

# Kubin Community Master Plan

Prepared for

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



# Kubin Community Master Plan

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

Any person proposing to undertake development on Moa Island (Kubin community) should pay respect to the Mualgal people'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 Kubin community with Gogobithiay.



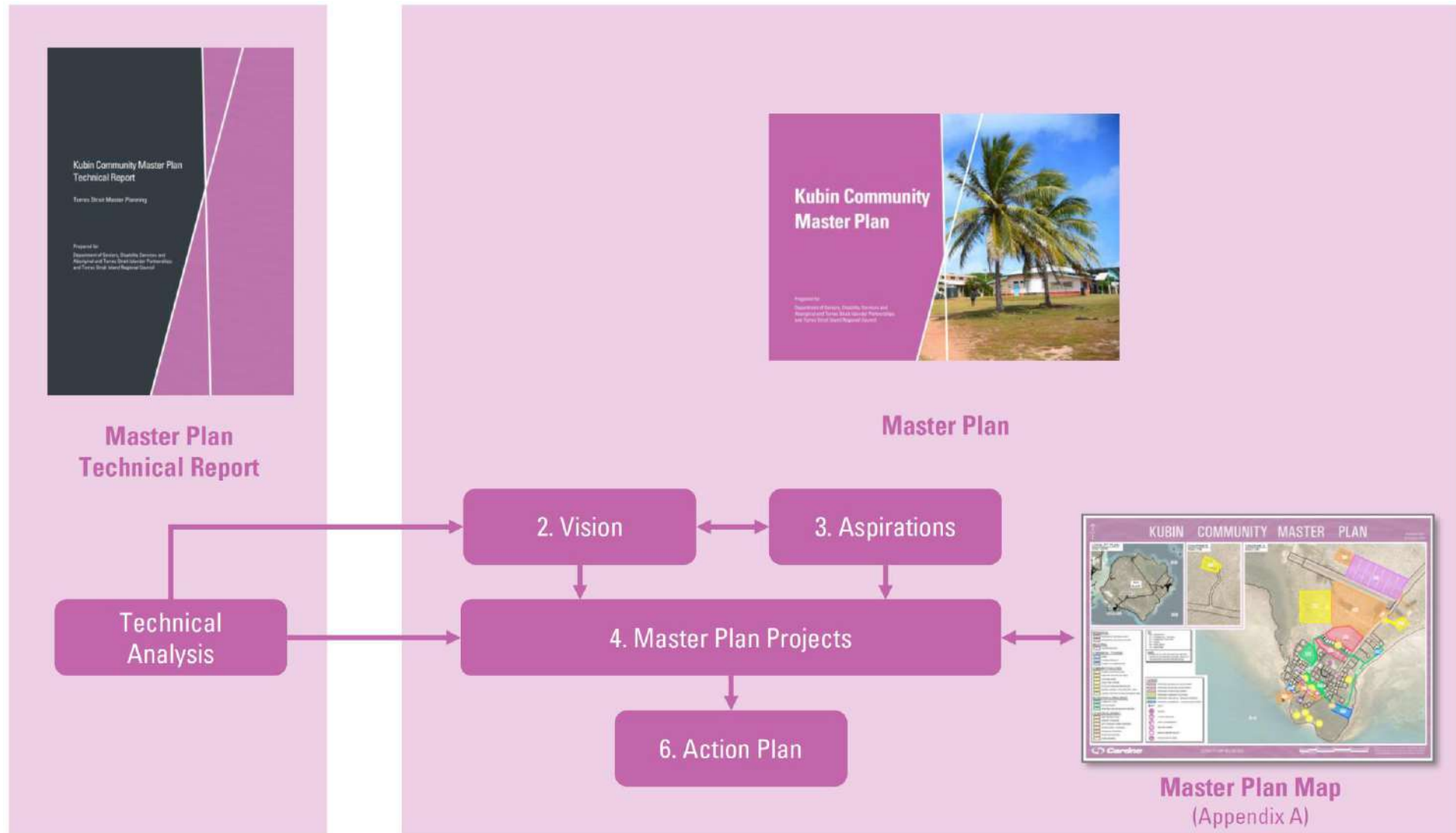


Figure 1-1 Master Plan Elements



## 2 Vision

*The **Kubin Community** will develop as a consolidated and connected township that supports the social, cultural and economic needs of the local community. Kubin will also serve a regional role for Moa Island, by providing higher order services for the St Pauls Community.*

*The future settlement pattern of the township will be one that seeks to consolidate key services and facilities in the township core centred on Ikilgau Yabu. The township core will support a new child care centre, the relocation of the Council building and the retention and expansion of the existing supermarket and health care centre and other appropriate commercial ventures.*

*The immediate housing needs of the community will be met by a new residential expansion area that forms a logical extension of the existing residential area. New housing will comprise a range of dwelling types reflecting the varied living arrangements and family structures in the township. All residential areas, existing and proposed, in Kubin will support a high level of amenity and a unique character linked to the values of the community.*

*Existing and new residential areas and key services and facilities located outside the township core will enjoy improved pedestrian and cyclist access and opportunity for passive recreation through the construction of a path network.*

*Opportunities are to be explored to support local economic activity within Kubin, which may include a nursery, upgrades to the Kubin motel, a multi-purpose shop (including take-away and fuel bowser), an eco-tourism resort, aquaculture, and crayfish farming. The existing geography and settlement pattern of the township and the aspirational drive of the community provides a foundation for these opportunities to succeed.*

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



## 3 Community Aspirations

- > The Kubin Community will be provided with housing that meets its needs.
- > The Kubin Community will be provided with access to key community services that support the day to day needs of its residents, including shopping/business, local market garden, child care, health care and recreation facilities.
- > The Kubin Community will expand local business and enterprise opportunities, to support economic activity and local employment, particularly in the sectors of aquaculture, crayfish farming and eco-tourism.
- > The Kubin 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 Kubin Community will be easily accessed from the surrounding region by air and sea.
- > The Kubin Community will increase physical activity, for both movement and recreation, through the use of dedicated facilities and networks.
- > The Kubin Community will have access to quality urban infrastructure services.
- > The Kubin 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 Kubin Community 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.	<p>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).</p> <p>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.</p>	<p>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.</p> <p>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.</p> <p>Recreation and open space areas are commonly collocated.</p>
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 Kubin Community 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

<b>RS1</b>	Residential Expansion Area	<b>CF1</b>	Sacred Site Protection	<b>OT1</b>	CBD Precinct Plan
<b>RS2</b>	Residential Investigation Area	<b>CF2</b>	Cemetery Protection Area	<b>OT2</b>	Airport Upgrades
<b>ID1</b>	Enterprise Area	<b>CF3</b>	Cultural Node	<b>OT3</b>	Jetty and Boat Ramp Upgrades
<b>CT1</b>	Kiosk	<b>CF4</b>	Child Care Centre	<b>OT4</b>	Water Supply Upgrades
<b>CT2</b>	Tourism Precinct	<b>CF5</b>	Place of Worship Protection	<b>OT5</b>	Sewerage Upgrades
<b>CT3</b>	Tourist Accommodation	<b>CF6</b>	Market Garden / Food Security Area	<b>OT6</b>	Investigation Area
<b>CT4</b>	Environmental Tourism	<b>CF7</b>	Landfill Protection and Expansion Area	<b>OT7</b>	Road Upgrade
		<b>OS1</b>	Community Park	<b>OT8</b>	“Back of Island” Access
		<b>OS2</b>	Path Network	<b>OT9</b>	Telecommunications Upgrades
		<b>OS3</b>	Sport and Recreation Precinct	<b>OT10</b>	Carbon and Renewable Energy Opportunities

Note: Projects CT4, OT8, OT9 and OT10 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 five (5) additional dwellings in the Kubin Community. These Master Plan projects also seek to diversify the housing products provided within the Kubin Community. These key directions were identified as part of the technical analysis which is documented in the Kubin Community Master Plan Technical Report. Further detail is also provided in **Appendix F**.

