

Mabuiag Island Master Plan

Prepared for

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



Mabuiag Island Master Plan

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Project Information

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

Project Name
Torres Strait Master Planning

Job Reference
Q194171

Document Information

File Reference
Q194171-004.05MB.R25.001 -
Mabuiag Island Master Plan

Date
30 March 2022

Version Number
002

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Effective Date
23/03/2022

Document History

Version	Effective Date	Description of Revision	Prepared by	Reviewed by
001	29/06/2020	First Draft	Brendan Standen	Stephen Whitaker
002	23/03/2022	Final	Camilla Lee	Camilla Lee



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 Mabuiag Island Master Plan. The Mabuiag 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 Mabuiag Island Master Plan seeks to guide the future use of land on Mabuiag Island in a manner that is cognisant of community needs, demands and aspirations. The Mabuiag 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 Mabuiag 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 Mabuiag 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 Mabuiag Island Master Plan is intended to identify a high level strategic direction for the future development of Mabuiag 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 Mabuiag 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 Mabuiag 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 Mabuiag Island Master Plan acknowledges the native title holders, the Gumulgai (the Mabuiag people) as the traditional custodians of Mabuiag Island. The Master Plan also acknowledges all community members.

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

Mabuiag Island Master Plan



Figure 1-1 Master Plan Elements

2 Vision

***Mabuiag Island** will continue to develop as an environmentally, socially and economically sustainable and progressive community in Torres Strait, which maintains its intrinsic link to land, sea and sky.*

In the future, the community will benefit from a township with a clear settlement pattern that seeks to provide and consolidate core services and facilities where possible. A clearly defined path and road network will support improved connections to those parts of the elongated township that sit outside the core.

A new residential expansion area will support a range of dwelling types that reflect the varied living arrangements and family structures on the island. Residential areas on Mabuiag Island will support a high level of amenity and a unique character linked to the values of the community.

All future development in the township recognises and responds to the significance of the community's connection to the culture and history of Mabuiag Island. Sacred sites and places of worship will benefit from improved access and embellishments, where appropriate, and their significance will be reflected in the planning and outcomes of all development.

Enterprise opportunities will be explored and established that seek to promote economic activity across Mabuiag Island, which may include fisheries, hydroponics, aquaculture, tourism ventures (based around food, fishing tours, arts and culture), coconut oil production, and marine industries. The existing boat ramp will be a focal point for economic activity, through infrastructure upgrades, provision of a new jetty and creation of tourism and industry opportunities.

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 Mabuiag Island community will be provided with housing that meets its needs.
- > The Mabuiag Island community will be provided with access to key community services that support the day to day needs of its residents, including shopping/business, a market garden, child care and health care.
- > The Mabuiag Island community will expand local business and enterprise opportunities, to support economic activity and local employment, particularly for aquaculture, seafood processing, boat repairs (including fibre glassing), coconut oil production and tourism.
- > The Mabuiag 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 Mabuiag Island community will be easily accessed from the surrounding region by air and sea.
- > The Mabuiag Island community will increase physical activity, for both movement and recreation, through the use of dedicated facilities and networks.
- > The Mabuiag Island community will have access to quality urban infrastructure services.
- > The Mabuiag 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 Mabuiag 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 Mabuiag 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	OS1	Path Network	OT5	Investigation Area (Urban)
RS2	Residential Expansion Area 2	OS2	Sporting Precinct	OT6	Water Supply Upgrades
RS3	Infill Housing	OS3	Community Park	OT7	Sewerage Upgrades
ID1	Fishing Industry	OS4	Lookout	OT8	Road Upgrade – North
CT1	Fishing Tourism	OS5	Community Recreation Area	OT9	School Street Upgrade
CT2	Arts Centre	OT1	CBD Precinct Plan	OT10	Dam Investigation Area
CT3	Environmental Tourism	OT2	Airport Upgrades	OT11	“Back of Island” Access
CF1	Sacred Site Protection	OT3	Connecting Road	OT12	Telecommunications Upgrades
CF2	Cemetery Protection Area	OT4	Boat Ramp Upgrades and New Jetty	OT13	Carbon and Renewable Energy Opportunities
CF3	Place of Worship Protection				
CF4	Landfill Protection and Expansion Area				
CF5	Market Garden / Food Security Area				
CF6	Child Care Centre				

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

4.3 Project Detail

Residential Projects

The Master Plan has identified a residential project in order to accommodate an anticipated demand for seven additional dwellings. This project also seeks to diversify the housing products provided on Mabuiag Island. These key directions were identified as part of the technical analysis which is documented in the Mabuiag Island Master Plan Technical Report. Further detail is also provided in **Appendix F**.

