

Dauan Island Master Plan

Prepared for

Department of Seniors, Disability Services and
Aboriginal and Torres Strait Islander Partnerships
and Torres Strait Island Regional Council



Dauan Island Master Plan

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REEL PLANNING
Urban & Rural Strategies

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1 Introduction

1.1 Purpose

Torres Strait Island Regional Council (TSIRC), with the support of the Department of Aboriginal and Torres Strait Islander Partnerships (DATSIP), has developed the Dauan Island Master Plan. The Dauan Island Master Plan is intended to be used by TSIRC, Prescribed Body Corporates (PBCs), State agencies, service providers and the broader community to inform planning decisions in relation to future development.

The Dauan Island Master Plan seeks to guide the future use of land on Dauan Island in a manner that is cognisant of community needs, demands and aspirations. The Dauan Island Master Plan identifies a range of future residential; industrial; commercial / tourism; community facilities; and recreation and open space development projects. The Master Plan has been prepared to ensure the orderly, efficient and effective use of land in a way that is reflective of relevant opportunities and constraints. The Master Plan seeks to coordinate the actions of a range of different stakeholders to maximise the benefits of new development projects to the community.

The Dauan Island Master Plan is a living document endorsed by TSIRC, intended to be progressively updated as new development occurs to reflect the changing needs and aspirations of the community.

1.2 Structure

The Dauan Island Master Plan includes the following elements:

- > A **Master Plan Map**, provided as **Appendix A**;
- > A **Vision**, provided in Chapter 2;
- > **Community Aspirations**, provided in Chapter 3;
- > **Master Plan Projects**, the details of which are articulated in Chapter 4; and
- > An **Action Plan**, provided in Chapter 6.

The Master Plan is also supported by a separate Technical Report.

The relationship between these elements is shown in **Figure 1-1**.

1.3 Relationship to the Zenadth Kes Planning Scheme

The Dauan Island Master Plan is intended to identify a high level strategic direction for the future development of Dauan Island having regard to all relevant planning considerations, including the *Zenadth Kes Planning Scheme* ('the Planning Scheme').

The Master Plan does not replace or alter the Planning Scheme as it relates to Dauan Island and does not change current development approval requirements. Projects or works identified by the Master Plan may require development approvals and/or changes to the Planning Scheme and these are identified in the Master Plan itself as appropriate.

The Planning Scheme forms part of the statutory town planning framework established under the *Planning Act 2016*, which provides for the regulation of development activity. The Master Plan is a non-statutory strategic planning document intended to guide decision making with regard to the long term development of Dauan Island. It may be appropriate in certain circumstances for TSIRC to amend the Planning Scheme to reflect findings of the Master Plan. Recommendations in this regard are made in the Master Plan.

1.4 Acknowledgement

Gogobithiay (land, sea and sky) is fundamental to the Torres Strait Islander way of life. Gogobithiay cannot be separated into land, sea and sky and it cannot exist without the Torres Strait people.

The Dauan Island Master Plan acknowledges the native title holders, the Dauanalaw (the Dauan people) as the traditional custodians of Dauan Island. The Master Plan also acknowledges all community members.

Any person proposing to undertake development on Dauan Island should pay respect to the Dauanalaw custodianship of the island by seeking permission to use its resources and ensuring that development acknowledges the special and ongoing cultural relationship of the Dauan Island community with Gogobithiay.



Figure 1-1 Master Plan Elements

2 Vision

Dauan Island will develop as a small island community that builds on its established elongated coastal development pattern and within the constraints of the island's geology and topography.

Development of Dauan Island will focus on servicing the needs and aspirations of the local community through supporting projects that improve the social and economic quality of life of its residents. Investment in the community will focus on consolidating established features and facilities and connecting these into a contiguous and integrated community. A core area of the current urban area along the coast will support a defined CBD, the boat ramp and jetty, the helipad and a community park. The combination of these uses will support a critical mass of activity covering business, community, recreation and movement.

Future economic opportunities on Dauan Island are to be identified and explored. Most notably, the quarry is to be re-established and expanded over time as an economic resource for the island. Road and sea transport infrastructure shall be upgraded to promote the quarry industry and its importance for the supply of material for construction across the region. Secondary industries that support the quarry are also established to increase economic activity. Dauan Island also supports a range of small scale tourism opportunities.

Areas of infill residential development are identified for this small community with a larger residential area identified at the easternmost end of Main Street. Future housing on the island will be adaptable and sustainable with improved accessibility to the town centre.

A new cultural precinct is envisaged that will promote and celebrate the island's rich history and culture and promote tourism opportunities at a scale suitable to the community.

Accessibility to and around the township and island will be improved. Water-based transport connections are to be improved for the community and to enhance economic development opportunities. The core area of the township will serve as a gateway and arrivals hub and a meeting and recreation space for the community.

New development should seek to improve the quality of urban services provided to the community, including water and sewerage infrastructure, roads, lighting and telecommunications access.



3 Community Aspirations

- > The Dauan Island community will be provided with housing that meets its needs.
- > The Dauan Island community will be provided with access to key community services that support the day to day needs of its residents, including shopping/business, child care and health care.
- > The Dauan Island community will expand local business and enterprise opportunities, to support economic activity and local employment, particularly in the sectors of extractive resources and associated industries, marine industry, aquaculture and tourism.
- > The Dauan Island community will celebrate its culture, history and character and this will be reflected through the protection of existing facilities and features and new development such as arts and cultural centres.
- > The Dauan Island community will be easily accessed from the surrounding region by air and sea.
- > The Dauan Island community will increase physical activity, for both movement and recreation, through the use of dedicated facilities and networks.
- > The Dauan Island community will have access to quality urban infrastructure services.
- > The Dauan Island community will be responsive to the changing environment including sea level rise, tidal inundation and climate change.

4 Projects

4.1 Land Use Categories

The consideration of land uses as part of the Dauan Island Master Plan has been undertaken using a number of land use categories. An explanation of each land use category is provided below.

Residential	Commercial / Tourism	Recreation and Open Space
Residential land uses primarily relate to the provision of housing. Residential land may support a range of dwelling types of varying scale (for example, single low-rise homes, duplexes, and unit complexes). Open space is often integrated within residential areas to soften the built environment and provide land for passive and active recreation.	Commercial land uses typically involve business activities which may include the sale of goods (such as shops and cafes) or services (such as offices and medical centres). Tourism land uses also involve business activities, however these are focussed on providing goods, services, facilities and entertainment for tourists. Examples of tourism land uses include tourist parks, accommodation and businesses operating tours.	Recreation land uses support the provision of land for recreational activities, which may be organised or informal. This includes sporting facilities such as fields, courts, stadiums and arenas, rodeo grounds, walking / cycling paths and outdoor exercise equipment. Open space areas provide dedicated natural spaces throughout an urban area enhance the beauty and environmental quality of neighbourhoods. They may include formalised landscaping also comprise recreational opportunities. Recreation and open space areas are commonly collocated.
Industrial	Community Facilities	Other
Industrial land uses generally involve the manufacturing, processing, treatment or repair of goods. Industrial land uses involve varying degrees of intensity and severity, generally linked to their potential level of impact on nearby land uses associated with their emissions (such as air, noise and odour). Examples of industrial land uses include manufacturing plants, processing plants, mechanical workshops, transport depots, storage sheds and warehouses.	Community facilities land uses support the delivery of community services or provide community benefit. Community facilities include uses for health services, education (schools and colleges), arts and culture, religion, community support, civic infrastructure (water, sewer, waste, transport and other similar facilities), employment and training.	The “Other” land use category has been used to describe other uses and projects which commonly support the primary land uses. This may include infrastructure projects such as new roads or urban services and civic improvements such as beautification and landscaping.

4.2 Project Listing

Table 4-1 provides a listing of projects identified by the Master Plan. Further detail is provided in relation to each project as follows:

- > The land to which each project relates is identified by the Dauan Island Master Plan Map, a copy of which is provided as **Appendix A**.
- > Key details relating to each project are outlined in Section 4.3 of this report.
- > A summary of the Master Plan projects is provided in the project index included as **Appendix B**.
- > Detailed breakdowns of the infrastructure costings for each project are provided in **Appendix D**.

Table 4-1 Project Listing

RS1	Residential Expansion Area	CF4	Sacred Site Protection	OT4	Helipads
RS2	Residential Investigation Area	CF5	Cemetery Protection Area	OT5	Water Supply Upgrades
RS3	Worker's Accommodation	CF6	Health Centre	OT6	Bund Wall
ID1	Industrial Investigation Area	CF7	Child Care Centre	OT7	Investigation Area
ID2	Quarry	CF8	Community Hall Upgrade	OT8	Road Upgrade
ID3	Fishing Industry	OS1	Community Parkland	OT9	Boat Ramp
CT1	Tourism Precinct	OS2	Path Network	OT10	Potential Reticulated Sewerage Network
CT2	Guesthouse	OT1	CBD Precinct Plan	OT11	"Back of Island" Access
CT3	Environmental Tourism	OT2	Jetty and Boat Ramp Upgrades	OT12	Telecommunications Upgrades
CF1	Market Garden / Food Security Area	OT3	Connecting Road	OT13	Carbon and Renewable Energy Opportunities
CF2	Landfill Protection and Expansion Area			OT14	Property Access Audit
CF3	Cultural Precinct				

Note: Projects CT3, OT10, OT11, OT12, OT13 and OT14 are not shown on the Master Plan Map provided as **Appendix A**.