RS1 Residential Expansion Area			
<b>Summary</b> An area of land at the northern end of the township, located on the southern side of New Yabu, has been identified as being potentially suitable for the short term demand of the community for residential land. The area is identified by the Planning Scheme for this purpose. 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.	New Lots	14 Lots	
	Lot Size	945m <sup>2</sup> – 1,983m <sup>2</sup>	
	Priority	Short Term	
	Infrastructure Cost	\$2,896,532	
	Associated Projects	OS2	
	Key Actions	6	
RS2 Residential Investigation Area			
<b>Summary</b> An area of land with frontage to Wagalgau Road, situated immediately north of the existing dwellings located along New Yabu has been identified as being potentially suitable for the long term demand of the community for residential land. The area is identified by the Planning Scheme for this purpose. Further investigation of this land would be required to the extent at which it could be developed.	New Lots	38 Lots (estimate)	
	Lot Size	950m <sup>2</sup> (average)	
	Priority	Long Term	
	Infrastructure Cost	\$13,430,240	
	Associated Projects	-	
	Key Actions	1	6



## 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 Kubin Community Master Plan Technical Report. Further detail is also provided in **Appendix F**.

ID1 Enterprise Area						
<b>Summary</b>  A large vacant land area immediately north of the airstrip and accessed via Wagalgau Road has been identified as a potential enterprise area. The area is well located proximate to the airstrip and primary road corridor between the Kubin Community and the St Pauls Community. The enterprise area should support the community’s aspiration for new industries including aquaculture, crayfish farming, a nursery and associated industries. The Planning Scheme includes the land in the Environmental Management and Conservation Zone.  <b>Recommendations</b>  It may be necessary to identify the future land use intent of this land in the Planning Scheme, which would require an amendment to be undertaken.	New Lots		14 Lots			
	Lot Size		6,227m <sup>2</sup> – 7,390m <sup>2</sup>			
	Priority		Medium Term			
	Infrastructure Cost		\$15,976,974			
	Associated Projects		OT5			
	Key Actions		1	4	6	7

## Commercial / Tourism Projects

The Master Plan seeks to ensure that the Kubin 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 Kubin Community Master Plan Technical Report. Further detail is also provided in **Appendix F**.

CT1

Kiosk

Summary

The Master Plan has identified a kiosk proximate to the jetty and boat ramp. The kiosk is intended to serve a variety of purposes complementing the jetty and boat ramp upgrades (**OT3**), including to provide local retail services, provide arrival services for tourists and visitors at the boat ramp and jetty and provide a fuel bowser.

New Lots

1 Lot

Lot Size

N/A

Priority

Medium Term

Infrastructure Cost

\$228,874

Associated Projects

OT3

Key Actions

4

CT2

Tourism Precinct

Summary

An area of land has been identified to the south-east of the township, seaward of the water supply infrastructure located at the end of Reservoir Road, that may be suitable for use as a Tourism Precinct. This area is intended to be protected and enhanced for the benefit of tourists, primarily through the provision of tourist accommodation that capitalises on the coastal vistas offered by the elevated land. The land is included under the Environmental Management and Conservation Zone under the Planning Scheme and is partially affected by the Landslide Hazard Overlay.

New Lots

N/A

Lot Size

N/A

Priority

Medium Term

Infrastructure Cost

\$2,538,818

Associated Projects

OS2

Key Actions

1

4

6

7

Recommendations

Delivery of this project will need to be undertaken in direct consultation with the relevant Prescribed Body Corporate.

It may be necessary to identify the future land use intent of this land in the Planning Scheme, which would require an amendment to be undertaken.



## CT3 Tourist Accommodation

### Summary

The community has identified a desire to further expand existing accommodation located to the north-east of the township area, located on the foreshore. The location is well suited to tourist accommodation given the natural outlook and relationship to other Master Plan projects intended for tourism usage. Any tourist development should be sensitively designed and located and operated for the benefit of the local community.

New Lots	N/A		
Lot Size	N/A		
Priority	Medium Term		
Infrastructure Cost	\$665,996		
Associated Projects	OS2		
Key Actions	4	6	

## CT4 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	-		
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 Kubin Community Master Plan Technical Report. Further detail is also provided in **Appendix F**.

CF1 Sacred Site Protection				
<b>Summary</b> 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.	<b>New Lots</b>	N/A		
	<b>Lot Size</b>	N/A		
	<b>Priority</b>	Ongoing		
	<b>Infrastructure Cost</b>	N/A		
	<b>Associated Projects</b>	-		
	<b>Key Actions</b>	3	4	6

CF2 Cemetery Protection Area				
<b>Summary</b> The cemetery, located to the north-east of the township, 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 area, the community value of the site should be documented.	<b>New Lots</b>	N/A		
	<b>Lot Size</b>	N/A		
	<b>Priority</b>	Ongoing		
	<b>Infrastructure Cost</b>	N/A		
	<b>Associated Projects</b>	-		
	<b>Key Actions</b>	3	6	9



## CF3 Cultural Node

### Summary

The Master Plan has identified a Cultural Node at the south-eastern end of the township proximate to a concentration of sacred sites (**CF1**). The cultural node may be a suitable location for a cultural centre or arts centre, depending on the nature of the sacred sites in its proximity.

### New Lots

N/A

### Lot Size

N/A

### Priority

Medium Term

### Infrastructure Cost

N/A

### Associated Projects

CF1

### Key Actions

4

6

9

## CF4 Child Care Centre

### Summary

The Master Plan identifies the location of the existing child care centre on the northern side of Ikilgau Yabu within the core of the township. The community has identified a need for child care facilities, which the Master Plan will deliver either through an expansion of the existing child care centre or the provision of additional facilities to diversify the service. Child care services should be expanded as demand necessitates. It has been identified by the community that the existing child care centre may be improved as a multi-user facility, providing both child care services and office space.

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.

### New Lots

N/A

### Lot Size

N/A

### Priority

Short Term

### Infrastructure Cost

N/A

### Associated Projects

-

### Key Actions

3

6

7

### Recommendations

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

## CF5 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

How the place of worship integrates and responds to **OS1** and **OS2**, which it adjoins, will need to be considered as part of future projects.

### New Lots

N/A

### Lot Size

N/A

### Priority

Ongoing

### Infrastructure Cost

N/A

### Associated Projects

OS1

OS2

### Key Actions

3

9

## CF6 Market Garden / Food Security Area

### Summary

An area of land to the north of the township 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.

