



1.5 Relationship to Other Projects

The Central Queensland Major Projects Status Report (April 2011) prepared by Capricorn Enterprise estimates the total value of major projects in the Central Queensland Region at approximately \$142 billion¹ comprising:-

- \$41.41 billion in coal projects;
- \$7.766 billion in mineral projects;
- \$74.976 billion in energy related projects;
- \$7.732 billion in port projects;
- \$6.869 billion in rail projects;
- \$1.248 billion in water supply works;
- \$528.637 million in transport infrastructure works;
- \$311 million in social infrastructure projects; and
- \$959 million in a range of residential, industrial, commercial development projects.

Of this \$185 million (or 0.13 percent) of identified major projects can be attributed to tourism related development in the Central Queensland Region, including the following projects:

- The Haven Wellness Resort, Emu Park (\$100 million);
- Gracemere Hotel, Gracemere (\$21 million);
- Beachside Resort, Gladstone (\$24 million); and
- Gladstone City Central Hotel, Gladstone (\$40 million).

The GKI Revitalisation Plan is not directly related to any of the major projects occurring within the Central Queensland region, largely due to its tourism-based nature and its relatively isolated island location. These factors void opportunities for co-location with like or complementary projects that are known to occur in the Central Queensland Region. Demand on employees and contractors during the initial construction period may be high due to these other projects. However external global influences may impact on predicted timelines for any or all listed above.

1.6 Alternatives to the Project

As the Island is an historical tourist destination, no consideration of alternative sites for the Resort on other islands (or on the mainland) is considered warranted. This section considers six project alternatives (all of which incorporate the former resort node and are contained to the Island) and identifies key social, economic and environmental consequences for each option.

Further, this section also provides an analysis of alternatives considered for the two key transport infrastructure components of the Project: the marina and the airstrip.

This section also shows a comparison between the scale and configuration of the current proposal and that of the two previous submissions.

The alternatives analysis provides an overview of the selection of the preferred option (the GKI Revitalisation Plan) presented in this EIS.

¹ Includes an approximate \$4.25 billion correction to an identified error in Community Projects cost estimate.

1.6.1 Options Analysis

1.6.1.1 Option 1 – No Action

Option 1 reflects the existing situation on the Island, with no action being undertaken to re-establish the former resort. A summary of likely key consequences arising from this option is outlined in **Table 1.3**.

TABLE 1.3 CONSEQUENCES ARISING FROM OPTION 1 - NO ACTION

Social	Economic	Environment
• Former (closed) resort would continue to degrade and negatively impact on the Island community; • Modest island lifestyle would be maintained; • No improvement to basic infrastructure, including wastewater treatment, water, electricity and telecommunications; • Limited safe boat mooring facilities; • Maintain restricted access to mainland (in terms of frequency, safety, travel time, options, cost, modes); • Significant limits to the number persons able to enjoy the GKI World Heritage Area experience; • No increase in community facilities on the Island; and • Limited access to employment, emergency services, cultural heritage items and limited opportunities for social engagement.	• No catalyst to refurbish or reopen the former resort; • Other island businesses to continue at poor capacity; • Limited access to the Island by sea; • No large aircraft access; • Non-CASA Compliant facility; • Very difficult to attract interstate tourists to the Island due to poor access and therefore unable to compete with overseas resorts which provide a greater range of tourism activities; • Limited accommodation choices (negatively impacts economic viability of all island businesses); and • No economic contribution to Rosslyn Bay, Yeppoon, Rockhampton, and the Capricorn Coast.	• Will rely on diesel generators; • Will require use of aquifers or desalination for water supply; • No clearing of remnant regional ecosystems; • No other environmental disturbance; • No disturbance to current character of the Island; • No remediation of contaminated land; • No rehabilitation of degraded habitat; • Little visible presence of resort development beyond existing resort node at Fisherman's Beach; • No additional disturbance to aquifers; and • No management of animal or plant pests beyond that required by current lease conditions.

As highlighted by **Table 1.3** this Option does not fully support the objectives identified in the EPBC Act and GBRMP Act (refer **Section 2.2**). Option 1 - Former (closed) resort does not demonstrate any ESD, nor does it facilitate a greater role for public education or engagement in protecting the environment.

In the short-term, impacts from the degradation of the existing resort to the GBRMP and Matters of National Environmental Significance (MNES) could be less than construction of a new facility. However, over the medium to long term the increased impacts from decommissioning of the diesel generators, aquifer usage, desalination facility and all existing infrastructure would impact the GBRMP and MNES during operations but if undertaken correctly could lead to better outcomes for all controlling provision.

1.6.1.2 Option 2 – Resort Refurbishment

Option 2 represents the reinstatement and refurbishment of the former resort, with no expansion beyond the established footprint of the former resort. A summary of key consequences arising from this option is outlined in **Table 1.4**.