4.3 Project Detail

Residential Projects

The Master Plan has identified two residential projects in order to accommodate an anticipated demand for 14 additional dwellings. The Master Plan also includes projects that seek to diversify the housing products provided on Dauan Island. These key directions were identified as part of the technical analysis which is documented in the Dauan Island Master Plan Technical Report. Further detail is also provided in **Appendix F**.

RS1 Residential Expansion Area				
Summary Two well located land parcels at the eastern end of the township are identified for residential expansion through the creation of seven infill lots that would continue the subdivision pattern of the existing community and fit within existing established residences at the eastern end of Main Road. These locations are likely to be readily serviced by existing infrastructure in the existing township area. Recommendations Amendments to the Planning Scheme may be required to include these areas within the Township Zone as the areas are currently in the Environmental Management and Conservation Zone.	New Lots		7 Lots	
	Lot Size		1,240m ² -2,237m ²	
	Priority		Short Term	
	Infrastructure Cost		\$3,687,151	
	Associated Projects		RS2	OS2
	Key Actions		1	7
			8	

RS2 Residential Investigation Area

Summary

An area of land generally unconstrained by topography and partially cleared at the eastern end of the Dauan Island township has been identified for long term residential expansion opportunities. The location is a logical extension to the existing Township Zone and located away from other land uses that are not compatible with residential environments such as the quarry, landfill and water treatment plant at the western side of the township.

Recommendations

It is recommended that further investigations be completed in relation to the development potential of the land, particularly with regard to potential coastal hazard impacts.

Amendments to the Planning Scheme may be required to include this area within the Township Zone.

New Lots	19 Lots (estimate)			
Lot Size	1,200m ² (average)			
Priority	Long Term			
Infrastructure Cost	\$8,658,637			
Associated Projects	RS1			
Key Actions	1	6	7	8

RS3 Worker's Accommodation

Summary

The community has identified an existing property in the west of the island that is currently used for worker's accommodation. This existing use is sought to be maintained and further embellished to suit ongoing demand.

New Lots	N/A			
Lot Size	N/A			
Priority	Ongoing			
Infrastructure Cost	To Be Costed			
Associated Projects	-			
Key Actions	-			

Industrial Projects

The Master Plan provides opportunities for industry, enterprise and other business development. This key direction was identified as part of the technical analysis which is documented in the Dauan Island Master Plan Technical Report. Further detail is also provided in **Appendix F**.

ID1	Industrial Investigation Area			
Summary The Master Plan identifies the existing (disused) quarry as being suitable for reinstatement (ID2). The Master Plan has also identified land immediately adjoining the quarry and fronting Main Road as being appropriate for other industrial enterprise opportunities where uses can co-exist with the adjoining quarry and nearby residents. The land is well located with direct access (OT3) to the jetty/barge ramp (OT2) for potential export opportunities.	Recommendations			
	The Planning Scheme may require amendment to include this land in the Township Zone. Further investigations into the suitability of the land for industrial purposes including servicing and topography will be required.			
	New Lots		4 Lots	
	Lot Size		3,268m ² -3,620m ²	
	Priority		Medium Term	
	Infrastructure Cost		\$4,708,565	
	Associated Projects	ID2	OT2	OT3
	Key Actions	1	4	6
	7			

ID2	Quarry			
Summary The Master Plan has identified the existing (disused) quarry in the west of the township as being suitable for reinstatement. The quarry is of key resource importance for Dauan Island and for the region. The use of the quarry, its protection and expansion can support employment and economic opportunities. The quarry is well located with direct access (OT3) to the jetty/barge ramp (OT2) for potential export opportunities.	Recommendations			
	The Planning Scheme may require amendment to ensure protection and expansion of the quarry activity. An expansion area is subject to detailed site investigation and resource availability.			
	New Lots		N/A	
	Lot Size		N/A	
	Priority		Short Term	
	Infrastructure Cost		N/A	
	Associated Projects	ID1	OT2	OT3
	Key Actions	1	4	7

ID3 Fishing Industry			
Summary In order to support the local fishing industry, the community is seeking to provide a range of infrastructure proximate to the boat ramp and jetty, including a commercial freezer. It is likely that this project will be delivered in coordination with the Torres Strait Regional Authority (TSRA).	New Lots	N/A	
	Lot Size	N/A	
	Priority	Short Term	
	Infrastructure Cost	\$425,954	
	Associated Projects	OT2	
	Key Actions	4	6

Commercial / Tourism Projects

The Master Plan seeks to ensure that the community is provided with sufficient access to commercial land uses. The Master Plan also seeks to promote the development of uses and infrastructure associated with tourism, in appropriate locations. These key directions were identified as part of the technical analysis which is documented in the Dauan Island Master Plan Technical Report. Further detail is also provided in **Appendix F**.

CT1 Tourism Precinct			
Summary The Master Plan has identified a Tourism Precinct outside the township. This precinct is intended to serve a variety of purposes and will likely be suitable for tourist accommodation. The location of this precinct proximate to the boat ramp (OT9) may support tourism associated with fishing and boating.	New Lots	N/A	
	Lot Size	N/A	
	Priority	Long Term	
	Infrastructure Cost	\$11,132,220	
	Associated Projects	OT9	
	Key Actions	4	6
CT2 Guesthouse			
Summary The community has identified that the existing guesthouse located near the jetty and boat ramp (OT2) may be suitable for further expansion and improvement.	New Lots	N/A	
	Lot Size	N/A	
	Priority	Medium Term	
	Infrastructure Cost	To Be Costed	
	Associated Projects	OS1	OT2
	Key Actions	4	6

CT3 Environmental Tourism			
Summary Opportunity exists in various locations throughout the island for the environmental values of the area to be protected and enhanced for the benefit of tourist activities aimed at the appreciation of any unique environmental features or areas. Any tourism operations should occur in a manner that is sensitive to the fragility of the natural environment, to ensure it can be sustained over the long term.	New Lots	N/A	
	Lot Size	N/A	
	Priority	Medium Term	
	Infrastructure Cost	N/A	
	Associated Projects	CT1	
	Key Actions	4	6

Community Facilities Projects

The Master Plan seeks to promote the protection and expansion of key community facilities. The Master Plan also provides opportunities for the establishment of new community facilities where demand exists. These key directions were identified as part of the technical analysis which is documented in the Dauan Island Master Plan Technical Report. Further detail is also provided in **Appendix F**.

CF1 Market Garden / Food Security Area			
Summary An area of land at the western end of Main Road has been identified as being suitable for the development of market gardens or other cropping activities that can supply the community with fresh produce. Further investigation of this land should be undertaken to identify suitable areas for the establishment of these uses. The establishment of local agricultural uses will improve the food security of the community, improve community health and provide a potential source of economic activity through the trading of surplus food with neighbouring communities.	New Lots	N/A	
	Lot Size	N/A	
	Priority	Medium Term	
	Infrastructure Cost	N/A	
	Associated Projects	OS2	OT3
	Key Actions	1	6
	Recommendations	The viability of the market garden will be largely dependent on a reliable supply of freshwater. Future investigations of this project would be required to determine whether such supply exists or is capable of being reasonably provided.	

CF2 Landfill Protection and Expansion Area			
Summary The landfill located to the west of the township is an important piece of infrastructure that should be protected from encroachment by incompatible development. Consistent with the Queensland Indigenous Waste Strategy, it is anticipated that the existing landfill site will be converted to a transfer station, as part of a regional waste solution. The site will need to be expanded as required to cater for this changed approach to waste management.	New Lots	N/A	
	Lot Size	N/A	
	Priority	Short Term	
	Infrastructure Cost	N/A	
	Associated Projects	-	
	Key Actions	3	

CF3 Cultural Precinct

Summary

The Master Plan highlights an opportunity for the establishment of a Cultural Precinct which includes the protection and embellishment of existing places of worship. This area may be suitable for the establishment of an arts centre, youth centre or other community facilities where sensitively located with existing facilities. Its proximity to existing residential areas is accessible for the general community.

Recommendations

It is recommended that further investigation of the land parcel be undertaken in consultation with key stakeholders to opportunities, constraints, community aspirations and potential development options.

New Lots

N/A

Lot Size

N/A

Priority

Medium Term

Infrastructure Cost

N/A

Associated Projects

OS2

Key Actions

3

6

9

CF4 Sacred Site Protection

Summary

The Master Plan has identified the locations of sacred sites that should be protected for the benefit of all members of the community. As part of the protection of the area, the community value of the site should be documented. Where access to the site is in keeping with the community and cultural value, this should be sensitively facilitated. Opportunity may exist to provide tourism access, again where in keeping with the value of the site.

New Lots

N/A

Lot Size

N/A

Priority

Ongoing

Infrastructure Cost

N/A

Associated Projects

-

Key Actions

3

4

6

9

CF5 Cemetery Protection Area

Summary

The cemetery, located along the western peninsular of the township, requires protection to ensure that the cultural and spiritual connection of the community with this land is protected. Where appropriate, improvements such as access works and fencing may be provided, however any such works should be undertaken sensitively. As part of the protection of the area, the community value of the site should be documented.