### 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.

### New Lots

N/A

### Lot Size

N/A

### Priority

Medium Term

### Infrastructure Cost

N/A

### Associated Projects

-

### Key Actions

1

6

8

## CF7 Landfill Protection and Expansion Area

### Summary

The community has identified a desire to protect and expand the existing landfill, which is located remote to the Kubin township. It has been identified that suitable land exists to the east of the current facility for future use. 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

Medium Term

### Infrastructure Cost

To Be Costed

### Associated Projects

-

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

OS1 Community Park				
<b>Summary</b> A vacant area of land between the dwellings fronting Ikilgau Yabu and Italgau Yabu at the centre of the township has been identified as potentially being suitable for a Community Park. The Community Park will serve as a node in the broader network of recreational paths 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. A copy of a preliminary Precinct Plan is provided as <b>Appendix E</b> .  <b>Recommendations</b> It is recommended that all future active transport and recreational facilities be coordinated in their delivery.	<b>New Lots</b>		N/A	
	<b>Lot Size</b>		N/A	
	<b>Priority</b>		Medium Term	
	<b>Infrastructure Cost</b>		N/A	
	<b>Associated Projects</b>		OS2	
	<b>Key Actions</b>		1	2 6

## OS2 Path Network

### Summary

The Master Plan identifies a pedestrian and cycle path network looping through part 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 network 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

\$625 per metre (concrete)  
\$400 per metre (gravel)  
\$200 per metre (earth)

#### Associated Projects

CF1

OS1

OS3

#### Key Actions

2

6

## OS3 Sporting and Recreation Precinct

### Summary

The Master Plan identifies the existing sporting fields at the north-western end of the township, fronting Mualgau Yabu and Maimalgau Yabu, as a future Sporting and Recreation Precinct. The area is to be investigated for a multi-purpose sport and recreation facility to facilitate the community's aspirations for more sport and recreation facilities. Any development of the Sporting and Recreation Precinct should be completed in a coordinated matter, with a focus on the shared use of supporting infrastructure.

### 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

\$457,664

#### Associated Projects

OS1

OS2

#### Key Actions

2

3

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 Kubin Community 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 in the central southern end of the township, either side of Ikilgau Yabu, for future precinct planning, to identify it as the CBD for the township. 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 the Kubin 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 community.

A copy of a preliminary Precinct Plan is provided as **Appendix E**.

Recommendations

Further planning of the land should also consider its interface with the Community Park (**OS1**) project.

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

OT2 Airport Upgrades			
<b>Summary</b>  In order to improve access to Moa Island, particularly the Kubin Community, 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 community has particularly identified that additional waiting and toilet facilities are required, noting that the airstrip services both Kubin Community and St Pauls Community.	<b>New Lots</b>	N/A	
	<b>Lot Size</b>	N/A	
	<b>Priority</b>	Medium Term	
	<b>Infrastructure Cost</b>	To Be Costed	
	<b>Associated Projects</b>	-	
	<b>Key Actions</b>	6	



## OT3 Jetty and Boat Ramp Upgrades

### Summary

The jetty and boat ramp located at the southern end 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.

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.

### Recommendations

Operational synergies would exist between the jetty and boat ramp upgrades and the kiosk project (CT1). Future investigations should consider how these two projects may complement each other.

#### New Lots

N/A

#### Lot Size

N/A

#### Priority

Short Term

#### Infrastructure Cost

To Be Costed

#### Associated Projects

CT1

#### Key Actions

4

6

## OT4 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

## OT5 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

## OT6 Investigation Area

### Summary

An area of land proximate to the airport has been identified by the community as being potentially suitable for a range of land uses.

### Recommendations

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

### New Lots

N/A

### Lot Size

N/A

### Priority

Long Term

### Infrastructure Cost

To Be Costed

### Associated Projects

CF6

OT2

### Key Actions

1

6

7

## OT7 Road Upgrade

### Summary

The community has identified a desire to realignment the existing road at the eastern end of the airport, to reduce the proximity of vehicles and aircraft. This is particularly important given the road provides access to the St Pauls Community and vital infrastructure to the north of the Kubin Community.

New Lots	N/A	
Lot Size	N/A	
Priority	Medium Term	
Infrastructure Cost	\$4,029,877	
Associated Projects	CF2	OT2
Key Actions	6	

## OT8 “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



## OT9 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. Telecommunications upgrades should also include support for wireless internet (wifi) in key locations within the community.

### New Lots

N/A

### Lot Size

N/A

### Priority

Short Term

### Infrastructure Cost

To Be Costed

### Associated Projects

-

### Key Actions

6

## OT10 Carbon and Renewable Energy Opportunities

### Summary

As explained in the Kubin Community Master Plan Technical Report, the Queensland Government has identified a target to be carbon neutral by 2050. A variety of opportunities exist across Moa 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

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 in the Kubin Community 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 Kubin Community is located on hill slopes nominally between 18 metres and 30 metres above sea level. 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

Bitumen surfaced roads are provided to the baRGE RAMP, airport and community facilities with a concrete road to the landfill site. For durability, all new 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 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.

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 the relatively steep 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, shallow ground water wells and surface water harvested from ephemeral stream flows. The supply of raw water for treatment is sufficient to meet current demand. The pH of the raw water at 6.4 to 6.5 is marginally under the guidelines recommended range of 6.5 to 8.5. Seasonal spikes in turbidity occur during the wet season when water is harvested from the ephemeral stream.

The existing water treatment plant capacity requires to be increased from 79 kL per day to 105 kL per day to meet both current and future demand. The current storage capacity for treated water of 490 kL is adequate to meet 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 to be extended to all new development and be provided with fire hydrants and metered service connections.

Current per capita consumption of 445.5 litres per day exceeds the TSIRC's target consumption of 350 litres per person per day which may be achieved through reticulation leak detection and repair and demand management.

SCADA equipment is provided to permit remote monitoring of system performance to enable prompt rectification of breakdowns that occur from time to time.

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

- > Increase treatment plant capacity from 79 per kay to 105 kL per day;
- > Undertake leakage detection in the reticulation system to reduce wastage;
- > Installation of emergency power supply at all critical infrastructure; and
- > Provision of adequate training for operators.

## 5.5 Sewerage

The sewerage system comprises gravity sewers, manholes, effluent pump stations, rising mains and facultative lagoon treatment of effluent prior to discharge to the ocean. The treatment plant capacity is significantly oversized, which leads to operational problems due to low influent strength and long detention times, resulting in the growth of blue/green algae. Effluent discharged from the treatment plant to the ocean currently does not meet licence discharge standards.

TSIRC is considering seeking funding to take some treatment ponds off line and to install solar powered aerators in the remaining ponds. This will improve operational efficiency of the treatment plant to bring the standard of effluent discharged to within licence requirements.

SCADA equipment is provided to allow for the remote monitoring of pump stations and treatment plant operation.

All new allotments developed are 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:

- > Replacement of the possibly undersized pump delivering treated effluent from the treatment ponds to the ocean outfall;
- > Take some treatment ponds off line and install aerators to remaining ponds to improve treatment plant efficiency;
- > Undertake treatment plant management to ensure effluent discharges meet licence requirements;
- > 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. The power station also provided electricity supply to the St Pauls community.