RS1 Residential Expansion Area 1			
Summary <p>Two parcels of land at the south-western end of the township have been identified as being potentially suitable for accommodating the short-term residential demand of the community. Development of the land is likely to be formed by a residential subdivision, which should be encouraged to include a range of dwelling types and sizes to suit demand. The land should be developed sequentially, with RS1 being the first stage, followed by RS2.</p> <p>The land is currently earmarked for future sporting fields under the Planning Scheme and investigations of the land for residential development would need to occur in conjunction with investigations for the Sporting Precinct project (OS2). Part of the land is mapped under the Planning Scheme as being affected by coastal hazard (storm tide inundation area) and includes a waterway.</p> Recommendations <p>Undertake investigation of the development of the project in conjunction with the development of the Sporting Precinct project (OS2).</p> <p>Investigate the extent to which coastal hazards and the waterway mapped over the land may affect future residential development and respond to these features accordingly.</p>	New Lots		13 Lots
	Lot Size		815m ² – 818m ²
	Priority		Short Term
	Infrastructure Cost		\$3,195,879
	Associated Projects		OS2 RS2
	Key Actions		1 6 8

RS2 Residential Expansion Area 2

Summary

Two parcels of land at the south-western end of the township have been identified as being potentially suitable for accommodating the short-term residential demand of the community. Development of the land is likely to be formed by a residential subdivision, which should be encouraged to include a range of dwelling types and sizes to suit demand. The land should be developed sequentially, with **RS1** being the first stage, followed by RS2.

The land is currently earmarked for future sporting fields under the Planning Scheme and investigations of the land for residential development would need to occur in conjunction with investigations for the Sporting Precinct project (**OS2**).

Recommendations

Undertake investigation of the development of the project in conjunction with the development of the Sporting Precinct project (**OS2**).

New Lots

13 Lots

Lot Size

815m² – 818m²

Priority

Medium Term

Infrastructure Cost

\$3,396,196

Associated Projects

OS2

RS1

Key Actions

1

6

RS3 Infill Housing

Summary

Four (4) vacant allotments near the southern end of School Street have been identified for infill housing opportunities. Future development of these lots should seek to accommodate a range of housing products.

New Lots

N/A

Lot Size

710m² – 1,422 m²

Priority

Short Term

Infrastructure Cost

\$286,572

Associated Projects

-

Key Actions

-

Industry Projects

The Master Plan provides opportunities for industrial development such as aquaculture, seafood processing, boat repairs (including fibre glassing) and coconut oil production. This key direction was identified as part of the technical analysis which is documented in the Mabuiag Island Master Plan Technical Report. Further detail is also provided in **Appendix F**.

ID1 Fishing Industry				
Summary The Master Plan identifies land at the eastern end of the township proximate to the barge ramp that may be suitable for establishing a fishing industry hub. This area will advance community aspirations to work in the fishing industry, improve fisheries infrastructure and encourage local enterprise opportunities. Local enterprise opportunities such as aquaculture, seafood processing and boat repairs (including fibre glassing) should be explored as part of the development of this area. The development of ID1 should also consider the inclusion of a fuel bowser to supply fuel to outgoing motor vessels. Recommendations Operational synergies between this project and the Fishing Tourism project (CT1) should be explored as part of any future project investigations.	New Lots	1 Lot		
	Lot Size	N/A		
	Priority	Medium Term		
	Infrastructure Cost	\$1,198,375		
	Associated Projects	CT1		
	Key Actions	4	6	8

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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 Mabuiag Island Master Plan Technical Report. Further detail is also provided in **Appendix F**.

CT1 Fishing Tourism				
Summary The Master Plan has identified land at the eastern end of the township proximate to the boat ramp that may be suitable for fishing tourism. This land is intended to serve a variety of purposes associated with a fishing tourism node, which may include tourist accommodation, a fishing tourism information kiosk, boat hire, charter fishing options and seafood processing. The project may also benefit from improved access (OT3) and upgrades to the boat ramp and new jetty (OT4). Synergies may exist between this project and CT2 (Environmental Tourism). Recommendations Investigate the extent to which coastal hazards and overland flooding may influence how the land is developed. Operational synergies between this project and the Fishing Industry project (ID1) should be explored as part of any future project investigations. Consider how CT2 may be incorporated and developed in conjunction with CT1.	New Lots		1 Lot	
	Lot Size		N/A	
	Priority		Medium Term	
	Infrastructure Cost		\$1,322,306	
	Associated Projects		ID1	CT3 OT3 OT4
	Key Actions		4	6 8

CT2 Arts Centre				
Summary The Master Plan highlights an opportunity for the establishment of an Arts Centre, which may be utilised for the production and sale of locally produced art. The Art Centre is to be located within the existing Council building on Map Road and will therefore form a key commercial component of the CBD precinct area (OT1).	New Lots		N/A	
	Lot Size		N/A	
	Priority		Medium Term	
	Infrastructure Cost		N/A	
	Associated Projects		OT1	
	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. Services associated with **CT1**, for example boat hire and tourist accommodation, may be considered in conjunction with this project.

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 Mabuiag Island Master Plan Technical Report. Further detail is also provided in **Appendix F**.

CF1 Sacred Site Protection				
Summary The Master Plan has identified the location 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
CF2 Cemetery Protection Area				
Summary The two cemeteries on the island should be subject to ongoing protection to ensure that the cultural and spiritual connection of the community with this land is maintained. 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 areas, the community value of the sites should be documented. The future needs of the community will need to be met through the identification of additional land that is suitable to accommodate a second cemetery. Site selection should be undertaken in consultation with the community.	New Lots	N/A		
	Lot Size	N/A		
	Priority	Ongoing		
	Infrastructure Cost	N/A		
	Associated Projects	-		
	Key Actions	3	6	9

CF3 Place of Worship Protection

Summary

The Master Plan has identified that the existing place of worship should be protected and maintained as an important asset to the local community. Further embellishment of the existing building and grounds may be appropriate where it is in keeping with the character and nature of the site.