New Lots

N/A

Lot Size

N/A

Priority

Ongoing

Infrastructure Cost

N/A

Associated Projects

-

Key Actions

3

6

9

CF6 Health Centre

Summary

The community has identified the need for an upgraded primary health care centre. Located on Main Street, the Master Plan identifies the facility just south of the CBD precinct which encourages the improvement and expansion of business and administrative operations and accessibility.

New Lots

N/A

Lot Size

N/A

Priority

Medium Term

Infrastructure Cost

\$921,527

Associated Projects

OS2

Key Actions

3

6

CF7 Child Care Centre

Summary

The community has identified a need for child care facilities, which the Master Plan will deliver either through an expansion of any existing child care facilities or the provision of additional facilities to diversify the service. Childcare services should be expanded as demand necessitates.

Child care has been acknowledged as a regional issue which comprises significant complexity with regard to legal compliance. On this basis it is anticipated that future child care services will be delivered as a coordinated service covering multiple islands or the entire region.

Recommendations

Child care has the potential to be delivered in a new dedicated facility, improved existing dedicated facility or provided through in home child care services. The delivery model for child care is to be explored further with consultation required to ensure that specific needs are identified and aspirations are appropriately met.

New Lots

N/A

Lot Size

N/A

Priority

Short Term

Infrastructure Cost

N/A

Associated Projects

OT1

Key Actions

3

6

CF8 Community Hall Upgrade

Summary

The Master Plan will support the embellishment and upgrade of the existing community hall located on the Main Street.

New Lots

N/A

Lot Size

N/A

Priority

Short Term

Infrastructure Cost

N/A

Associated Projects

OT1

Key Actions

3

6

Recreation and Open Space Projects

The Master Plan seeks to provide improved opportunities for recreation, through the provision of an integrated network of active transport infrastructure and the identification of land for dedicated parkland. These key directions were identified as part of the technical analysis which is documented in the Dauan Island Master Plan Technical Report. Further detail is also provided in **Appendix F**.

OS1 Community Parkland				
Summary The northern foreshore has been identified as an area for embellishment as community parkland. This location is part of the arrival/gateway to the island and its beautification as parkland would benefit the community and visitors. There may be opportunities to establish rock pools as part of landscape works in this location which is a community aspiration. The development of the parkland should ensure integration with the Path Network (OS2), Helipad (OT4) and Tourism Precinct (CT1). Recommendations It is recommended that all future active transport and recreational facilities be coordinated in their delivery.	New Lots		N/A	
	Lot Size		N/A	
	Priority		Short Term	
	Infrastructure Cost		To Be Costed	
	Associated Projects		CT1	OS2 OT3 OT4
	Key Actions		2	6

OS2 Path Network				
Summary A pathway network has been identified across Dauan Island, connecting the western and eastern parts of the township. The pathway network will serve to improve connectivity whilst also supporting recreational opportunities and enhanced access to sacred sites (where appropriate). Development of the pathway should be combined with supporting infrastructure such as seats, lighting and landscaping to improve its contribution to the community. Recommendations It is recommended that all future active transport and recreational facilities be coordinated in their delivery.	New Lots		N/A	
	Lot Size		N/A	
	Priority		Short Term	
	Infrastructure Cost		\$781 per metre (concrete) \$500 per metre (gravel) \$250 per metre (earth)	
	Associated Projects		-	
	Key Actions		2	

Other Projects

The Master Plan identifies a range of other projects intended to ensure the community is serviced with appropriately located facilities and infrastructure. These projects have been identified in response to direct community needs and include precinct plans, further investigations and new/upgraded infrastructure. These key directions were identified as part of the technical analysis which is documented in the Dauan Island Master Plan Technical Report. Further detail is also provided in **Appendix F**.

OT1 CBD Precinct Plan				
Summary The Master Plan has identified a CBD Precinct for the focus of business and administrative facilities. This land is strategically and centrally located on Main Street and in the north-eastern part of the existing township, close to the jetty/barge ramp (OT2). A range of key services can be progressively developed in a manner that will positively contribute to the amenity and character of Dauan Island to the benefit of the community. This location has the potential to accommodate a range of new business and administrative uses including child care facilities, government offices, retail services and emergency services. Further planning of the land should also consider its interface with existing surrounding residential land uses. A copy of a preliminary Precinct Plan is provided as Appendix E .	New Lots		N/A	
	Lot Size		N/A	
	Priority		Medium Term	
	Infrastructure Cost		N/A	
	Associated Projects		CF7	OS2
	Key Actions		4	6

OT2 Jetty and Boat Ramp Upgrades				
Summary The jetty and boat ramp located in the north-eastern corner of the township is a key arrival and departure location for people and goods. Further improvements in this location will support the efficient and safe use of this facility, whilst also expanding the ability for it to be used in a manner that supports economic activity. Upgrades may include in water works such as channel works and dredging, markers and a rockwall while on land works may include a freezer, parking, storage and setdown areas. This project should be developed cohesively with surrounding projects. Jetty and boat ramp upgrades are a common project across all communities within the region. It is anticipated that required upgrades may be delivered as a regional work package which is progressively rolled out across each community.	New Lots		N/A	
	Lot Size		N/A	
	Priority		Short Term	
	Infrastructure Cost		To Be Costed	
	Associated Projects		CT1	OT3
	Key Actions		4	8

OT3 Connecting Road

Summary

The Master Plan supports the upgrading of the western half of Main Road to facilitate industrial and community facility development in the west of the town and to provide improved accessibility to the jetty/boat ramp and helipad. The road corridor may also extend further west opening opportunity for new “back of island” access as identified by project **OT11**.

New Lots	N/A			
Lot Size	N/A			
Priority	Medium Term			
Infrastructure Cost	\$8,276,938			
Associated Projects	ID1	ID2	CF1	OT11
Key Actions	5	6		

OT4 Helipads

Summary

Dauan Island is only accessible by helicopter or water and on this basis the community has identified that the protection and upgrading of both helipads on the island is essential for community access, emergency transport and for the movement of people and goods.

New Lots	N/A			
Lot Size	N/A			
Priority	Ongoing			
Infrastructure Cost	To Be Costed			
Associated Projects	CT1	OS1	OT2	
Key Actions	-			

OT5 Water Supply Upgrades

Summary

The water supply network should be upgraded to meet current and future demand and treatment standards. Details of specific works and upgrades required upgrades are provided in Chapter 5 of the Master Plan.

New Lots

N/A

Lot Size

N/A

Priority

Short Term

Infrastructure Cost

To Be Costed

Associated Projects

-

Key Actions

3

OT6 Bund Wall

Summary

The community has identified a desire to develop a bund wall at the western end of the island to protect infrastructure including the landfill (**CF2**), cemetery (**CF5**) and helipad (**OT4**). The exact location and design of the bund wall will need to be investigated. This will inform likely costs associated with this infrastructure.

New Lots

N/A

Lot Size

N/A

Priority

Medium Term

Infrastructure Cost

To Be Costed

Associated Projects

CF2

CF5

OT4

Key Actions

3

8

OT7 Investigation Area

Summary

The community has identified an area of land to the south of the quarry that is potentially suitable for urban use. Noting the nature of surrounding land use, the exact use of the investigation area will need to be determined, particularly any relationship with potential industrial development to the north (ID1 and ID2)

New Lots	N/A		
Lot Size	N/A		
Priority	Long Term		
Infrastructure Cost	To Be Costed		
Associated Projects	ID1	ID2	OT3
Key Actions	1	6	

OT8 Road Upgrade

Summary

The road in the south of the township is in a poor condition and includes a number of pot holes that fill with water during the wet season. This extent of the road is gravel and the community is seeking for it to be paved in a similar manner to the road through the centre of the town area. This road upgrade will improve property access and support a range of other Master Plan projects

New Lots	N/A		
Lot Size	N/A		
Priority	Short Term		
Infrastructure Cost	\$5,977,348		
Associated Projects	-		
Key Actions	3	6	

OT9 Boat Ramp

Summary

The community has identified a desire to reinstate the boat ramp located in the east of the island, remote from the established township. This boat ramp could serve as an alternative to the current ramp to cater for different weather conditions and may also support a degree of tourism operations, in associated with the proposed tourism precinct (**CT1**).

New Lots

N/A

Lot Size

N/A

Priority

Long Term

Infrastructure Cost

To Be Costed

Associated Projects

CT1

Key Actions

-

OT10 Potential Reticulated Sewerage Network

Summary

Dauan Island is currently reliant on localised sewerage systems (commonly septic systems). The provision of a reticulated sewerage system should be investigated, to provide the community with an urban level of sewerage infrastructure.

Further discussion with regard to sewerage infrastructure is provided in Chapter 5 of the Master Plan.

New Lots

N/A

Lot Size

N/A

Priority

Long Term

Infrastructure Cost

To Be Costed

Associated Projects

-

Key Actions

3

6

OT11 “Back of Island” Access

Summary

A range of opportunities are available for recreational and community activities to occur in areas of the island outside the established township. These opportunities should be further investigated in consultation with the community. Access is a primary constraint and any planned areas should be coordinated with road upgrades.

New Lots

N/A

Lot Size

N/A

Priority

Medium Term

Infrastructure Cost

N/A

Associated Projects

OT3

Key Actions

5

6

OT12 Telecommunications Upgrades

Summary

The community’s access to telecommunications should be improved to ensure that coverage is available throughout the township, its immediate surrounds where activity occurs and within the surrounding ocean to allow ease of communication with vessels, particularly in an emergency. Various upgrades should be identified in consultation with service providers. There is also opportunity to expand telecommunications systems to include weather radar.