TABLE 1.4 CONSEQUENCES ARISING FROM OPTION 2 – RESORT REFURBISHMENT

Social	Economic	Environment
• Will remain a more relaxed modest island lifestyle (less noise, activity, people, more privacy); • Will not result in any significant improvement in access to mainland (in terms of frequency, safety, travel time, options, cost, modes); • Limited improvement to basic infrastructure, including Island mobility network, wastewater treatment, water, electricity and telecommunications; • Limited safe boat mooring facilities; • Will not create any additional community facilities on the Island; and • Access to employment, emergency services and opportunities for social engagement on the Island will remain limited.	• Unviable to operate resort due to the unmarketability of a refurbished resort (the market demands that resorts provide an experience beyond accommodation and pool side activities); • Limited access to Island by air and sea resulting in inequitable access and poor convenience to tourist markets resulting in low tourist numbers; • Limited opportunities for employment; • Very difficult to attract interstate tourists to the Island in terms of competition from overseas resorts which provide a greater range of tourism activities; • Limited range of accommodation choices (negatively impacts economic viability of all Island businesses); and • Limited economic contribution to Rosslyn Bay, Yeppoon, Rockhampton, and the Capricorn Region.	• Will rely on diesel generators; • Will require use of aquifers or desalination for water supply; • No clearing of remnant regional ecosystems; • Little/no other environmental disturbance; • Limited remediation of contaminated land; • Limited rehabilitation of degraded habitat; • Little visible presence of development beyond existing resort node at Fisherman's Beach; • Little disturbance to aquifers; and • Little/no management of animal or plant pests beyond that required by current lease conditions.



As highlighted by **Table 1.4** this option does not fully support the objectives identified in the EPBC Act and GBRMP Act (refer **Section 2.2**). Option 2 - Resort Refurbishment does not demonstrate ESD, nor does it facilitate a greater role for public education or engagement in protecting the environment. It also risks MNES through the continued operation of groundwater aquifers and operation of desalination plant in the long term. This option is also not considered economically viable.

In the short-term, impacts from the refurbishment of the existing resort to the GBRMP and MNES could be more than the construction of a new facility. The concern for refurbishment is delivery of materials, equipment and machinery over the fore-dunes of Fisherman's Beach. Over the medium to long term the impacts from the operation of a refurbished resort would be high with diesel generators, aquifer usage, desalination and infrastructure maintenance available only across fore-dunes. These issues would impact the GBRMP and MNES.

1.6.1.3 Option 3 – Resort Upgrade

Option 3 represents a broader expansion of the former resort with no marina (jetty to be provided only) or airstrip upgrade. A summary of key likely consequences arising from this option is identified in **Table 1.5**.



TABLE 1.5 CONSEQUENCES ARISING FROM OPTION 3 - RESORT UPGRADE

Social	Economic	Environment
• Access to mainland (in term of frequency, safety, travel time, options, cost, modes) will be improved but remain limited; • Will provide the Island with a variety of basic community facilities that are currently lacking; • Limited improvement to basic infrastructure, including tracks and roads, waste water treatment, water, electricity and telecommunications; and • Access to employment, emergency services and opportunities for social engagement on the Island will remain limited.	• Access to the Island by sea will be improved if a jetty is provided. However, this will not provide a reliable 'all weather' solution or provide safe mooring; • Access to the Island via air remains limited, difficult to adequately cater for South East Queensland and interstate markets without upgrade to airport; • Not considered viable to upgrade and expand existing facilities without also providing the upgraded airport and new marine facility; • Limited opportunities for employment; • Slight improvement to visitor's experience on the Island; • Improved range of accommodation choices; • Economic contribution to Rosslyn Bay, Yeppoon, Rockhampton, and the Capricorn region will be improved compared to Options 1 and 2; and • Improved services provided – post and package, materials handling, produce for Island needs, medical etc.	• Will rely on diesel generators; • Will require use of aquifers or desalination for water supply; • Will require some clearing of remnant regional ecosystems; • Limited remediation of contaminated land; • Limited rehabilitation of degraded habitat; • Little other environmental disturbance; • There will be a visible presence of development beyond existing resort node at Fisherman's Beach; • Some disturbance to aquifers; and • Some management of animal or plant pests beyond that required by current lease conditions although uneconomical to undertake for whole Island.

As highlighted by **Table 1.5** this option does not fully support the objectives identified in the EPBC Act and GBRMP Act (Refer **Section 2.2**). Option 3 - Resort Upgrade could demonstrate limited ESD, but does not facilitate a greater role for public education or engagement in protecting the environment. It also risks MNES through the continued operation of groundwater aquifers and operation of desalination plant in the long term. This option is also not considered economically viable.