Recommendations

The land's adjacency and interface to projects to **OS3** (Community Park) and **OT1** (CBD Precinct Plan) may be considered as part of any further embellishment of the place of worship.

New Lots

N/A

Lot Size

N/A

Priority

Ongoing

Infrastructure Cost

N/A

Associated Projects

OS3

OT1

Key Actions

3

9

CF4 Landfill Protection and Expansion Area

Summary

The landfill located in the south-west of the township on School Street is an important piece of infrastructure that should be protected from encroachment by incompatible development. The future needs of the community should also be identified, so that land for the expansion of this infrastructure (if required) can also be protected. Ongoing future use of the site should also seek to improve the efficiency of operations so that use of the facility is minimised where possible.

Recommendations

The landfill's adjacency to a sacred site (**CF1**) should be considered as part of any further expansion of the infrastructure, to ensure ongoing operation of the site does not negatively impact the sacred site.

New Lots

N/A

Lot Size

N/A

Priority

Short Term

Infrastructure Cost

N/A

Associated Projects

CF1

Key Actions

3

CF5 Market Garden / Food Security Area

Summary

An area of land at the western end of the township, immediately west of the school, has been identified as being suitable for the development of market gardens or other cropping activities that can supply the community with fresh produce. The land is in the Environmental Management and Conservation Zone and is affected by coastal hazards. Further investigation of this land should therefore 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.

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.

The land is mapped as being affected by coastal hazards. Future investigations and design of the market garden will need to respond to these hazards.

New Lots

N/A

Lot Size

N/A

Priority

Medium Term

Infrastructure Cost

N/A

Associated Projects

-

Key Actions

1

6

8

CF6 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. Child care 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

The Planning Scheme may need to be amended to ensure opportunities for home based child care can be undertaken.

New Lots

N/A

Lot Size

N/A

Priority

Short Term

Infrastructure Cost

Subject to Investigation

Associated Projects

-

Key Actions

3

6

7

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 sporting facilities. These key directions were identified as part of the technical analysis which is documented in the Mabuiag Island Master Plan Technical Report. Further detail is also provided in **Appendix F**.

OS1 Path Network				
Summary A pedestrian and cycle path network is to be developed along the foreshore, extending from the western end of the township to the two headlands at the eastern end of the township. OS1 also includes a loop in the north following the existing road corridor. 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 network should be combined with supporting infrastructure at various locations 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		Medium Term	
	Infrastructure Cost		\$625 per metre (concrete) \$400 per metre (gravel) \$200 per metre (earth)	
	Associated Projects		CF1	OS2 OS3
	Key Actions		2	6

OS2 Sporting Precinct

Summary

The Master Plan has identified an area of land in the far south-west of the township as potentially being suitable to accommodate a multipurpose sports facility or sports field consistent with the community's aspiration for more sporting facilities on the island. OS2 comprises a significant land area, therefore further investigations into the inclusion of additional compatible land uses within the sporting precinct should be undertaken to facilitate the efficient use of the land.

Historic graves are noted to exist in southern part of OS2 that are beyond the extent of the existing cemetery (**CF2**). These will need to be carefully considered as part of future planning and use of this area. The land is also in the Environmental Management and Conservation Zone and is affected by coastal hazards.

Recommendations

Any development of the Sporting Precinct should be completed in a coordinated manner with other recreational projects.

This project should advance before **RS1** and **RS2** (Residential Expansion Areas 1 and 2), which are proposed over the current land identified for sporting fields under the Planning Scheme.

The land is mapped as being affected by coastal hazards. Future investigations and design of the sporting precinct will need to respond to these hazards.

Future planning of the land will need to appropriately identify and protect any historic graves in line with the intent of **CF2**.

The Planning Scheme may require an amendment to include the land within the Township Zone to facilitate development consistent with the land use intent of this project.

New Lots	N/A				
Lot Size	N/A				
Priority	Medium Term				
Infrastructure Cost	\$3,189,533				
Associated Projects	RS1	RS2	CF2	OS1	OS3
Key Actions	1	2	6	7	

OS3 Community Park

Summary

A parcel of land at the eastern end of the township (Lot 107 on SP273192) located on Warria Road has been identified by the Master Plan as being potentially suitable for a Community Park. The Community Park will serve as a node in the broader network of recreational paths and parks supporting the community's aspirations for improved recreational facilities. Development of the park should be combined with supporting infrastructure such as seats, lighting and landscaping to improve its contribution to the community.

Recommendations

Any development of the community park would need to respond to the tidal waterway at its eastern extent and the park's interface to project **CF4** (Place of Worship Protection) to the west.

New Lots

N/A

Lot Size

N/A

Priority

Medium Term

Infrastructure Cost

N/A

Associated Projects

CF4

OS1

OS4

Key Actions

1

2

6

8

OS4 Lookout

Summary

The Master Plan identifies the opportunity for the formalisation of a lookout, proximate to the water tank accessed from School Street. The elevated land in this location is benefitted by extensive views to the township and numerous islands and islets beyond Mabuiag Island.

Development of the lookout should be combined with an appropriate level of infrastructure such as seating and landscaping to encourage community use.