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 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	<b>Undertake further investigations in relation to specific land parcels</b> 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	<b>Investigate Cultural, Economic and Recreational Areas</b> Further investigation of potential cultural, economic and recreational areas beyond the township should be undertaken.
2	<b>Develop a Recreation Strategy</b> 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	<b>Consultation with Key Stakeholders</b> 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	<b>Protection of Community Facilities and Infrastructure</b> 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	<b>Planning Scheme Amendments</b> 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	<b>Encourage Economic Activity</b> 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	<b>Coastal Inundations Investigations and Works</b> 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	<b>Documentation of Cultural Values</b> The cultural and spiritual values of significant sites such as churches and cemeteries should be documented for the community.

APPENDIX

# A

MASTER PLAN MAP







# KUBIN COMMUNITY MASTER PLAN

VERSION 003  
28 October 2021

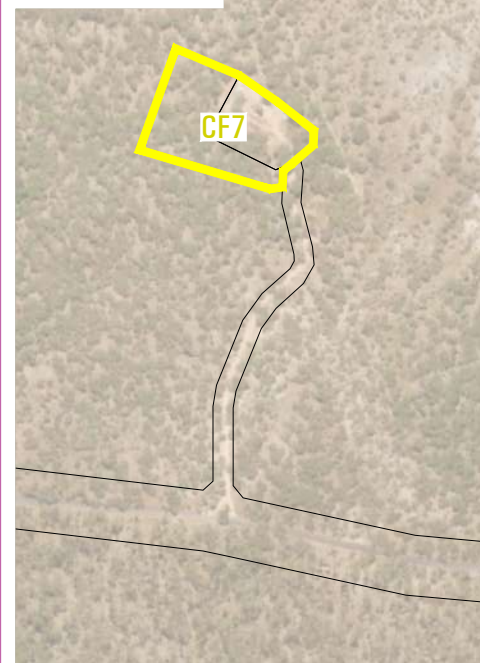
## LOCALITY PLAN

SCALE 1:200,000



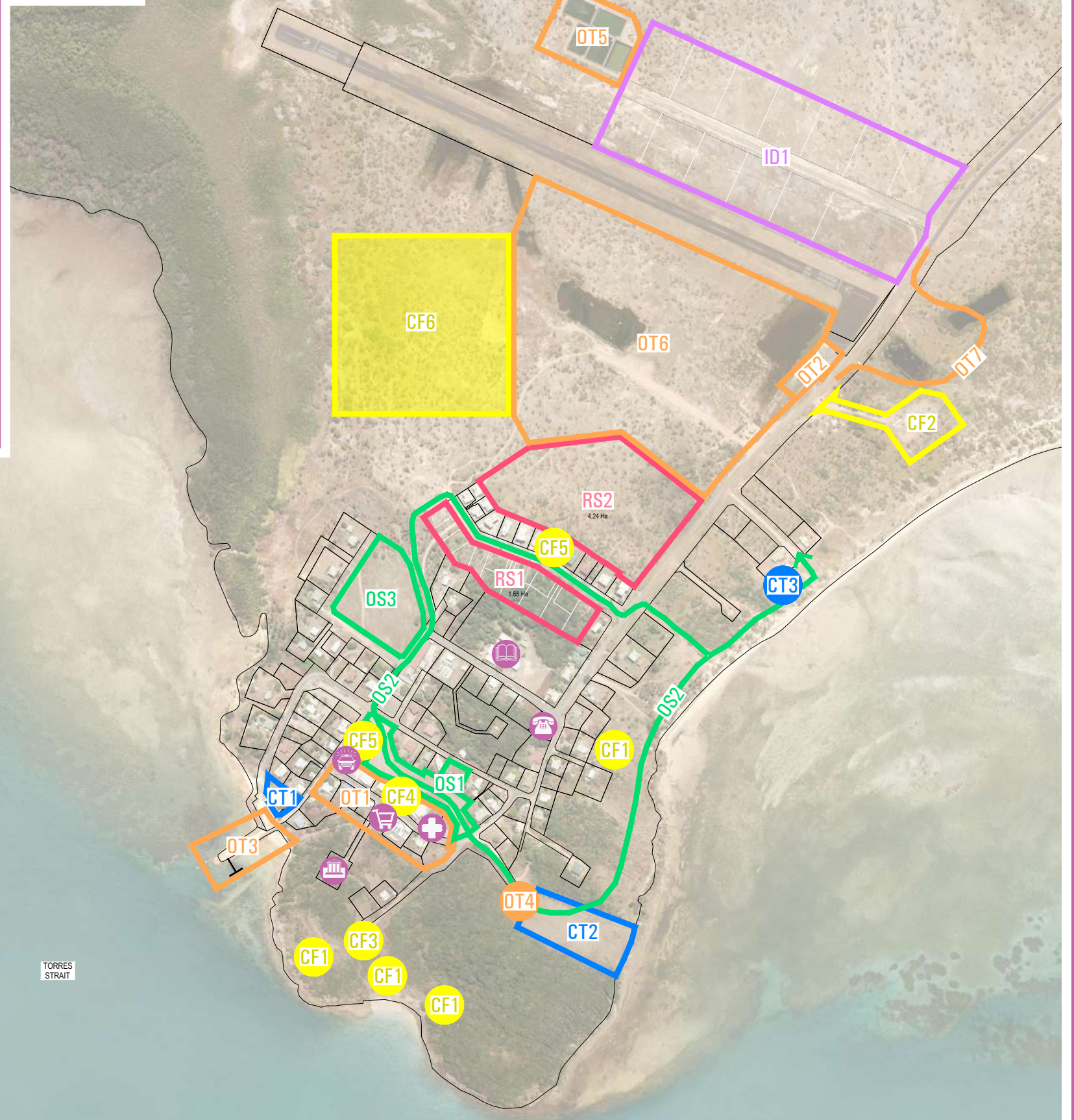
## DIAGRAM B

SCALE 1:7,500



## DIAGRAM A

SCALE 1:7,500



### RESIDENTIAL:

- RS1** RESIDENTIAL EXPANSION AREA
- RS2** RESIDENTIAL INVESTIGATION AREA

### INDUSTRIAL:

- ID1** ENTERPRISE AREA

### COMMERCIAL / TOURISM:

- CT1** KIOSK
- CT2** TOURISM PRECINCT
- CT3** TOURIST ACCOMMODATION

### COMMUNITY FACILITIES:

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

### RECREATION & OPEN SPACE:

- OS1** COMMUNITY PARK
- OS2** PATH NETWORK
- OS3** SPORTING AND RECREATION PRECINCT

### OTHER DEVELOPMENT:

- OT1** CBD PRECINCT PLAN
- OT2** AIRPORT UPGRADES
- OT3** JETTY AND BOAT RAMP UPGRADES
- OT4** WATER SUPPLY UPGRADES
- OT5** SEWERAGE UPGRADES
- OT6** INVESTIGATION AREA
- OT7** ROAD UPGRADE

### KEY:

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

### NOTES:

- PROJECTS CT4, OT8, OT9 AND OT10 ARE NOT SHOWN ON THE MASTER PLAN MAP. REFER TO THE MASTER PLAN FOR FURTHER DETAIL.

