold Coast.

Arnold Wolthers Architects. (2009). Federation Walk Management Plan. Gold Coast: Main Beach Progress Association.

Australian Government Department of Environment and Energy. (2018). Environmental and Biodiversity Protection Act Protected Matters Report.

BAAM. (2017). Terrestrial Ecology Assessment – Gold Coast Cruise Ship Terminal Main Beach. Gold Coast: City of Gold Coast, c/o AECOM.

BMT WBM. (2018). Proposed Gold Coast Cruise Ship Terminal – Benthic Habitat Assessment. Gold Coast: City of Gold Coast.

City of Gold Coast. (2004). Local Area Plan, The Spit (Gold Coast Harbour). Retrieved from http://www.goldcoast.qld.gov.au/gcplanningscheme_0305/Support_files/scheme/06_26_lap_the_spit.pdf

City of Gold Coast. (2018, April 4). City Plan interactive mapping — Version 4. Retrieved from City of Gold Coast: http://cityplanmaps.goldcoast.qld.gov.au/CityPlan/index.html

City of Gold Coast. (n.d.). South Stradbroke Island: Beach ecology and management. Retrieved from http://www.goldcoast.qld.gov. au/documents/bf/fs-south-straddie-beach-ecology.pdf

Department of Natural Resource and Mining. (n.d.). History - History of The Spit – Fact Sheet. Queensland, Australia.

Griffith University. (2016). Gold Coast seagrass sensitivities and resilience. Gold Coast: Gold Coast Waterways Authority.

Johnson, J. (2010). Fishes of the Moreton Bay Marine Park and adjacent continental shelf waters, Queensland, Australia. Proceedings of the Thirteenth International Marine Biological Workshop, The Marine Fauna and Flora of Moreton Bay. Queensland, 299-353. Brisbane: Memoirs of the Queensland Museum – Nature.

Rochelle Steven, D. M. (2017). Review of known shorebird habitats, distribution and threats in Gold Coast waterways (SRMP-013). Griffith University, Gold Coast Waterways Authority Scientific Research and Management Program. Gold Coast: Gold Coast Waterways Authority.

Tomlinson, R. (2017). Evolution of the Broadwater.

VDM Consulting. (2012). Ecological Investigations to Support the Broadwater Masterplan. Gold Coast: Waterways Steering Committee.

Strategic context and land use planning

ARM Architecture. (2014). Gold Coast Cultural Precinct Masterplan. Retrieved from http://www.goldcoastculturalprecinct.info/masterplan

Australian Bureau of Statistics. (2018). Main Beach Statistical Area Level 2 (SA2). 2016 Census QuickStats. Retrieved from http:// www.censusdata.abs.gov.au/census_services/getproduct/ census/2016/quickstat/309101269?opendocument

City of Gold Coast. (2003). Part 6: Local Area Plans, Chapter 26: The Spit (Gold Coast Harbour), Version 1.2. Gold Coast Planning Scheme (Superseded).

City of Gold Coast. (2018). City Plan Version 4. Retrieved from https://cityplan.goldcoast.qld.gov.au/Pages/Plan/Book. aspx?exhibit=GCCC_CityPlan

City of Gold Coast. (n.d.). 2014 Masterplan – staged delivery. Fact Sheets.

Economic Development Queensland. (2014, September). Southport Priority Development Area: Development Scheme. Retrieved from http://www.goldcoast.qld.gov.au/documents/bf/pda-proposed-scheme.pdf

Hajkowicz, S., Cook, H. & Littleboy, A. (2012). CSIRO Futures – Our future world: Global megatrends that will change the way we live. Retrieved from https://publications.csiro.au/rpr/download?pid=csiro:EP126135&dsid=DS2

Hajkowicz, S., Cook H., & Boughen, N. (2013). CSIRO Futures – The Future of Tourism in Queensland: Megatrends creating opportunities and challenges over the coming twenty years. Retrieved from https://publications.csiro.au/rpr/download?pid=csiro:EP134277&dsid=DS1

Planning Institute of Australia. (2016). Through the lens: megatrends shaping our future. Retrieved from https://www.planning.org.au/documents/item/7691

Queensland Government Statistician's Office. (2017). LGA & SA2 Population Projections, 2015 edition. Retrieved from http://www. qgso.qld.gov.au/subjects/demography/population-projections/

Queensland Government Statistician's Office. (2018, March). 5km catchment of The Spit region. Queensland Regional Profiles. Retrieved from https://statistics.qgso.qld.gov.au/qld-regional-profiles

Queensland Government Statistician's Office. (2018, March). Gold Coast Local Government Area (LGA). Queensland Regional Profiles. Retrieved from https://statistics.qgso.qld.gov.au/qld-regional-profiles

Queensland Government Statistician's Office. (2018, March). Main Beach Statistical Area Level 2 (SA2). Queensland Regional Profiles. Retrieved from https://statistics.qgso.qld.gov.au/qld-regional-profiles

Infrastructure

ARUP. (2013). Cruise Ship Terminal Feasibility Assessment Report. Retrieved from http://www.broadwatermarineproject.com.au/documents/4.5/Cruise%20Ship%20Terminal%20Feasibilty%20 Assessment.pdf

BMT WBM Pty Ltd. (2013). Preliminary Coastal and Hydrodynamic Investigations for Cruise Ship Terminal Options for City of Gold Coast. Retrieved from http://www.goldcoast.qld.gov.au/documents/ma/commonwealth-20130821-part1.pdf

City of Gold Coast. (2015). Draft Local Government Infrastructure Planning Mapping.

City of Gold Coast. (2016). Broadwater Marine Project
Digital Data Room [Website]. Retrieved from http://www.
broadwatermarineproject.com.au/infrastructure.html

City of Gold Coast. (n.d.). City of Gold Coast [Website]. Retrieved from http://www.goldcoast.qld.gov.au/default.html

Queensland Government. (n.d.). Queensland Globe.

VDM Consulting. (2012). Ecological Investigations to Support the Broadwater Masterplan. Retrieved from http://www.goldcoast.qld. gov.au/documents/bf/ecological-investigations-part1.pdf