New Lots

N/A

Lot Size

N/A

Priority

Medium Term

Infrastructure Cost

N/A

Associated Projects

-

Key Actions

2

OS5 Community Recreation Area

Summary

The community have identified a desire to establish a formal recreation and camping area over a coastal strip of land south of the cemetery. This project seeks to support the community's aspirations for improved recreational facilities. Improved access to this location should be considered as part of **OT11**.

Development of the community recreation area may be combined with supporting infrastructure such as seating, pathways, taps and landscaping to encourage community use.

New Lots	N/A			
Lot Size	N/A			
Priority	Medium Term			
Infrastructure Cost	N/A			
Associated Projects	OT11			
Key Actions	2	5	6	

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 Mabuiag Island Master Plan Technical Report. Further detail is also provided in **Appendix F**.

OT1

CBD Precinct Plan

Summary

The Master Plan has identified a large area of developed land at the eastern end of the township for future precinct planning, to establish this location as the CBD. This land is strategically located in the vicinity of a range of key services and, with coordinated planning, can progressively be developed in a manner that will positively contribute to the amenity and character of Mabuiag Island for the benefit of the community. This location and the services and facilities currently provided within it have the potential to be embellished and expanded, cementing it as the core of the island. Opportunities for new facilities include office spaces, youth drop-in centre, community hall upgrades and an Indigenous Knowledge Centre. A copy of a preliminary Precinct Plan is provided in **Appendix E**.

Recommendations

Further planning of the land should also consider its interface with existing and future land uses and projects (see **CT2**, **CF4** and **OS1**).

New Lots	N/A			
Lot Size	N/A			
Priority	Medium Term			
Infrastructure Cost	N/A			
Associated Projects	CT2	CF4	OS1	
Key Actions	4	6	7	8

OT2

Airport Upgrades

Summary

In order to improve access to Mabuiag Island and the utility of airport infrastructure, further upgrades to the airstrip should be investigated. These upgrades may include night time lighting for night landing; terminal and waiting area facilities; storage and maintenance facilities; car parking and ancillary facilities; improving the arrival experience and improving the interface with surrounding land. The airstrip itself requires extending (20 metres south and 60 metres north) to improve the safety of both arriving and departing aircraft. The airport will also benefit from improved access (**OT3**) to the boat ramp and new jetty.

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

OT3 Connecting Road

Summary

The Master Plan has identified the upgrading of the existing connecting road to the east of the township. Much of the existing road is currently gravel. Upgrades to this road will support a variety of other Master Plan projects including airport upgrades (**OT2**), boat ramp upgrades and new jetty (**OT4**), fishing industry (**ID1**) and fishing tourism (**CT1**) at the eastern end of the island. The connecting road corridor is an important link to the gateway of the island (airport and barge ramp), new industry and the town core.

New Lots

N/A

Lot Size

N/A

Priority

Medium Term

Infrastructure Cost

\$3,718,756

Associated Projects

ID1

CT1

OT2

OT4

Key Actions

4

6

OT4 Boat Ramp Upgrades and New Jetty

Summary

The boat ramp located at the far east of the island 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. A key upgrade is the installation of a new jetty to improve access. Further 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.

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

ID1

CT1

OT3

Key Actions

4

6

Recommendations

It is recommended that all improvement works are identified in consultation with key stakeholders using the boat ramp.

OT5 Investigation Area (Urban)

Summary

The Master Plan identifies a large area of unused land at the western end of the township, immediately inland from the water infrastructure, as a location for a range of potential land uses. Future use of this land may consider residential development or the establishment of a solar farm (OT13).

Recommendations

It is recommended that further investigations be undertaken to determine the opportunities and constraints of the land, to inform its future use.

New Lots	34 Lots (estimate)
Lot Size	850m ² (average)
Priority	Long Term
Infrastructure Cost	\$12,262,226
Associated Projects	OT13
Key Actions	1

OT6 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

OT7 Sewerage Upgrades

Summary

The sewerage 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

OT8 Road Upgrade – North

Summary

The Master Plan has identified the upgrading of the northern section of the existing access road to the sewerage treatment plant (OT7), northwest of the airstrip. The identified section of road is currently unsealed.

New Lots	N/A
Lot Size	N/A
Priority	Medium Term
Infrastructure Cost	\$4,994,302
Associated Projects	OT7
Key Actions	-

OT9 School Street Upgrade

Summary

School Street is an important connection road for the community, linking residential and recreational development in the south of the township to the town core in the north.

The Master Plan identifies a section of the road corridor requiring upgrading, particularly at the creek crossing east of the school, to facilitate the efficient and safe movement of vehicles, bicycles and pedestrians. Upgrades to this road will support access to the cemetery (CF2) and other potential development areas south of the township.

New Lots

N/A

Lot Size

N/A

Priority

Short Term

Infrastructure Cost

\$3,280,748

Associated Projects

CF2

Key Actions

-

OT10 Dam Investigation Area

Summary

The existing dam located on the eastern side of the airstrip has been identified as having the potential to be utilised for various purposes. Any use of the dam should be subject to specific investigations and be compatible with the constraints of the land and the context of the site, particularly the airstrip.

Recommendations

It is recommended that further investigations be undertaken to determine the opportunities and constraints of the dam, to inform its future use.

New Lots

N/A

Lot Size

N/A

Priority

Long Term

Infrastructure Cost

To Be Costed

Associated Projects

-

Key Actions

1

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

To Be Costed

Associated Projects

-

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.