### 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
- POLICE FACILITY (QPS)



APPENDIX

# B

MASTER PLAN PROJECT INDEX





# KUBIN COMMUNITY 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	14 Lots	945m <sup>2</sup> – 1,983m <sup>2</sup>	Short Term	\$2,896,532	OS2	6
RS2	Residential Investigation Area	38 Lots (estimate)	950m <sup>2</sup> (average)	Long Term	\$13,430,240	-	1, 6
ID1	Enterprise Area	14 Lots	6,227m <sup>2</sup> – 7,390m <sup>2</sup>	Medium Term	\$15,976,974	OT5	1, 4, 6, 7
CT1	Kiosk	1 Lot	N/A	Medium Term	\$228,874	OT3	4
CT2	Tourism Precinct	N/A	N/A	Medium Term	\$2,538,818	OS2	1, 4, 6, 7
CT3	Tourist Accommodation	N/A	N/A	Medium Term	\$665,996	OS2	4, 6
CT3	Environmental Tourism	N/A	N/A	Medium Term	N/A	-	4, 6
CF1	Sacred Site Protection	N/A	N/A	Ongoing	N/A	-	3, 4, 6, 9
CF2	Cemetery Protection Area	N/A	N/A	Ongoing	N/A	-	3, 6, 9
CF3	Cultural Node	N/A	N/A	Medium Term	N/A	CF1	4, 6, 9
CF4	Child Care Centre	N/A	N/A	Short Term	N/A	-	3, 6, 7
CF5	Place of Worship Protection	N/A	N/A	Ongoing	N/A	OS1, OS2	3, 9
CF6	Market Garden / Food Security Area	N/A	N/A	Medium Term	N/A	-	1, 6, 8
CF7	Landfill Protection and Expansion Area	N/A	N/A	Medium Term	To Be Costed	-	3, 6

ID	Project Name	New Lots	Lot Sizes	Priority	Infrastructure Cost	Associated Projects	Key Actions
OS1	Community Park	N/A	N/A	Medium Term	N/A	OS2	1, 2, 6
OS2	Path Network	N/A	N/A	Short Term	\$625 per metre (concrete) \$400 per metre (gravel) \$200 per metre (earth)	CF1, OS1, OS3	2, 6
OS3	Sporting and Recreation Precinct	N/A	N/A	Medium Term	\$457,664	OS1, OS2	2, 3, 6
OT1	CBD Precinct Plan	N/A	N/A	Medium Term	N/A	OS1	4, 6, 7
OT2	Airport Upgrades	N/A	N/A	Medium Term	To Be Costed	-	6
OT3	Jetty and Boat Ramp Upgrades	N/A	N/A	Short Term	To Be Costed	CT1	4, 6
OT4	Water Supply Upgrades	N/A	N/A	Short Term	To Be Costed	-	3
OT5	Sewerage Upgrades	N/A	N/A	Short Term	To Be Costed	-	3
OT6	Investigation Area	N/A	N/A	Long Term	To Be Costed	CF6, OT2	1
OT7	Road Upgrade	N/A	N/A	Medium Term	\$4,029,877		6
OT8	“Back of Island” Access	N/A	N/A	Medium Term	To Be Costed	-	5, 6
OT9	Telecommunications Upgrades	N/A	N/A	Short 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



# KUBIN COMMUNITY 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	ID1	CT1	CT2	CT3	CT4	CF1	CF2	CF3	CF4	CF5	CF6	CF7
1	Undertake further investigations in relation to specific land parcels		RS2	ID1		CT2								CF6	
2	Develop a Recreation Strategy														
3	Protection of Community Facilities and Infrastructure								CF1	CF2		CF4	CF5		CF7
4	Encourage Economic Activity			ID1	CT1	CT2	CT3	CT3	CF1		CF3				
5	Investigate Cultural, Economic and Recreational Areas														
6	Consultation with Key Stakeholders	RS1	RS2	ID1		CT2	CT3	CT3	CF1	CF2	CF3	CF4		CF6	CF7
7	Planning Scheme Amendments			ID1		CT2						CF4			
8	Coastal Inundations Investigations and Works													CF6	
9	Documentation of Cultural Values								CF1	CF2	CF3		CF5		

ID	Action	OS1	OS2	OS3	OT1	OT2	OT3	OT4	OT5	OT6	OT7	OT8	OT9	OT10
1	Undertake further investigations in relation to specific land parcels	OS1								OT6				
2	Develop a Recreation Strategy	OS1	OS2	OS3										
3	Protection of Community Facilities and Infrastructure			OS3				OT4	OT5					
4	Encourage Economic Activity				OT1		OT3							
5	Investigate Cultural, Economic and Recreational Areas											OT8		
6	Consultation with Key Stakeholders	OS1	OS2	OS3	OT1	OT2	OT3			OT6		OT8	OT9	OT10
7	Planning Scheme Amendments				OT1					OT6				
8	Coastal Inundations Investigations and Works													
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



## 06KU KUBIN COMMUNITY

Last Update:

18-Nov-21

Project			RS1		RS2		ID1		CT1		CT2		CT3	
Yield (Number of Lots)			14		38		12		1		N/A		N/A	
Item	Unit	Rate	Qty	Amount	Qty	Amount	Qty	Amount	Qty	Amount	Qty	Amount	Qty	Amount
<b>HEADWORKS INFRASTRUCTURE UPGRADES</b>														
Sewage Treatment Plant Upgrade	Item													
Water Treatment Plant Upgrade	Item													
Reservoirs Upgrade	Item													
<b>DEVELOPMENT</b>														
<b>Earthworks</b>														
Site clearing and disposal of material	Ha	\$ 14,000	1.65	\$ 23,100	4.24	\$ 59,360	10	\$ 140,000	0	\$ -	0.3	\$ 4,200	0.3	\$ 4,200
Erosion and sediment control	m	\$ 40	350	\$ 14,000	450	\$ 18,000	700	\$ 28,000	0	\$ -	150	\$ 6,000	75	\$ 3,000
Strip topsoil and respread	m <sup>3</sup>	\$ 30	1,650	\$ 49,500	4,240	\$ 127,200	10000	\$ 300,000	0	\$ -	300	\$ 9,000	300	\$ 9,000
Cut to fill on lots	m <sup>3</sup>	\$ 40	7,000	\$ 280,000	23,000	\$ 920,000	10000	\$ 400,000	0	\$ -	1500	\$ 60,000	600	\$ 24,000
Cut in open drains to fill on lots	m <sup>3</sup>	\$ 40	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -
Cut in roads and table drains to fill on lots	m <sup>3</sup>	\$ 40	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -
<b>Roadworks</b>														
Concrete Road (7.0 m)	m	\$ 3,000	0	\$ -	560	\$ 1,680,000	550	\$ 1,650,000	0	\$ -	150	\$ 450,000	0	\$ -
<b>Stormwater Drainage</b>														
Concrete edge strips/K & C to road pavement	m	\$ 400	0	\$ -	1120	\$ 448,000	1100	\$ 440,000	70	\$ 28,000	300	\$ 120,000	0	\$ -
Concrete invert to table drain	m	\$ 1,500	0	\$ -	200	\$ 300,000	1100	\$ 1,650,000	0	\$ -	0	\$ -	0	\$ -
1200 x 450 RCBC incl conc base/invert crossing	m	\$ 3,000	22	\$ 66,000	90	\$ 270,000	54	\$ 162,000	0	\$ -	12	\$ 36,000	0	\$ -
Headwalls, Wingwalls and Aprons	m <sup>3</sup>	\$ 3,600	6	\$ 21,600	25	\$ 90,000	22	\$ 79,200	0	\$ -	5	\$ 18,000	0	\$ -
Bio-Basins	m <sup>2</sup>	\$ 900	400	\$ 360,000	780	\$ 702,000	2500	\$ 2,250,000	0	\$ -	75	\$ 67,500	75	\$ 67,500
Bio basin concrete spillway	m <sup>2</sup>	\$ 700	75	\$ 52,500	150	\$ 105,000	150	\$ 105,000	0	\$ -	75	\$ 52,500	50	\$ 35,000
<b>Water Reticulation</b>														
100 dia, PVC pipe	m	\$ 400	350	\$ 140,000	830	\$ 332,000	750	\$ 300,000	70	\$ 28,000	175	\$ 70,000	175	\$ 70,000
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	2	\$ 6,000	8	\$ 24,000	3	\$ 9,000	0	\$ -	1	\$ 3,000	0	\$ -
Hydrants	No	\$ 4,550	5	\$ 22,750	10	\$ 45,500	7	\$ 31,850	1	\$ 4,550	1	\$ 4,550	2	\$ 9,100
Single house connections	No	\$ 2,000	14	\$ 28,000	38	\$ 76,000	12	\$ 24,000	1	\$ 2,000	2	\$ 4,000	2	\$ 4,000
Connect to existing main	No	\$ 6,000	2	\$ 12,000	2	\$ 12,000	1	\$ 6,000	1	\$ 6,000	1	\$ 6,000	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	\$ -	1	\$ 200,000	0	\$ -
Standby generator	Item	\$ 100,000	0	\$ -	0	\$ -	0	\$ -	0	\$ -	1	\$ 100,000	0	\$ -