New Lots

N/A

Lot Size

N/A

Priority

Short Term

Infrastructure Cost

To Be Costed

Associated Projects

-

Key Actions

6

OT13 Carbon and Renewable Energy Opportunities

Summary

As explained in the Dauan Island Master Plan Technical Report, the Queensland Government has identified a target to be carbon neutral by 2050. A variety of opportunities exist across Dauan Island to implement carbon initiatives that can assist in achieving this target. Key opportunities including renewable energy installations (wind and solar), reductions in fossil fuel use, carbon burning and blue carbon. Further investigations should be undertaken to identify suitable initiatives and potential sites. These opportunities also provide the potential to generate employment for the local community.

New Lots

N/A

Lot Size

N/A

Priority

Medium Term

Infrastructure Cost

N/A

Associated Projects

-

Key Actions

6

OT14 Property Access Audit

Summary

The community has identified that a number of existing properties experience access difficulties, particularly in the wet season. There are particular concerns around emergency access. It is recommended that an audit be undertaken of all properties so it can be identified the extent to which new access crossovers and internal driveways need to be provided, upgraded or replaced. This audit can then inform a package of works to progressively be delivered across the island.

New Lots

N/A

Lot Size

N/A

Priority

Short Term

Infrastructure Cost

N/A

Associated Projects

-

Key Actions

1

6

5 Infrastructure

In order to support future residential, industrial, commercial, tourism, community facilities, recreation and open space development on Dauan Island in accordance with the Master Plan, upgrades to existing infrastructure networks and new infrastructure will be required as detailed below. High level costings of supporting infrastructure are included in **Appendix D**.

5.1 Topography/Climate Change

Dauan Island is a small island composed of granite and acid volcanic rock rising to 242 metres above sea level. The community is located on a 500 metre wide strip around the foreshore. All new development should be constructed at a sufficient height above HAT level to protect buildings from inundation from expected climate change rises in sea level.

5.2 Roads

Roads within the community are a mixture of concrete and gravel pavements. For durability, new roads should be constructed six (6) metres wide in 150 mm thick fibre reinforced concrete. Roads are to be provided with either a 300 mm wide concrete edge strip or mountable kerb and channel either side as appropriate.

5.3 Stormwater

The Queensland Urban Drainage Manual (QUDM) provides current criteria for the design of stormwater drainage in urban residential developments. QUDM generally requires systems for primary drainage in streets to carry 39% Annual Exceedance Probability (AEP) (1 in 2 yr. ARI) runoff, and 1% AEP (1:100 yr. ARI) runoff for major drainage paths and cross road culverts, to limit flooding of public and private property to acceptable levels.

Care needs to be exercised to ensure that the stormwater drainage system performs in accordance with the requirements of QUDM.

Stormwater runoff captured from newly developed areas is required to be treated to remove nutrients from the runoff prior to discharge to waterways.

5.4 Water Supply

Raw water is sourced from numerous shallow groundwater wells and from direct rainfall capture stored in a raw water lagoon with a capacity of 6 ML. The water supply is augmented by a mobile desalination plant. The supply of raw water for treatment is insufficient to meet current and future demand without augmentation by the desalination plant. The septic tanks pose a risk of contaminating water sourced from the shallow wells.

The pH of the western community's raw water at 6.5 is at the bottom of than the guideline recommended range of 6.5 to 8.5 required to reduce corrosion and encrustation in pipes and fittings. No pH data is available for the eastern community. Turbidity of the raw water supply in the western community ranges from 1.5 NTU to 8.21 NTU, which exceeds the recommended maximum turbidity value of 1.0 NTU. Levels of iron in the western community exceed the guideline recommendation of 0.05 mg/L. Levels of manganese and aluminium are within guideline values. Treatment is required to be installed to reduce the levels of turbidity in treated water and to reduce iron levels to within guidelines.

The existing combined water treatment capacity of 162 kL per day meets current and future demand at the TSIRC target consumption of 350 l/c/d. The current high demand exceeds the capacity of the treatment plants at peak demand. The current storage capacity for treated water is 330 kL, which meets current and future demand at 350 l/c/d.

Emergency standby power generation equipment should be installed to all critical infrastructure in the water supply system to maintain supply during loss of electricity supply.

Reticulation mains of adequate size are to be extended to all new development and be provided with fire hydrants and metered service connections.

Current per capita consumption of 551 litres per day is higher than the TSIRC's target consumption of 350 litres per person, which may be reduced through leakage detection and repair, and demand management

The following upgrades to the existing water supply network will be required to support planned future development:

- > Install coagulation/flocculation equipment to deduce turbidity to guideline levels;
- > Install treatment to reduce iron levels in treated water to within guideline requirements;
- > Install SCADA equipment to permit remote monitoring of system performance to enable prompt rectification of breakdowns that occur from time to time;
- > Install emergency power supply generators at all critical infrastructure;
- > Undertake leak detection and remediation in the distribution system to reduce wastage; and
- > Provide adequate training for operators.

5.5 Sewerage

There is no reticulated sewerage system installed on the island. Each dwelling and occupied community building is provided with a septic tank with a soakage trench for disposal of effluent.

It is recommended that consideration be given to the installation of sewerage reticulation with an associated treatment plant and ocean outfall to replace the septic tanks to eliminate the risk of contaminating the water supply.

5.6 Electricity Supply and Street Lighting

Reticulated electricity to the community is provided from an unmanned isolated fully automated multi-unit diesel generators installed in a power station owned and operated by Ergon.

New development to be delivered under the Master Plan will need to be provided with underground electricity reticulation supplied from new pad mount transformers where required, installed to Ergon standards.

New street lighting shall comply with Ergon standards for urban residential developments.

5.7 Telecommunications

New development is to be provided with connections for landline and internet services supplied from underground cabling in the street, and mobile services where available, all installed by Telstra.

6 Action Plan

The Action Plan is summarised in **Table 6-1** and identifies future actions arising from the Master Plan. Actions listed in the Action Plan are identified as Key Actions for each project.

Table 6-1 Action Plan

1	Undertake further investigations in relation to specific land parcels The Master Plan has identified a number of locations that may be suitable for further development, subject to specific on-site investigations, which will likely identify developable and constrained land.	5	Investigate Cultural, Economic and Recreational Areas Further investigation of potential cultural, economic and recreational areas beyond the township should be undertaken.
2	Develop a Recreation Strategy A strategy should be developed to guide the provision of active travel and recreational infrastructure so that it may form part of a coordinated and integrated network. This is of particular importance for walking and cycling paths.	6	Consultation with Key Stakeholders The Master Plan identifies a number of conceptual opportunities which require consultation with stakeholders relevant to these projects, in order to determine more detailed design requirements to support the delivery of these projects.
3	Protection of Community Facilities and Infrastructure The Master Plan identifies a number of community facilities and infrastructure that are to be protected and maintained for the benefit of the community. The ongoing maintenance of these facilities should be prioritised, with further expansion or embellishment considered when necessary.	7	Planning Scheme Amendments In a number of instances it may be necessary for the Planning Scheme to be amended to reflect the Master Plan projects identified and ultimately support the delivery of these projects.
4	Encourage Economic Activity The Master Plan identifies a number of locations which will support economic activity, however there is a need to encourage businesses to take up the opportunities provided by this land, particularly relating to industry and tourism.	8	Coastal Inundations Investigations and Works Undertake specific investigations into coastal inundation required to identify land that may be suitable for future projects identified by the Master Plan, subject to specific mitigation and protection works.
		9	Documentation of Cultural Values The cultural and spiritual values of significant sites such as churches and cemeteries should be documented for the community.

APPENDIX

A

MASTER PLAN MAP



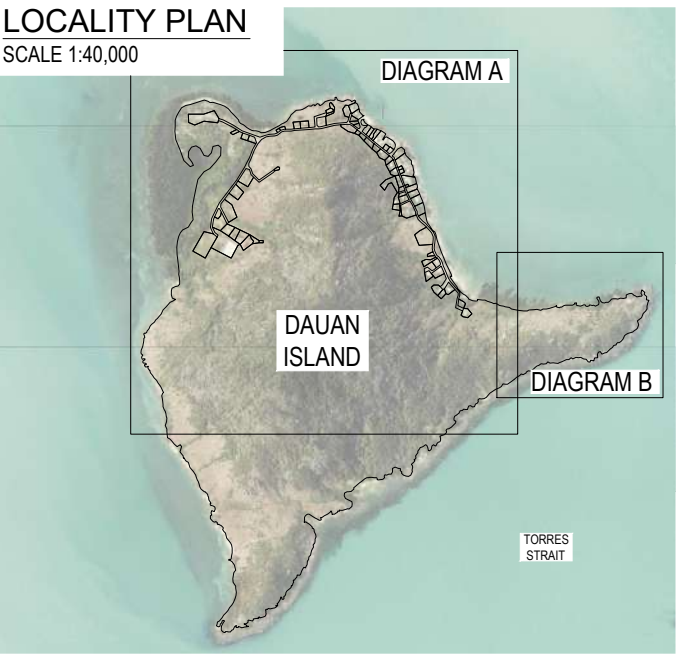


DAUAN ISLAND MASTER PLAN

VERSION 003
14 October 2021

LOCALITY PLAN

SCALE 1:40,000



RESIDENTIAL:

- RS1** RESIDENTIAL EXPANSION AREA
- RS2** RESIDENTIAL INVESTIGATION AREA
- RS3** WORKER'S ACCOMMODATION

INDUSTRIAL:

- ID1** INDUSTRIAL INVESTIGATION AREA
- ID2** QUARRY
- ID3** FISHING INDUSTRY

COMMERCIAL / TOURISM:

- CT1** TOURISM PRECINCT
- CT2** GUESTHOUSE

COMMUNITY FACILITIES:

- CF1** MARKET GARDEN / FOOD SECURITY AREA
- CF2** LANDFILL PROTECTION AND EXPANSION AREA
- CF3** CULTURAL PRECINCT
- CF4** SACRED SITE PROTECTION
- CF5** CEMETERY PROTECTION AREA
- CF6** HEALTH CENTRE
- CF7** CHILD CARE CENTRE
- CF8** COMMUNITY HALL UPGRADE

RECREATION & OPEN SPACE:

- OS1** COMMUNITY PARKLAND
- OS2** PATH NETWORK

OTHER DEVELOPMENT:

- OT1** CBD PRECINCT PLAN
- OT2** JETTY AND BOAT RAMP UPGRADES
- OT3** CONNECTING ROAD
- OT4** HELIPADS
- OT5** WATER SUPPLY UPGRADES
- OT6** BUND WALL
- OT7** INVESTIGATION AREA
- OT8** ROAD UPGRADE
- OT9** BOAT RAMP

LEGEND

- PROPOSED RESIDENTIAL DEVELOPMENT
- PROPOSED INDUSTRIAL DEVELOPMENT
- PROPOSED OTHER DEVELOPMENT
- PROPOSED COMMUNITY FACILITIES
- PROPOSED OPEN SPACE / DRAINAGE RESERVE
- PROPOSED COMMERCIAL / TOURISM DEVELOPMENT
- JETTY

- SCHOOL
- COUNCIL BUILDING
- SHOP / SUPERMARKET
- TELSTRA TOWER
- HEALTH CENTRE FACILITY

KEY:

- RS = RESIDENTIAL
- CT = COMMERCIAL / TOURISM
- CF = COMMUNITY FACILITIES
- OT = OTHER
- OS = OPEN SPACE
- ID = INDUSTRIAL

NOTES:

- PROJECTS CT3, OT10, OT11, OT12, OT13 AND OT14 ARE NOT SHOWN ON THE MASTER PLAN MAP. REFER TO THE MASTER PLAN FOR FURTHER DETAIL.

DIAGRAM A

SCALE 1:7,500

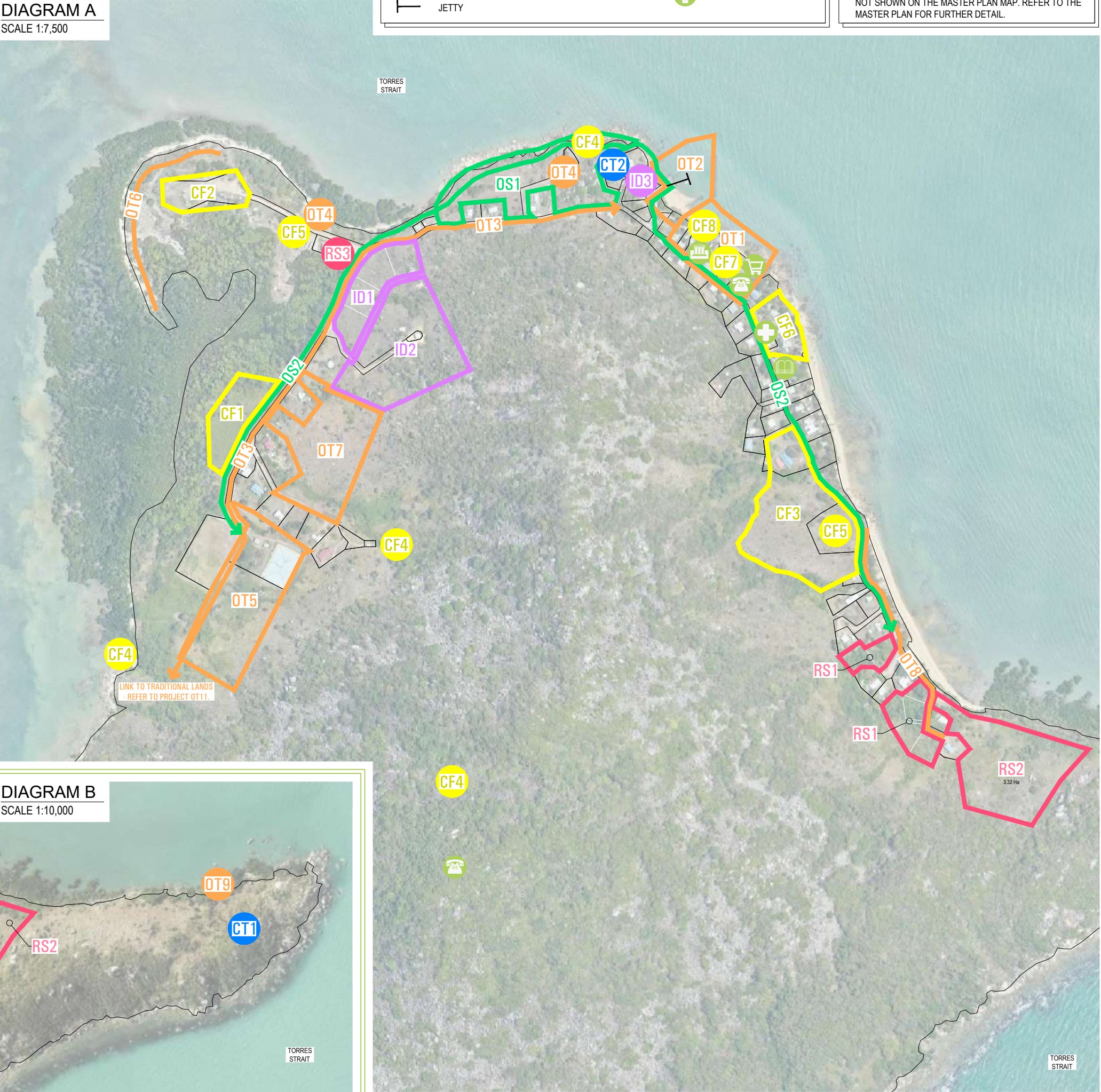
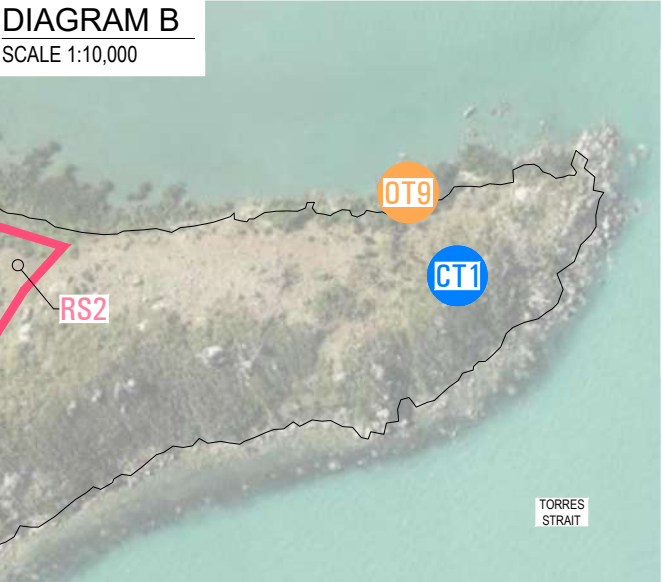


DIAGRAM B

SCALE 1:10,000



APPENDIX

B

MASTER PLAN PROJECT INDEX



DAUAN ISLAND MASTER PLAN

PROJECT INDEX

The below table provides a summary of the projects identified in the Master Plan.