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 Mabuiag Island Master Plan Technical Report, the Queensland Government has identified a target to be carbon neutral by 2050. A variety of opportunities exist across Mabuiag Island to implement carbon initiatives that can assist in achieving this target. Key opportunities include 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.

Regarding power supply specifically, it is noted that the current network does not provide electricity to select land at the southern and northern extents of the township, which includes several community facilities and projects proposed under the Master Plan. The establishment of a renewable energy source on Mabuiag Island may be able to facilitate the expansion of the current electrical grid without increasing the current carbon footprint.

New Lots

N/A

Lot Size

N/A

Priority

Medium Term

Infrastructure Cost

To Be Costed

Associated Projects

-

Key Actions

6

5 Infrastructure

In order to support future residential, industrial, commercial, tourism, community facilities, recreation and open space development on Mabuiag 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

The township on Mabuiag Island is located along the coastal foreshore. All new development should be constructed at a sufficient height above highest astronomical tide (HAT) to protect residents and the community from the impacts of forecast climate change rises in sea level.

5.2 Roads

Roads within the community are mainly bitumen surfaced, with some gravel paved roads. For durability, roads are to be preferably constructed six (6) metres wide in either 150 mm thick fibre reinforced concrete, or gravel paved and bitumen surfaced. Roads to be provided with either a 300 mm wide concrete edge strip or mountable kerb and channel either side as appropriate. The access road to the airstrip on Mabuiag Island is bitumen surfaced. All unsealed roads within the residential and commercial development should be fully surfaced as funds become available.

The road to the cemetery required the installation of culverts to provide all weather access.

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.

To avoid expensive underground drainage systems and the recurrent cost of ongoing maintenance of pipe systems, open table drains and drainage swales could be provided where appropriate for both primary and secondary drainage.

Due to steeper grades of future roads in some locations, 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 direct rainfall capture stored in a raw water lagoon and augmented by a portable desalination plant. The supply of raw water for treatment without augmentation from the desalination plant, is insufficient to meet current demand during the dry season. The pH of the raw water is marginally below the guidelines recommended range of 6.5 to 8.5. Seasonal turbidity levels range from <1.5 NTU to < 4.0 NTU which is higher than the recommended value of 1.0 NTU. Levels of iron and magnesium exceed the Guidelines recommendation for potable water.

The existing water treatment plant capacity requires to be increased from 89 kL per day to 121.36 kL per day to meet both current and future Mean Day Maximum Month (MDMM) demand. The current storage capacity for treated water of 750 kL is sufficient to meet current and future demand.

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 362.8 litres per day marginally exceeds the TSIRC's target consumption of 350 litres per person per day which may be achieved through demand and leak detection management.

Mabuiag Island Master Plan

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

- > Increased rainfall capture and storage to reduce demand on the mobile desalination plant;
- > Increased treatment plant capacity from 80 kL per day to 121.36 kL per day;
- > Install coagulation/flocculation equipment at the treatment plant to reduce turbidity;
- > Undertake leakage detection in the reticulation system to reduce wastage;
- > Installation of SCADA equipment to permit remote monitoring of system performance to enable prompt rectification of breakdowns that occur from time to time;
- > Installation of emergency power supply at all critical infrastructure; and
- > Provision of adequate training for operators.

5.5 Sewerage

The sewerage system comprises of gravity sewers, manholes, effluent pump stations, rising mains and an “EPCO” package plant, which provides for the treatment of effluent prior to discharge to the ocean. The treatment plant capacity is significantly oversized, which leads to operational problems. Effluent discharged from the treatment plant to the ocean is non-compliant with licence discharge standards. All new development is to be connected to the existing sewerage reticulation network.

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

- > Undertake maintenance of the treatment plant stairways and walkways to replace corroded fastenings;
- > Replace failed blowers, aerators, pumps and flow meters in the treatment plant;
- > Undertake treatment plant management to ensure effluent discharged meets licence requirements;
- > Installation of SCADA equipment to permit remote monitoring of system performance to enable prompt rectification of breakdowns that occur from time to time;

- > Installation of emergency power supply at all critical infrastructure; and
- > Provision of adequate training for operators.

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 mounted 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





MABUIAG ISLAND MASTER PLAN

VERSION 002
19 June 2020

LOCALITY PLAN

SCALE 1:50,000



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

NOTES:
• PROJECTS CT2, OT8, OT9 AND OT10 ARE NOT SHOWN ON THE MASTER PLAN MAP. REFER TO THE MASTER PLAN FOR FURTHER DETAIL.