# TORRES STRAIT MASTER PLANNING INFRASTRUCTURE COST ESTIMATES

Prepared for the Department of Aboriginal and Torres Strait Islander Partnerships



## 06KU KUBIN COMMUNITY

Last Update:

18-Nov-21

Project			RS1		RS2		ID1		CT1		CT2		CT3	
Yield (Number of Lots)			14		38		12		1		N/A		N/A	
Item	Unit	Rate	Qty	Amount	Qty	Amount	Qty	Amount	Qty	Amount	Qty	Amount	Qty	Amount
<b>Sewerage Reticulation</b>														
150 dia. PVC	m	\$ 400	400	\$ 160,000	50	\$ 20,000	600	\$ 240,000	50	\$ 20,000	175	\$ 70,000	125	\$ 50,000
Manholes	No	\$ 10,000	6	\$ 60,000	18	\$ 180,000	14	\$ 140,000	2	\$ 20,000	3	\$ 30,000	4	\$ 40,000
Lot connections	No	\$ 1,500	14	\$ 21,000	38	\$ 57,000	12	\$ 18,000	1	\$ 1,500	1	\$ 1,500	2	\$ 3,000
FRP Pump Station	Item	\$ 950,000	0	\$ -	1	\$ 950,000	1	\$ 950,000	0	\$ -	0	\$ -	0	\$ -
Standby Generator	Item	\$ 100,000	0	\$ -	1	\$ 100,000	1	\$ 100,000	0	\$ -	0	\$ -	0	\$ -
90 OD polyethylene pressure main	m	\$ 400	0	\$ -	0	\$ -	50	\$ 20,000	0	\$ -	0	\$ -	0	\$ -
110 OD polyethylene pressure main	m	\$ 600	0	\$ -	500	\$ 300,000	0	\$ -	0	\$ -	0	\$ -	0	\$ -
140 OD polyethylene pressure main	m	\$ 700	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -
<b>Electricity Supply</b>														
Conduits, pits and pole bases	Lots	\$ 12,000	14	\$ 168,000	38	\$ 456,000	12	\$ 144,000	1	\$ 12,000	4	\$ 48,000	2	\$ 24,000
Cabling and street lights	Lots	\$ 15,000	14	\$ 210,000	38	\$ 570,000	12	\$ 180,000	1	\$ 15,000	4	\$ 60,000	2	\$ 30,000
Transformer	No	\$ 200,000	0.2	\$ 40,000	1	\$ 200,000	1	\$ 200,000	0	\$ -	0.5	\$ 100,000	0.1	\$ 20,000
<b>Sub Totals</b>				\$ 1,734,450	\$ 8,042,060	\$ 9,567,050	\$ 137,050	\$ 1,520,250	\$ 398,800					
Contingencies	Item	30%		\$ 520,335		\$ 2,412,618		\$ 2,870,115		\$ 41,115		\$ 456,075		\$ 119,640
<b>Preliminaries</b>														
Establishment, insurance, As-constructed	Item	22%		\$ 381,579		\$ 1,769,253		\$ 2,104,751		\$ 30,151		\$ 334,455		\$ 87,736
<b>Project Management</b>														
Survey, design, and construction administration	Item	15%		\$ 260,168		\$ 1,206,309		\$ 1,435,058		\$ 20,558		\$ 228,038		\$ 59,820
<b>TOTALS</b>				\$ 2,896,532	\$ 13,430,240	\$ 15,976,974	\$ 228,874	\$ 2,538,818	\$ 665,996					

## TORRES STRAIT MASTER PLANNING

### INFRASTRUCTURE COST ESTIMATES

Prepared for the Department of Aboriginal and Torres Strait Islander Partnerships