ID	Project Name	New Lots	Lot Sizes	Priority	Infrastructure Cost	Associated Projects	Key Actions
RS1	Residential Expansion Area	7 Lots	1,240m ² -2,237m ²	Short Term	\$3,687,151	RS2, OS2	1, 7, 8
RS2	Residential Investigation Area	19 Lots (estimate)	1,200m ² (average)	Long Term	\$8,637,762	RS1	1, 6, 7, 8
RS3	Worker's Accommodation	N/A	N/A	Ongoing	To Be Costed	-	-
ID1	Industrial Investigation Area	4 Lots	3,268m ² -3,620m ²	Medium Term	\$4,708,565	ID2, OT2, OT3	1, 4, 6, 7
ID2	Quarry	N/A	N/A	Short Term	N/A	ID1, OT2, OT3	1, 4, 7
ID3	Fishing Industry	N/A	N/A	Short Term	\$425,954	OT2	4, 6
CT1	Tourism Precinct	N/A	N/A	Long Term	\$11,132,220	OT9	4, 6
CT2	Guesthouse	N/A	N/A	Medium Term	To Be Costed	OS1, OT2	4, 6
CT3	Environmental Tourism	N/A	N/A	Medium Term	N/A	CT1	4, 6
CF1	Market Garden / Food Security Area	N/A	N/A	Medium Term	N/A	OS2, OT3	1, 6
CF2	Landfill Protection and Expansion Area	N/A	N/A	Short Term	N/A	-	3
CF3	Cultural Precinct	N/A	N/A	Medium Term	N/A	OS2	3, 6, 9
CF4	Sacred Site Protection	N/A	N/A	Ongoing	N/A	-	3, 4, 6, 9
CF5	Cemetery Protection Area	N/A	N/A	Ongoing	N/A	-	3, 6, 9
CF6	Health Centre	N/A	N/A	Medium Term	\$921,527	OS2	3, 6

ID	Project Name	New Lots	Lot Sizes	Priority	Infrastructure Cost	Associated Projects	Key Actions
CF7	Child Care Centre	N/A	N/A	Short Term	N/A	OT1	3, 6
CF8	Community Hall Upgrade	N/A	N/A	Short Term	N/A	OT1	3, 6
OS1	Community Parkland	N/A	N/A	Short Term	To Be Costed	CT1, OS2, OT3, OT4,	2, 6
OS2	Path Network	N/A	N/A	Short Term	\$781 per metre (concrete) \$500 per metre (gravel) \$250 per metre (earth)	-	2
OT1	CBD Precinct Plan	N/A	N/A	Medium Term	N/A	CF7, CF8, OS2	4, 6
OT2	Jetty and Boat Ramp Upgrades	N/A	N/A	Short Term	To Be Costed	CT1, OS1, OT1, OT3	4, 6, 8
OT3	Connecting Road	N/A	N/A	Medium Term	\$8,276,938	ID1, ID2, CF1, OT11	5, 6
OT4	Helipads	N/A	N/A	Ongoing	To Be Costed	CT1, OS1, OT2	-
OT5	Water Supply Upgrades	N/A	N/A	Short Term	To Be Costed	-	3
OT6	Bund Wall	N/A	N/A	Medium Term	To Be Costed	CF2, CF5, OT4	3, 8
OT7	Investigation Area	N/A	N/A	Long Term	To Be Costed	ID1, ID2, OT3	1, 6
OT8	Road Upgrade	N/A	N/A	Short Term	\$5,977,348	-	3, 6
OT9	Boat Ramp	N/A	N/A	Long Term	To Be Costed	CT1	-
OT10	Potential Reticulated Sewerage Network	N/A	N/A	Long Term	To Be Costed	-	3, 6
OT11	“Back of Island” Access	N/A	N/A	Medium Term	N/A	OT3	5, 6

ID	Project Name	New Lots	Lot Sizes	Priority	Infrastructure Cost	Associated Projects	Key Actions
0T12	Telecommunications Upgrades	N/A	N/A	Short Term	To Be Costed	-	6
0T13	Carbon and Renewable Energy Opportunities	N/A	N/A	Medium Term	N/A	-	6
0T14	Property Access Audit	N/A	N/A	Short Term	N/A	-	1, 6

APPENDIX

C

ACTION PLAN SUMMARY



DAUAN ISLAND MASTER PLAN

ACTION PLAN SUMMARY

The below table provides a summary of the relationship between the Action Plan and the projects identified in the Master Plan.

ID	Action	RS1	RS2	RS3	ID1	ID2	ID3	CT1	CT2	CT3
1	Undertake further investigations in relation to specific land parcels	RS1	RS2		ID1	ID2				
2	Develop a Recreation Strategy									
3	Protection of Community Facilities and Infrastructure									
4	Encourage Economic Activity				ID1	ID2	ID3	CT1	CT2	CT3
5	Investigate Cultural, Economic and Recreational Areas									
6	Consultation with Key Stakeholders		RS2		ID1		ID3	CT1	CT2	CT3
7	Planning Scheme Amendments	RS1	RS2		ID1	ID2				
8	Coastal Inundations Investigations and Works	RS1	RS2							
9	Documentation of Cultural Values									

ID	Action	CF1	CF2	CF3	CF4	CF5	CF6	CF7	CF8	OS1	OS2
1	Undertake further investigations in relation to specific land parcels	CF1									
2	Develop a Recreation Strategy									OS1	OS2
3	Protection of Community Facilities and Infrastructure		CF2	CF3	CF4	CF5	CF6	CF7	CF8		
4	Encourage Economic Activity				CF4						
5	Investigate Cultural, Economic and Recreational Areas										
6	Consultation with Key Stakeholders	CF1		CF3	CF4	CF5	CF6	CF7	CF8	OS1	
7	Planning Scheme Amendments										
8	Coastal Inundations Investigations and Works										
9	Documentation of Cultural Values			CF3	CF4	CF5					

ID	Action	OT1	OT2	OT3	OT4	OT5	OT6	OT7	OT8	OT9	OT10	OT11	OT12	OT13	OT14
1	Undertake further investigations in relation to specific land parcels							OT7							OT14
2	Develop a Recreation Strategy														
3	Protection of Community Facilities and Infrastructure					OT5	OT6		OT8		OT10				
4	Encourage Economic Activity	OT1	OT2												
5	Investigate Cultural, Economic and Recreational Areas			OT3								OT11			
6	Consultation with Key Stakeholders	OT1	OT2	OT3				OT7	OT8		OT10	OT11	OT12	OT13	OT14
7	Planning Scheme Amendments														
8	Coastal Inundations Investigations and Works		OT2				OT8								
9	Documentation of Cultural Values														

APPENDIX

D

INFRASTRUCTURE COSTINGS



TORRES STRAIT MASTER PLANNING INFRASTRUCTURE COST ESTIMATES

Prepared for the Department of Aboriginal and Torres Strait Islander Partnerships



03DU DAUAN ISLAND

Last Update: 15-Nov-21

Project			RS1		RS2		ID1		ID3		CT1		CF6	
Yield (Number of Lots)			7		19		4		N/A		N/A		1	
Item	Unit	Rate	Qty	Amount	Qty	Amount	Qty	Amount	Qty	Amount	Qty	Amount	Qty	Amount
HEADWORKS INFRASTRUCTURE UPGRADES														
Sewage Treatment Plant Upgrade	Item													
Water Treatment Plant Upgrade	Item													
Reservoirs Upgrade	Item													
DEVELOPMENT														
Earthworks														
Site clearing and disposal of material	Ha	\$ 17,500	0.80	\$ 14,000	2.3	\$ 40,250	1.6	\$ 28,000	0.25	\$ 4,375	1.0	\$ 17,500	0.6	\$ 10,500
Erosion and sediment control	m	\$ 50	200	\$ 10,000	250	\$ 12,500	300	\$ 15,000	100	\$ 5,000	500	\$ 25,000	150	\$ 7,500
Strip topsoil and respread	m ³	\$ 38	800	\$ 30,000	2,200	\$ 82,500	1600	\$ 60,000	250	\$ 9,375	1000	\$ 37,500	600	\$ 22,500
Cut to fill on lots	m ³	\$ 50	1,650	\$ 82,500	3,250	\$ 162,500	3000	\$ 150,000	500	\$ 25,000	1500	\$ 75,000	1000	\$ 50,000
Cut in open drains to fill on lots	m ³	\$ 50	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -
Cut in roads and table drains to fill on lots	m ³	\$ 50	750	\$ 37,500	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -
Roadworks														
Concrete Road (7.0 m)	m	\$ 3,750	120	\$ 450,000	350	\$ 1,312,500	300	\$ 1,125,000	50		500	\$ 1,875,000	0	\$ -
Stormwater Drainage														
Concrete edge strips/K & C to road pavement	m	\$ 500	240	\$ 120,000	700	\$ 350,000	600	\$ 300,000	0	\$ -	1000	\$ 500,000	0	\$ -
Concrete invert to table drain	m	\$ 1,875	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -
1200 x 450 RCBC incl conc base/invert crossing	m	\$ 3,750	44	\$ 165,000	22	\$ 82,500	0	\$ -	0	\$ -	48	\$ 180,000	0	\$ -
Headwalls, Wingwalls and Aprons	m ³	\$ 4,500	10	\$ 45,000	9	\$ 40,500	0	\$ -	0	\$ -	19.5	\$ 87,750	0	\$ -
Bio-Basins	m ²	\$ 1,125	200	\$ 225,000	400	\$ 450,000	375	\$ 421,875	65	\$ 73,125	100	\$ 112,500	150	\$ 168,750
Bio basin concrete spillway	m ²	\$ 875	150	\$ 131,250	75	\$ 65,625	75	\$ 65,625	50	\$ 43,750	250	\$ 218,750	50	\$ 43,750
Water Reticulation														
100 dia, PVC pipe	m	\$ 500	120	\$ 60,000	0	\$ -	0	\$ -	75	\$ 37,500	500	\$ 250,000	80	\$ 40,000
150 dia. PVC pipe	m	\$ 625	0	\$ -	300	\$ 187,500	250	\$ 156,250	0	\$ -	0	\$ -	0	\$ -
200 dia PVC pipe	m	\$ 813	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -
SV's	No	\$ 3,750	1	\$ 3,750	3	\$ 11,250	2	\$ 7,500	2	\$ 7,500	2	\$ 7,500	0	\$ -
Hydrants	No	\$ 5,688	2	\$ 11,375	5	\$ 28,438	4	\$ 22,750	1	\$ 5,688	2	\$ 11,375	1	\$ 5,688
Single house connections	No	\$ 2,500	7	\$ 17,500	19	\$ 47,500	4	\$ 10,000	1	\$ 2,500	1	\$ 2,500	1	\$ 2,500
Connect to existing main	No	\$ 7,500	2	\$ 15,000	1	\$ 7,500	2	\$ 15,000	1	\$ 7,500	1	\$ 7,500	2	\$ 15,000
VSD Pump Building	Item	\$ 375,000	0	\$ -	0	\$ -	0	\$ -	0	\$ -	1	\$ 375,000	0	\$ -
Variable speed drive pump set	Item	\$ 250,000	0	\$ -	0	\$ -	0	\$ -	0	\$ -	1	\$ 250,000	0	\$ -
Standby generator	Item	\$ 125,000	0	\$ -	0	\$ -	0	\$ -	0	\$ -	1	\$ 125,000	0	\$ -