RESIDENTIAL:

RS1 RESIDENTIAL EXPANSION AREA

INDUSTRIAL:

ID1 FISHING INDUSTRY

COMMERCIAL / TOURISM:

CT1 FISHING TOURISM

COMMUNITY FACILITIES:

CF1 SACRED SITE PROTECTION
CF2 COMMUNITY PRECINCT
CF3 CEMETERY PROTECTION AREA
CF4 PLACE OF WORSHIP PROTECTION
CF5 LANDFILL PROTECTION AND EXPANSION AREA
CF6 MARKET GARDEN / FOOD SECURITY AREA
CF7 CHILD CARE CENTRE

RECREATION & OPEN SPACE:

OS1 PATH NETWORK
OS2 SPORTING PRECINCT
OS3 COMMUNITY PARK
OS4 FORESHORE PARK

OTHER DEVELOPMENT:

OT1 CBD PRECINCT PLAN
OT2 AIRPORT UPGRADES
OT3 CONNECTING ROAD
OT4 BOAT RAMP UPGRADES AND NEW JETTY
OT5 INVESTIGATION AREA (URBAN)
OT6 WATER SUPPLY UPGRADES
OT7 SEWERAGE UPGRADES

LEGEND

- PROPOSED RESIDENTIAL DEVELOPMENT
- PROPOSED INDUSTRIAL DEVELOPMENT
- PROPOSED OTHER DEVELOPMENT
- PROPOSED COMMUNITY FACILITIES
- PROPOSED OPEN SPACE / DRAINAGE RESERVE
- PROPOSED COMMERCIAL / TOURISM DEVELOPMENT
- SEA WALL
- BUND WALL
- SCHOOL
- COUNCIL BUILDING
- SHOP / SUPERMARKET
- TELSTRA TOWER
- HEALTH CENTRE FACILITY
- POLICE FACILITY (QPS)

APPENDIX

B

MASTER PLAN PROJECT INDEX



MABUIAG 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	13 Lots	815m ² to 818m ²	Short Term	\$3,195,879	OS2	1, 6, 8
ID1	Fishing Industry	1 Lot	N/A	Medium Term	\$1,198,375	CT1	4, 6, 8
CT1	Fishing Tourism	1 Lot	N/A	Medium Term	\$1,322,306	ID1, CT2, OT3, OT4	4, 6, 8
CT2	Environmental Tourism	N/A	N/A	Medium Term	N/A	CT1	4, 6
CF1	Sacred Site Protection	N/A	N/A	Ongoing	N/A	-	3, 4, 6, 9
CF2	Community Precinct	N/A	N/A	Medium Term	N/A	CF1, OS1	3, 6, 7, 8
CF3	Cemetery Protection Area	N/A	N/A	Ongoing	N/A	-	3, 6, 9
CF4	Place of Worship Protection	N/A	N/A	Ongoing	N/A	OS3, OT1	3, 9
CF5	Landfill Protection and Expansion Area	N/A	N/A	Short Term	N/A	CF1	3
CF6	Market Garden / Food Security Area	N/A	N/A	Medium Term	N/A	-	1, 6, 8
CF7	Child Care Centre	N/A	N/A	Short Term	N/A	-	3, 6, 7

ID	Project Name	New Lots	Lot Sizes	Priority	Infrastructure Cost	Associated Projects	Key Actions
OS1	Path Network	N/A	N/A	Medium Term	\$625 per metre (concrete) \$400 per metre (gravel) \$200 per metre (earth)	CF1, OS2, OS3, OS4	2, 6
OS2	Sporting Precinct	N/A	N/A	Medium Term	\$4,931,510	RS1, OS1, OS3, OS4	1, 2, 6, 7
OS3	Community Park	N/A	N/A	Medium Term	N/A	CF4, OS1, OS4	1, 2, 6, 8
OS4	Foreshore Park	N/A	N/A	Medium Term	N/A	OS2, OS3	1, 2, 6, 8
OT1	CBD Precinct Plan	N/A	N/A	Medium Term	N/A	CF4, OS1	4, 6, 7, 8
OT2	Airport Upgrades	N/A	N/A	Medium Term	To Be Costed	OT3	6
OT3	Connecting Road	N/A	N/A	Medium Term	\$3,718,756	ID1, CT1, OT2, OT4,	4, 6
OT4	Boat Ramp Upgrades and New Jetty	N/A	N/A	Short Term	N/A	ID1, CT1, OT3	4, 6
OT5	Investigation Area (Urban)	34 Lots (estimate)	850m ² (average)	Long Term	\$12,262,226	-	-
OT6	Water Supply Upgrades	N/A	N/A	Short Term	To Be Costed	-	3
OT7	Sewerage Upgrades	N/A	N/A	Short Term	To Be Costed	-	3
OT8	“Back of Island” Access	N/A	N/A	Medium Term	To Be Costed	-	5, 6
OT9	Telecommunications Upgrades	N/A	N/A	Shor Term	To Be Costed	-	6
OT10	Carbon and Renewable Energy Opportunities	N/A	N/A	Medium Term	To Be Costed	-	6

APPENDIX

C

ACTION PLAN SUMMARY



MABUIAG 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	ID1	CT1	CT2	CF1	CF2	CF3	CF4	CF5	CF6	CF7	OS1	OS2	OS3	OS4
1	Undertake further investigations in relation to specific land parcels	RS1									CF6			OS2	OS3	OS4
2	Develop a Recreation Strategy												OS1	OS2	OS3	OS4
3	Protection of Community Facilities and Infrastructure					CF1	CF2	CF3	CF4	CF5		CF7				
4	Encourage Economic Activity		ID1	CT1	CT2	CF1										
5	Investigate Cultural, Economic and Recreational Areas															
6	Consultation with Key Stakeholders	RS1	ID1	CT1	CT2	CF1	CF2	CF3			CF6	CF7	OS1	OS2	OS3	OS4
7	Planning Scheme Amendments						CF2				CF7			OS2		
8	Coastal Inundations Investigations and Works	RS1	ID1	CT1			CF2				CF6				OS3	OS4
9	Documentation of Cultural Values					CF1		CF3	CF4							