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Project			OS3		OT7	
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	\$ 14,000	1.5	\$ 21,000	0.9	\$ 12,600
Erosion and sediment control	m	\$ 40	300	\$ 12,000	500	\$ 20,000
Strip topsoil and respread	m <sup>3</sup>	\$ 30	1500	\$ 45,000	1,500	\$ 45,000
Cut to fill on lots	m <sup>3</sup>	\$ 40	1500	\$ 60,000	0	\$ -
Cut in open drains to fill on lots	m <sup>3</sup>	\$ 40	0	\$ -	0	\$ -
Cut in roads and table drains to fill on lots	m <sup>3</sup>	\$ 40	0	\$ -	2,700	\$ 108,000
Roadworks						
Concrete Road (7.0 m)	m	\$ 3,000	0	\$ -	450	\$ 1,350,000
Stormwater Drainage						
Concrete edge strips/K & C to road pavement	m	\$ 400	0	\$ -	900	\$ 360,000
Concrete invert to table drain	m	\$ 1,500	0	\$ -	0	\$ -
1200 x 450 RCBC incl conc base/invert crossing	m	\$ 3,000	0	\$ -	40	\$ 120,000
Headwalls, Wingwalls and Aprons	m <sup>3</sup>	\$ 3,600	0	\$ -	25	\$ 90,000
Bio-Basins	m <sup>2</sup>	\$ 900	0	\$ -	225	\$ 202,500
Bio basin concrete spillway	m <sup>2</sup>	\$ 700	0	\$ -	150	\$ 105,000
Water Reticulation						
100 dia, PVC pipe	m	\$ 400	50	\$ 20,000	0	\$ -
150 dia. PVC pipe	m	\$ 500	0	\$ -	0	\$ -
200 dia PVC pipe	m	\$ 650	0	\$ -	0	\$ -
SV's	No	\$ 3,000	1	\$ 3,000	0	\$ -
Hydrants	No	\$ 4,550	1	\$ 4,550	0	\$ -
Single house connections	No	\$ 2,000	1	\$ 2,000	0	\$ -
Connect to existing main	No	\$ 6,000	1	\$ 6,000	0	\$ -
VSD Pump Building	Item	\$ 300,000	0	\$ -	0	\$ -
Variable speed drive pump set	Item	\$ 200,000	0	\$ -	0	\$ -
Standby generator	Item	\$ 100,000	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			OS3		OT7	
Yield (Number of Lots)			N/A		N/A	
Item	Unit	Rate	Qty	Amount	Qty	Amount
Sewerage Reticulation						
150 dia. PVC	m	\$ 400	130	\$ 52,000	0	\$ -
Manholes	No	\$ 10,000	2	\$ 20,000	0	\$ -
Lot connections	No	\$ 1,500	1	\$ 1,500	0	\$ -
FRP Pump Station	Item	\$ 950,000	0	\$ -	0	\$ -
Standby Generator	Item	\$ 100,000	0	\$ -	0	\$ -
90 OD polyethylene pressure main	m	\$ 400	0	\$ -	0	\$ -
110 OD polyethylene pressure main	m	\$ 600	0	\$ -	0	\$ -
140 OD polyethylene pressure main	m	\$ 700	0	\$ -	0	\$ -
Electricity Supply						
Conduits, pits and pole bases	Lots	\$ 12,000	1	\$ 12,000	0	\$ -
Cabling and street lights	Lots	\$ 15,000	1	\$ 15,000	0	\$ -
Transformer	No	\$ 200,000	0	\$ -	0	\$ -
Sub Totals				\$ 274,050		\$ 2,413,100
Contingencies	Item	30%		\$ 82,215		\$ 723,930
Preliminaries						
Establishment, insurance, As-constructed	Item	22%		\$ 60,291		\$ 530,882
Project Management						
Survey, design, and construction administration	Item	15%		\$ 41,108		\$ 361,965
TOTALS				\$ 457,664		\$ 4,029,877



APPENDIX

# E

PRECINCT PLANS







# KUBIN COMMUNITY MASTER PLAN

## CBD PRECINCT PLAN

VERSION 001  
29 June 2020



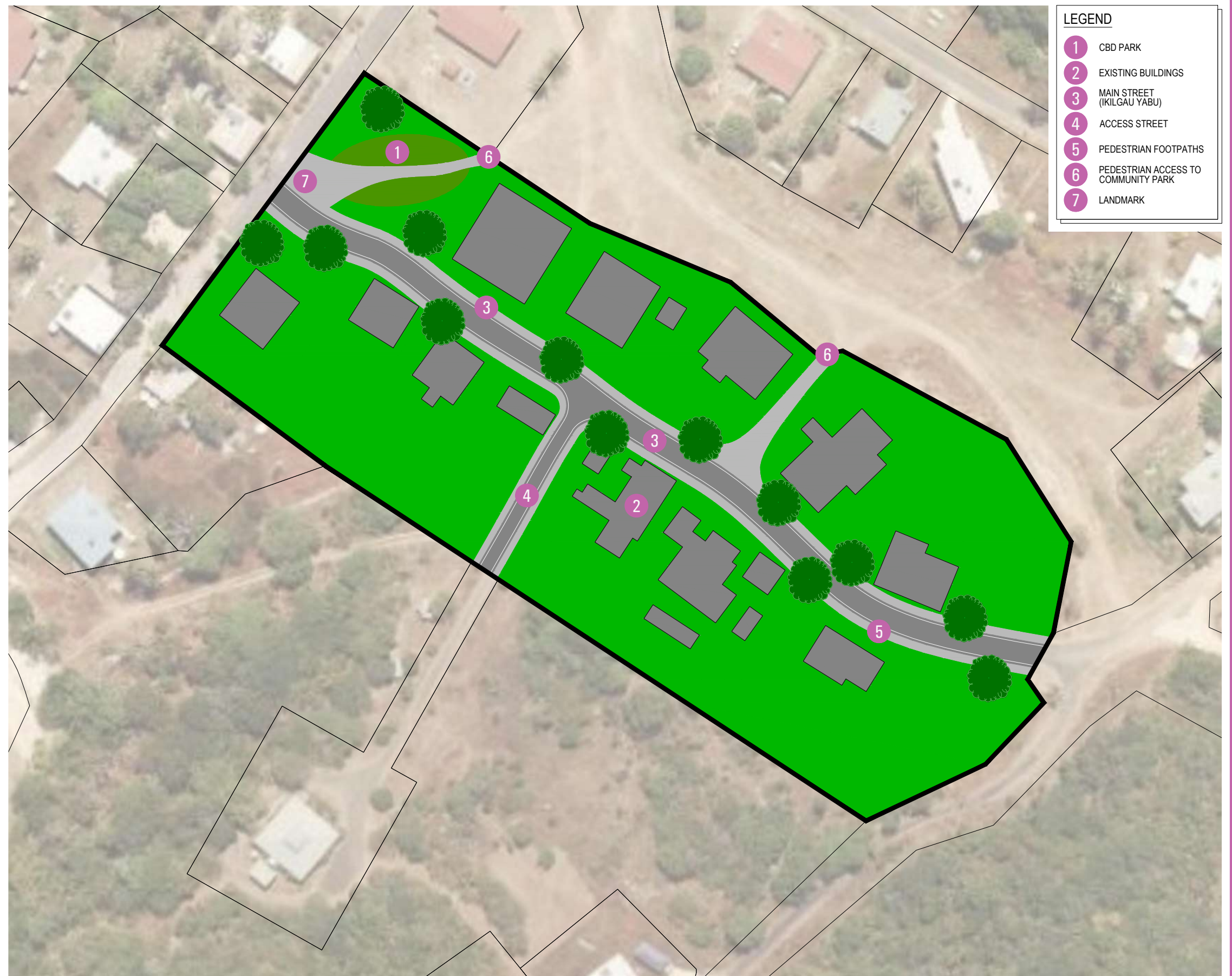
1 CBD PARK.