TORRES STRAIT MASTER PLANNING INFRASTRUCTURE COST ESTIMATES

Prepared for the Department of Aboriginal and Torres Strait Islander Partnerships



03DU DAUAN ISLAND

Last Update: 15-Nov-21

Project			RS1		RS2		ID1		ID3		CT1		CF6	
Yield (Number of Lots)			7		19		4		N/A		N/A		1	
Item	Unit	Rate	Qty	Amount	Qty	Amount	Qty	Amount	Qty	Amount	Qty	Amount	Qty	Amount
Sewerage Reticulation														
150 dia. PVC	m	\$ 500	200	\$ 100,000	360	\$ 180,000	250	\$ 125,000	0	\$ -	50	\$ 25,000	150	\$ 75,000
Manholes	No	\$ 12,500	5	\$ 62,500	7	\$ 87,500	4	\$ 50,000	0	\$ -	2	\$ 25,000	2	\$ 25,000
Lot connections	No	\$ 1,875	7	\$ 13,125	19	\$ 35,625	4	\$ 7,500	0	\$ -	1	\$ 1,875	1	\$ 1,875
FRP Pump Station	Item	\$ 1,187,500	0.25	\$ 296,875	0.75	\$ 890,625	0	\$ -	0	\$ -	1	\$ 1,187,500	0	\$ -
Standby Generator	Item	\$ 125,000	0.25	\$ 31,250	0.75	\$ 93,750	0	\$ -	0	\$ -	1	\$ 125,000	0	\$ -
90 OD polyethylene pressure main	m	\$ 500	0	\$ -	500	\$ 250,000	0	\$ -	0	\$ -	500	\$ 250,000	0	\$ -
110 OD polyethylene pressure main	m	\$ 750	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -
140 OD polyethylene pressure main	m	\$ 875	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -
Electricity Supply														
Conduits, pits and pole bases	Lots	\$ 15,000	7	\$ 105,000	19	\$ 285,000	4	\$ 60,000	1	\$ 15,000	25	\$ 375,000	1	\$ 15,000
Cabling and street lights	Lots	\$ 18,750	7	\$ 131,250	19	\$ 356,250	4	\$ 75,000	1	\$ 18,750	25	\$ 468,750	1	\$ 18,750
Transformer	No	\$ 250,000	0.2	\$ 50,000	0.5	\$ 125,000	0.5	\$ 125,000	0	\$ -	0.2	\$ 50,000	0.2	\$ 50,000
Sub Totals			\$ 2,207,875		\$ 5,184,813		\$ 2,819,500		\$ 255,063		\$ 6,666,000		\$ 551,813	
Contingencies	Item	30%		\$ 662,363		\$ 1,555,444		\$ 845,850		\$ 76,519		\$ 1,999,800		\$ 165,544
Preliminaries														
Establishment, insurance, As-constructed	Item	22%		\$ 485,733		\$ 1,140,659		\$ 620,290		\$ 56,114		\$ 1,466,520		\$ 121,399
Project Management														
Survey, design, and construction administration	Item	15%		\$ 331,181		\$ 777,722		\$ 422,925		\$ 38,259		\$ 999,900		\$ 82,772
TOTALS			\$ 3,687,151		\$ 8,658,637		\$ 4,708,565		\$ 425,954		\$ 11,132,220		\$ 921,527	

TORRES STRAIT MASTER PLANNING

INFRASTRUCTURE COST ESTIMATES

Prepared for the Department of Aboriginal and Torres Strait Islander Partnerships

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Project			OT3		OT8	
Yield (Number of Lots)			N/A		N/A	
Item	Unit	Rate	Qty	Amount	Qty	Amount

HEADWORKS INFRASTRUCTURE UPGRADES						
Sewage Treatment Plant Upgrade	Item					
Water Treatment Plant Upgrade	Item					
Reservoirs Upgrade	Item					
DEVELOPMENT						
Earthworks						
Site clearing and disposal of material	Ha	\$ 17,500	1.75	\$ 30,625	0.9	\$ 15,750
Erosion and sediment control	m	\$ 50	900	\$ 45,000	500	\$ 25,000
Strip topsoil and respread	m ³	\$ 38	1750	\$ 65,625	900	\$ 33,750
Cut to fill on lots	m ³	\$ 50	0	\$ -	0	\$ -
Cut in open drains to fill on lots	m ³	\$ 50	0	\$ -	0	\$ -
Cut in roads and table drains to fill on lots	m ³	\$ 50	5000	\$ 250,000		\$ -
Roadworks						
Concrete Road (7.0 m)	m	\$ 3,750	860	\$ 3,225,000	450	\$ 1,687,500
Stormwater Drainage						
Concrete edge strips/K & C to road pavement	m	\$ 500	1720	\$ 860,000	900	\$ 450,000
Concrete invert to table drain	m	\$ 1,875	0	\$ -	0	\$ -
1200 x 450 RCBC incl conc base/invert crossing	m	\$ 3,750	86	\$ 322,500	96	\$ 360,000
Headwalls, Wingwalls and Aprons	m ³	\$ 4,500	35	\$ 157,500	40	\$ 180,000
Bio-Basins	m ²	\$ 1,125	0	\$ -	225	\$ 253,125
Bio basin concrete spillway	m ²	\$ 875	0	\$ -	250	\$ 218,750
Water Reticulation						
100 dia, PVC pipe	m	\$ 500	0	\$ -	0	\$ -
150 dia. PVC pipe	m	\$ 625	0	\$ -	450	\$ 281,250
200 dia PVC pipe	m	\$ 813	0	\$ -	0	\$ -
SV's	No	\$ 3,750	0	\$ -	2	\$ 7,500
Hydrants	No	\$ 5,688	0	\$ -	6	\$ 34,125
Single house connections	No	\$ 2,500	0	\$ -	10	\$ 25,000
Connect to existing main	No	\$ 7,500	0	\$ -	1	\$ 7,500
VSD Pump Building	Item	\$ 375,000	0	\$ -	0	\$ -
Variable speed drive pump set	Item	\$ 250,000	0	\$ -	0	\$ -
Standby generator	Item	\$ 125,000	0	\$ -	0	\$ -

TORRES STRAIT MASTER PLANNING
INFRASTRUCTURE COST ESTIMATES

Prepared for the Department of Aboriginal and Torres Strait Islander Partnerships

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Project			OT3		OT8	
Yield (Number of Lots)			N/A		N/A	
Item	Unit	Rate	Qty	Amount	Qty	Amount
Sewerage Reticulation						
150 dia. PVC	m	\$ 500	0	\$ -	0	\$ -
Manholes	No	\$ 12,500	0	\$ -	0	\$ -
Lot connections	No	\$ 1,875	0	\$ -	0	\$ -
FRP Pump Station	Item	\$ 1,187,500	0	\$ -	0	\$ -
Standby Generator	Item	\$ 125,000	0	\$ -	0	\$ -
90 OD polyethylene pressure main	m	\$ 500	0	\$ -	0	\$ -
110 OD polyethylene pressure main	m	\$ 750	0	\$ -	0	\$ -
140 OD polyethylene pressure main	m	\$ 875	0	\$ -	0	\$ -
Electricity Supply						
Conduits, pits and pole bases	Lots	\$ 15,000	0	\$ -	0	\$ -
Cabling and street lights	Lots	\$ 18,750	0	\$ -	0	\$ -
Transformer	No	\$ 250,000	0	\$ -	0	\$ -
Sub Totals				\$ 4,956,250		\$ 3,579,250
Contingencies	Item	30%		\$ 1,486,875		\$ 1,073,775
Preliminaries						
Establishment, insurance, As-constructed	Item	22%		\$ 1,090,375		\$ 787,435
Project Management						
Survey, design, and construction administration	Item	15%		\$ 743,438		\$ 536,888
TOTALS				\$ 8,276,938		\$ 5,977,348

APPENDIX

E

PRECINCT PLANS





DAUAN ISLAND MASTER PLAN

CBD PRECINCT PLAN

VERSION 001
29 June 2020

LEGEND

- 1 COMMUNITY PARK
- 2 MULTI-PURPOSE COURT
- 3 EXISTING BUILDINGS
- 4 EXISTING SEA WALL
- 5 SHARED ZONE
- 6 MAIN ROAD
- 7 PEDESTRIAN PATH