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



05MB MABUIAG ISLAND

Last Update:

22-Jun-20

Project			RS1		ID1		CT1		OS2		OT3		OT5	
Yield (Number of Lots)			13		1		1		N/A		N/A		34	
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	\$ 14,000	1.40	\$ 19,600	0.36	\$ 5,040	0.55	\$ 7,700	1.3	\$ 18,200	1.0	\$ 14,000	2.0	\$ 28,000
Erosion and sediment control	m	\$ 40	250	\$ 10,000	80	\$ 3,200	100	\$ 4,000	650	\$ 26,000	500	\$ 20,000	350	\$ 14,000
Strip topsoil and respread	m ³	\$ 30	1,500	\$ 45,000	360	\$ 10,800	550	\$ 16,500	1300	\$ 39,000	1000	\$ 30,000	2000	\$ 60,000
Cut to fill on lots	m ³	\$ 40	2,500	\$ 100,000	500	\$ 20,000	600	\$ 24,000	5000	\$ 200,000	3000	\$ 120,000	6500	\$ 260,000
Cut in open drains to fill on lots	m ³	\$ 40	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -
Cut in roads and table drains to fill on lots	m ³	\$ 40	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -
Roadworks														
Concrete Road (7.0 m)	m	\$ 3,000	150	\$ 450,000	0	\$ -	0	\$ -	650	\$ 1,950,000	500	\$ 1,500,000	750	\$ 2,250,000
Stormwater Drainage														
Concrete edge strips/K & C to road pavement	m	\$ 400	300	\$ 120,000	0	\$ -	0	\$ -	1300	\$ 520,000	1000	\$ 400,000	1500	\$ 600,000
Concrete invert to table drain	m	\$ 1,500	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -
1200 x 450 RCBC incl conc base/invert crossing	m	\$ 3,000	11	\$ 33,000	0	\$ -	0	\$ -	45	\$ 135,000	32	\$ 96,000	90	\$ 270,000
Headwalls, Wingwalls and Aprons	m ³	\$ 3,600	5	\$ 18,000	0	\$ -	0	\$ -	18	\$ 64,800	13	\$ 46,800	25	\$ 90,000
Bio-Basins	m ²	\$ 900	350	\$ 315,000	90	\$ 81,000	135	\$ 121,500	0	\$ -	0	\$ -	500	\$ 450,000
Bio basin concrete spillway	m ²	\$ 700	75	\$ 52,500	75	\$ 52,500	75	\$ 52,500	0	\$ -	0	\$ -	150	\$ 105,000
Water Reticulation														
100 dia, PVC pipe	m	\$ 400	200	\$ 80,000	60	\$ 24,000	80	\$ 32,000	0	\$ -	0	\$ -	750	\$ 300,000
150 dia. PVC pipe	m	\$ 500	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -
200 dia PVC pipe	m	\$ 650	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -
SV's	No	\$ 3,000	3	\$ 9,000	1	\$ 3,000	1	\$ 3,000	0	\$ -	0	\$ -	3	\$ 9,000
Hydrants	No	\$ 4,550	2	\$ 9,100	1	\$ 4,550	2	\$ 9,100	0	\$ -	0	\$ -	3	\$ 13,650
Single house connections	No	\$ 2,000	13	\$ 26,000	2	\$ 4,000	2	\$ 4,000	0	\$ -	0	\$ -	34	\$ 68,000
Connect to existing main	No	\$ 6,000	1	\$ 6,000	1	\$ 6,000	1	\$ 6,000	0	\$ -	0	\$ -	1	\$ 6,000
VSD Pump Building	Item	\$ 300,000	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -
Variable speed drive pump set	Item	\$ 200,000	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -
Standby generator	Item	\$ 100,000	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -

TORRES STRAIT MASTER PLANNING INFRASTRUCTURE COST ESTIMATES

Prepared for the Department of Aboriginal and Torres Strait Islander Partnerships



05MB MABUIAG ISLAND

Last Update:

22-Jun-20

Project			RS1		ID1		CT1		OS2		OT3		OT5	
Yield (Number of Lots)			13		1		1		N/A		N/A		34	
Item	Unit	Rate	Qty	Amount	Qty	Amount	Qty	Amount	Qty	Amount	Qty	Amount	Qty	Amount
Sewerage Reticulation														
150 dia. PVC	m	\$ 400	300	\$ 120,000	60	\$ 24,000	80	\$ 32,000	0	\$ -	0	\$ -	525	\$ 210,000
Manholes	No	\$ 10,000	8	\$ 80,000	2	\$ 20,000	2	\$ 20,000	0	\$ -	0	\$ -	9	\$ 90,000
Lot connections	No	\$ 1,500	13	\$ 19,500	2	\$ 3,000	2	\$ 3,000	0	\$ -	0	\$ -	34	\$ 51,000
FRP Pump Station	Item	\$ 950,000	0	\$ -	0.25	\$ 237,500	0.25	\$ 237,500	0	\$ -	0	\$ -	1	\$ 950,000
Standby Generator	Item	\$ 100,000	0	\$ -	0.25	\$ 25,000	0.25	\$ 25,000	0	\$ -	0	\$ -	1	\$ 100,000
90 OD polyethylene pressure main	m	\$ 400	0	\$ -	250	\$ 100,000	250	\$ 100,000	0	\$ -	0	\$ -	500	\$ 200,000
110 OD polyethylene pressure main	m	\$ 600	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -
140 OD polyethylene pressure main	m	\$ 700	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -
Electricity Supply														
Conduits, pits and pole bases	Lots	\$ 12,000	13	\$ 156,000	2	\$ 24,000	2	\$ 24,000	0	\$ -	0	\$ -	34	\$ 408,000
Cabling and street lights	Lots	\$ 15,000	13	\$ 195,000	2	\$ 30,000	2	\$ 30,000	0	\$ -	0	\$ -	34	\$ 510,000
Transformer	No	\$ 200,000	0.3	\$ 50,000	0.2	\$ 40,000	0.2	\$ 40,000	0	\$ -	0	\$ -	1.5	\$ 300,000
Sub Totals			\$ 1,913,700		\$ 717,590		\$ 791,800		\$ 2,953,000		\$ 2,226,800		\$ 7,342,650	
Contingencies	Item	30%		\$ 574,110		\$ 215,277		\$ 237,540		\$ 885,900		\$ 668,040		\$ 2,202,795
Preliminaries														
Establishment, insurance, As-constructed	Item	22%		\$ 421,014		\$ 157,870		\$ 174,196		\$ 649,660		\$ 489,896		\$ 1,615,383
Project Management														
Survey, design, and construction administration	Item	15%		\$ 287,055		\$ 107,639		\$ 118,770		\$ 442,950		\$ 334,020		\$ 1,101,398
TOTALS			\$ 3,195,879		\$ 1,198,375		\$ 1,322,306		\$ 4,931,510		\$ 3,718,756		\$ 12,262,226	

APPENDIX

E

PRECINCT PLANS





MABUIAG ISLAND MASTER PLAN

CBD PRECINCT PLAN

VERSION 001
29 June 2020



2 PLAZA



4 SHARED ZONE



5 COMMUNITY PARK



APPENDIX

F

ANALYTICAL TRANSLATION



MABUIAG 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 (seven additional 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	
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	
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, OT1	
4.	The Master Plan should consider areas for potential housing.	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 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, OS3, OS4, OT1	
6.	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	CF1	
7.	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, CF4	
8.	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	CF5	
9.	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
10.	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	CF6	
11.	The Master Plan should support the establishment of a jetty and upgrades and embellishment of the boat ramp to advance the community's aspiration for a ferry service. This will likely include supporting improvements to vessel access through new or improved marine infrastructure and the provision of new land based infrastructure.	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	OT4	
12.	The Master Plan should support improved access to the island by air, through investigations into airport upgrades.	6 Infrastructure Analysis 8.10 Torres Strait and Northern Peninsula Regional Plan 2009-2029 8.12 TSIRC Corporate Plan 2020-2025	OT2	
13.	The Master Plan should support the development of new recreational facilities, such as sporting fields, upgrades to basketball courts and supporting infrastructure such as lighting and grandstands.	5 Planning Analysis 8.10 Torres Strait and Northern Peninsula Regional Plan 2009-2029 8.12 TSIRC Corporate Plan 2020-2025	OS2, OS3	
14.	The Master Plan should support the development of tourism opportunities that are compatible with the aspirations of the community including food, arts and culture based tourism.	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, CF2, OT1	

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15.	The Master Plan should support the identification of land that may be suitable for industrial development such as aquaculture, seafood processing, boat repairs (including fibre glassing) and coconut oil production.	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	ID1, OT4, OT5	
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	CF2, OT1	
17.	The Master Plan should encourage the establishment of new and improved community infrastructure and facilities such as an office space for non-government organisations, youth drop in centre, community hall upgrades and an indigenous knowledge Centre.	5 Planning Analysis	CF2, OT1	
18.	The Master Plan should investigate the relocation of the existing fuel bowser.	5 Planning Analysis	OT1	
19.	The Master Plan should investigate the future land use of any large vacant parcels of land in strategic locations within the township.	2.5 Services and Facilities 5 Planning Analysis 8.10 Torres Strait and Northern Peninsula Regional Plan 2009-2029	CF2, OS3, OT5	
20.	The Master Plan should seek to consolidate the existing CBD area of the township.	2.5 Services and Facilities 5 Planning Analysis 7.2 Community Consultation 8.12 TSIRC Corporate Plan 2020-2025	OT1	

#	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	CF2, 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	OT8	
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	OT10	
25.	The Master Plan should identify potential opportunities for alternative energy projects.	2.5 Services and Facilities 5 Planning Analysis 7.2 Community Consultation 8.12 TSIRC Corporate Plan 2020-2025	OT10	

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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	OT9	
27.	The Master Plan should support the provision of appropriate lighting in key locations in the town.	8.12 TSIRC Corporate Plan 2020-2025	OT1, OS1, OS3, OS4	
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	OT6	
29.	The Master Plan should facilitate upgrades to the sewerage network, specifically at the sewerage treatment plant.	6 Infrastructure Analysis 8.10 Torres Strait and Northern Peninsula Regional Plan 2009-2029 8.12 TSIRC Corporate Plan 2020-2025	OT7	