3 MAIN STREET (IKILGAU YABU) 5 PEDESTRIAN FOOTPATHS



7 LANDMARK



### LEGEND

- 1 CBD PARK
- 2 EXISTING BUILDINGS
- 3 MAIN STREET (IKILGAU YABU)
- 4 ACCESS STREET
- 5 PEDESTRIAN FOOTPATHS
- 6 PEDESTRIAN ACCESS TO COMMUNITY PARK
- 7 LANDMARK





# KUBIN COMMUNITY MASTER PLAN COMMUNITY PARK

VERSION 001  
29 June 2020



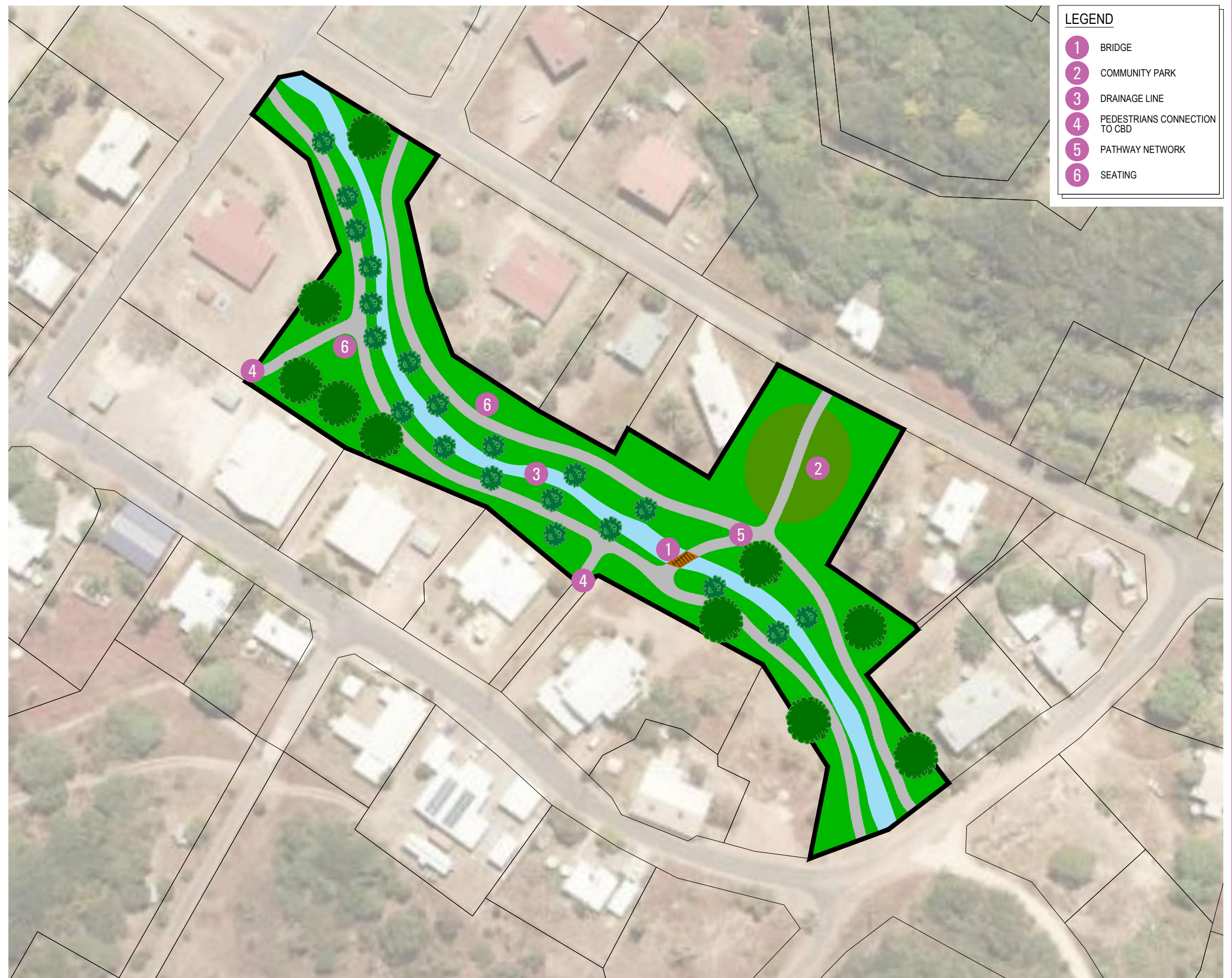
2 COMMUNITY PARK



5 PATHWAY NETWORK



6 SEATING



- LEGEND**
- 1 BRIDGE
  - 2 COMMUNITY PARK
  - 3 DRAINAGE LINE
  - 4 PEDESTRIANS CONNECTION TO CBD
  - 5 PATHWAY NETWORK
  - 6 SEATING



APPENDIX

F

ANALYTICAL TRANSLATION



# KUBIN COMMUNITY MASTER PLAN

## ANALYTICAL TRANSLATION

#	Direction	Technical Report	Master Plan Projects	Notes
1.	The Master Plan will need to cater for an increase in housing (four 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, RS2	
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	
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 consider areas for potential housing.	5 Planning Analysis 8.10 Torres Strait and Northern Peninsula Regional Plan 2009-2029	RS1, RS2	



#	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, OS2, 04, 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, CF3	
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	CF2, CF5	
8.	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	
9.	The Master Plan should investigate the provision of land for potential food production, which may include community or market gardens and agribusiness such as aquaculture.	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 8.13 Wapil – Fishing for Our Future	CF6, ID1, OT6	

#	Direction	Technical Report	Master Plan Projects	Notes
10.	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	OT3	
11.	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, OT7	
12.	The Master Plan should support the development of new recreational facilities, which may include multi purpose sport and recreation facility. Any such facility should be appropriately located on accessible land near compatible land uses.	5 Planning Analysis 8.10 Torres Strait and Northern Peninsula Regional Plan 2009-2029 8.12 TSIRC Corporate Plan 2020-2025	OS1, OS3	
13.	The Master Plan should support the development of tourism opportunities that are compatible with the aspirations of the community including eco-tourism and upgrades to the Kubin motel.	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, CF3, OT1	

#	Direction	Technical Report	Master Plan Projects	Notes
14.	The Master Plan should ensure that new commercial and community facilities are located in a manner that maximises ease of access for the community including SES Shed, addition of a community garden, men's shed, arts centre and community hall upgrade.	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, CF3, CF6	
15.	The Master Plan will reinforce a centralised business core area for new commercial and the consolidation of government administrative offices, health care and shops, including exploring opportunities for new enterprises such as a nursery and multi-purpose shop (take-away and fuel bowser).	5 Planning Analysis	OT1, ID1, CF6	
16.	The Master Plan will investigate opportunities for the establishment of new food based industries such as aquaculture and crayfish farming.	5 Planning Analysis 8.13 Warpil – Fishing for Our Future	ID1, OT6	
17.	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	CF4	
18.	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, CT1, CT2	

#	Direction	Technical Report	Master Plan Projects	Notes
19.	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	OT7, OT8	
20.	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, OT6	
21.	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	OT10	
22.	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	
23.	The Master Plan should advance the improvement of waste management for the community.	2.5 Services and Facilities 5 Planning Analysis 7.2 Community Consultation 8.12 TSIRC Corporate Plan 2020-2025	All projects	
24.	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	

#	Direction	Technical Report	Master Plan Projects	Notes
25.	The Master Plan should facilitate upgrades to the water supply network in order to improve treatment and emergency operation.	6 Infrastructure Analysis 8.10 Torres Strait and Northern Peninsula Regional Plan 2009-2029 8.12 TSIRC Corporate Plan 2020-2025	OT4	
26.	The Master Plan should facilitate upgrades to the sewerage network, specifically with regard to detention time.	6 Infrastructure Analysis 8.10 Torres Strait and Northern Peninsula Regional Plan 2009-2029 8.12 TSIRC Corporate Plan 2020-2025	OT5	
27.	The Master Plan should be updated to reflect the outcomes of community consultation activities undertaken.	7 Consultation	CT2, CT3, CF4, CF5, CF7, OT2, OT3, OT7, OT6, OT7	