1 COMMUNITY PARK



5 SHARED ZONE



7 PEDESTRIAN PATH

APPENDIX

F

ANALYTICAL TRANSLATION



DAUAN ISLAND MASTER PLAN

ANALYTICAL TRANSLATION

#	Direction	Technical Report	Master Plan Projects	Notes
1.	The Master Plan will need to cater for an increase in housing (14 new dwellings) to reduce overcrowding and cater for population growth and changes to community needs.	4 Demographic Analysis 8.1 Aboriginal and Torres Strait Islander Housing Action Plan 2019-2023 8.10 Torres Strait and Northern Peninsula Regional Plan 2009-2029 8.12 TSIRC Corporate Plan 2020-2025	RS1, RS2, RS3	
2.	The Master Plan should seek to diversify the available housing products, particularly the provision of smaller housing types. Dwelling types can be supported as infill housing, which will allow them to be well located proximate to key services and facilities.	4 Demographic Analysis 8.1 Aboriginal and Torres Strait Islander Housing Action Plan 2019-2023 8.10 Torres Strait and Northern Peninsula Regional Plan 2009-2029 8.12 TSIRC Corporate Plan 2020-2025	RS1, RS2, RS3	
3.	The Master Plan should support the provision of facilities for ageing in place and accessible living including accommodation for independent living (for persons of any age who may need care).	4 Demographic Analysis 8.10 Torres Strait and Northern Peninsula Regional Plan 2009-2029 8.12 TSIRC Corporate Plan 2020-2025	RS1, RS2, OT1	
4.	The Master Plan should explore options for the development of the town expansion areas identified by the planning scheme.	5 Planning Analysis 8.10 Torres Strait and Northern Peninsula Regional Plan 2009-2029	RS1	

#	Direction	Technical Report	Master Plan Projects	Notes
5.	The Master Plan should consider select areas for potential housing.	5 Planning Analysis 8.10 Torres Strait and Northern Peninsula Regional Plan 2009-2029	RS1, RS2, RS3	
6.	The Master Plan should seek to facilitate the provision of active transport infrastructure (walking / cycling paths) to connect important parts of the community and promote healthy living through physical activity.	2.5 Services and Facilities 8.5 Healthy by Design / Walkability 8.10 Torres Strait and Northern Peninsula Regional Plan 2009-2029 8.12 TSIRC Corporate Plan 2020-2025	OS1, OS2	
7.	The Master Plan should seek to support the protection and embellishment (where appropriate) of key sacred and cultural sites identified by the community. This may include improving community access.	5 Planning Analysis 8.10 Torres Strait and Northern Peninsula Regional Plan 2009-2029 8.12 TSIRC Corporate Plan 2020-2025	CF3, CF4	
8.	The Master Plan should seek to protect places of worship and cemeteries and facilitate the identification of additional land to support future community needs.	2.5 Services and Facilities 8.12 TSIRC Corporate Plan 2020-2025	CF3, CF5	
9.	The Master Plan should support the protection and expansion (if required) of the existing landfill site.	2.5 Services and Facilities 6 Infrastructure Analysis 8.10 Torres Strait and Northern Peninsula Regional Plan 2009-2029 8.12 TSIRC Corporate Plan 2020-2025	CF2, OT6	
10.	The Master Plan should locate development in a manner that is reflective of the potential effects of coastal processes.	5 Planning Analysis 8.10 Torres Strait and Northern Peninsula Regional Plan 2009-2029 8.11 Torres Strait Regional Adaptation and Resilience Plan 2016-2021 8.12 TSIRC Corporate Plan 2020-2025	All projects	

#	Direction	Technical Report	Master Plan Projects	Notes
11.	The Master Plan should explore the use of the future quarry site identified by the planning scheme, potentially involving the re-establishment of the old quarry as a possible business enterprise opportunity.	5 Planning Analysis	ID2	
12.	The Master Plan should investigate the provision of land for potential food production, which may include community or market gardens.	5 Planning Analysis 8.9 Food Security 8.10 Torres Strait and Northern Peninsula Regional Plan 2009-2029 8.12 TSIRC Corporate Plan 2020-2025	CF1, OT7	
13.	The Master Plan should support the efficient use and embellishment of the jetty and boat ramp. This will likely include supporting improvements to vessel access through new or improved marine infrastructure and the provision of new land based infrastructure, such as facilities that support commercial fishing.	2.5 Services and Facilities 5 Planning Analysis 8.10 Torres Strait and Northern Peninsula Regional Plan 2009-2029 8.12 TSIRC Corporate Plan 2020-2025 8.13 Warpil – Fishing for Our Future	OT2, OT9, ID3	
14.	The Master Plan should support improved access to the island.	6 Infrastructure Analysis 8.10 Torres Strait and Northern Peninsula Regional Plan 2009-2029 8.12 TSIRC Corporate Plan 2020-2025	OT2, OT4	
15.	The Master Plan should support the development of tourism opportunities that are compatible with the aspirations of the community.	2.5 Services and Facilities 5 Planning Analysis 8.10 Torres Strait and Northern Peninsula Regional Plan 2009-2029 8.12 TSIRC Corporate Plan 2020-2025	CT1, CT2	

#	Direction	Technical Report	Master Plan Projects	Notes
16.	The Master Plan should ensure that new commercial and community facilities are located in a manner that maximises ease of access for the community.	2.5 Services and Facilities 5 Planning Analysis 8.10 Torres Strait and Northern Peninsula Regional Plan 2009-2029 8.12 TSIRC Corporate Plan 2020-2025	OT1, OS1, OS2, CF3	
17.	The Master Plan should encourage the establishment of new enterprise opportunities including a guesthouse, seafood industry and commercial freezer.	5 Planning Analysis 8.10 Torres Strait and Northern Peninsula Regional Plan 2009-2029 8.12 TSIRC Corporate Plan 2020-2025 8.13 Warpil – Fishing for Our Future	CT1, CT2, ID1, ID2, ID3, OT2	
18.	The Master Plan should advance the establishment of a new critical community infrastructure and uses such as health centre with accommodation, police station, crisis housing and youth centre.	2.5 Services and Facilities 5 Planning Analysis	CF6, CF8, OT1	
19.	The Master Plan should reinforce a centralised business core area for new commercial and the consolidation of government administrative offices, health care and shops.	2.5 Services and Facilities 5 Planning Analysis 7.2 Community Consultation 8.12 TSIRC Corporate Plan 2020-2025	OT1	
20.	The Master Plan should support the improvement and upgrade of community infrastructure such as public toilets, seating, rock/tidal pool, sun shade shelters, footpaths and handrails to create an accessible and inclusive community.	2.5 Services and Facilities 5 Planning Analysis 8.5 Healthy by Design / Walkability	OS1, OS2, OT1, OT3, OT11, OT14, CF8	

#	Direction	Technical Report	Master Plan Projects	Notes
21.	The Master Plan should support the provision of additional child care facilities.	2.5 Services and Facilities 5 Planning Analysis 8.10 Torres Strait and Northern Peninsula Regional Plan 2009-2029 8.12 TSIRC Corporate Plan 2020-2025	CF7	
22.	The Master Plan should support the development of cultural centres and arts centres.	2.5 Services and Facilities 5 Planning Analysis 8.10 Torres Strait and Northern Peninsula Regional Plan 2009-2029 8.12 TSIRC Corporate Plan 2020-2025	CF3, OT1	
23.	The Master Plan should investigate opportunities to improve community access to other areas of the island (beyond the township), particularly for recreation, economic and cultural purposes.	8.10 Torres Strait and Northern Peninsula Regional Plan 2009-2029 8.12 TSIRC Corporate Plan 2020-2025	OT3, OT11	
24.	The Master Plan should investigate opportunities for carbon offsetting, both in land and sea areas.	8.2 Queensland Climate Transition Strategy 8.4 Carbon 8.10 Torres Strait and Northern Peninsula Regional Plan 2009-2029 8.12 TSIRC Corporate Plan 2020-2025	OT13	
25.	The Master Plan should identify potential opportunities for alternative energy projects.	8.2 Queensland Climate Transition Strategy 8.4 Carbon 8.8 Renewable Energy 8.10 Torres Strait and Northern Peninsula Regional Plan 2009-2029 8.12 TSIRC Corporate Plan 2020-2025	OT13	

#	Direction	Technical Report	Master Plan Projects	Notes
26.	The Master Plan should investigate opportunities to improve communications infrastructure (telephone and internet).	8.10 Torres Strait and Northern Peninsula Regional Plan 2009-2029 8.12 TSIRC Corporate Plan 2020-2025	OT12	
27.	The Master Plan should support the provision of appropriate lighting in key locations in the town.	8.12 TSIRC Corporate Plan 2020-2025	OS1, OS2, OT1	
28.	The Master Plan should facilitate upgrades to the water supply network in order to increase capture and storage capacity to meet demand and ensure that appropriate treatment occurs.	6 Infrastructure Analysis 8.10 Torres Strait and Northern Peninsula Regional Plan 2009-2029 8.12 TSIRC Corporate Plan 2020-2025	OT5	
29.	The Master Plan should investigate the potential to provide a reticulated sewerage network for the community, which currently uses localised septic systems.	6 Infrastructure Analysis 8.10 Torres Strait and Northern Peninsula Regional Plan 2009-2029 8.12 TSIRC Corporate Plan 2020-2025	OT10	
30.	The Master Plan should be updated to reflect the outcomes of community consultation activities undertaken.	7 Consultation	RS3, ID3, CT1, CT2, CF1, CF4, CF5, CF7, CF8, OT1, OT4, OT5, OT6, OT7, OT8, OT9, OT14	