In the short-term, impacts from the upgrade of the existing resort to the GBRMP and MNES could be more than the construction of a new facility. The concern for an upgrade is delivery of materials, equipment and machinery over the fore-dunes of Fisherman's Beach. Over the medium to long term the impacts from the operation of a refurbished resort would be high with diesel generators, aquifer usage, desalination and infrastructure maintenance available only across fore-dunes. These issues would impact the GBRMP and MNES.

1.6.1.4 Option 4 – Resort Revitalisation

Option 4 represents the GKI Revitalisation Plan (refer **Chapter 2** for full Project description). A summary of key likely consequences arising from this option is identified in **Table 1.6**.

TABLE 1.6 CONSEQUENCES ARISING FROM OPTION 4 – GKI REVITALISATION PLAN

Social	Economic	Environment
• Will create a variety of active island lifestyle opportunities; • Will provide excellent access to the mainland (in terms of frequency, safety, travel time, options, cost, modes); • Will provide the Island with opportunity for access to a variety of basic infrastructure and services that are currently lacking (eg: water, waste management, mobility network, electricity etc); • Will provide the Island with greatly improved access to jobs, health and education facilities (including employment and business opportunities on the Island); • Will provide a tourism facility as an attractant to the Capricorn Coast allowing a greater range and number of persons to enjoy the Island and Great Barrier Reef; • Will act as a catalyst for a greatly improved tourism industry in the Capricorn Region; and • Will assist in the retention of younger people in the Region.	• The upgrade of the airport and construction of the marina provides a catalyst to refurbish and extend existing resort; • Significantly improves access to Island by sea; • Significantly improves access to the Island by air; • Allows the Island to provide much greater service to South East Queensland and interstate markets; • Provides a significant facility to allow the provision of safe boat moorings on the Island, improving the Island's attractiveness in terms of boating tourism; • Provides a much wider range of accommodation choices than can be provided by Options 1 to 3, in turn widening the demographic target of visitors to the Island; • Will provide a major increase in the Island's economic contribution to Rosslyn Bay, Yeppoon, Rockhampton, and the Capricorn region; and • The redevelopment will also contribute appreciably toward Queensland's economy and discernibly contribute to Australia's GDP.	• Will be 'carbon positive' in regard to its energy use; • Will not rely on diesel generators (emergency electricity supply only); • Will include the establishment of the Keppel's first Research Centre; • Will not require the use of aquifers or desalination for water supply throughout the Resort operation; • Will require some clearing of remnant regional ecosystems; • Will result in some environmental disturbance and modification; • Will be limited visible presence of development beyond existing resort node at Fisherman's Beach; • Will allow the implementation of a detailed Environmental Management Plan to the ecological benefit of the Island; • Will allow the feasible ongoing management of animal and plant pests; and • Will establish a 575 hectare Environmental Protection Precinct.



As highlighted by **Table 1.6** this option fully supports the objectives identified in the EPBC Act and GBRMP Act (Refer **Section 2.2**). Option 4 - Resort Revitalisation demonstrates ESD and helps to facilitate a greater role for public education or engagement in protecting the environment. It also aims to protect MNES through the discontinued operation of groundwater aquifers, by being 'carbon positive' with regards electricity and operating under detailed Environmental Management Plans (EMPs).

In the short-term, impacts from the construction of a new resort to the GBRMP and MNES would be mitigated by detailed control methods. The concern for construction is delivery of materials, equipment and machinery over the fore-dunes of Fisherman's Beach. This impact is limited by the staged construction of the marina to ensure operational access in a short time (Refer **Appendix S**). Over the medium to long term the impacts from the operation of a new resort would be mitigated by the detailed management options identified within this EIS including stormwater drainage, water use, electricity plans etc. These issues have all been design to eliminate or mitigate impacts to the GBRMP and MNES.

The scenario described in **Option 4** provides for the greatest balance between social, economic benefits and environmental impacts.

As discussed in **Section 1.2**, the current resort concept is the result of rigorous ecological constraints and visual constraints-based analysis. It is important to note that the current GKI Revitalisation Plan is substantially reduced in scale and extent compared to previous design concepts.



1.6.1.5 Options 5 and 6 – Comparison of Previous Concept Options

Following the rejection of the original proposed redevelopment by the government and the concerns expressed by the community the GKI Revitalisation Plan has been scaled down significantly twice, each time by approximately 50 percent which has resulted in the current plan (2012) representing approximately less than 25 percent the size of the original concept plan. Option 5 (Plan 1 – 2006) maximised the tourism and economic potential of the Island, however, it also resulted in the most significant environmental disturbance. Option 6 (Plan 2 – 2009) involved some environmental constraint by removing development from the north-eastern part of the Island. The current plan – 2012 has been derived as a result of a full scale environmental constraints assessment process with a primary focus on preserving and enhancing the natural environment of the Island and the OUV of the GBRWHA.

Table 1.7 compares the previous plans and the current plan.

TABLE 1.7 COMPARISON OF THE ORIGINAL AND CURRENT PLANS

	Option 5 Plan 1 - 2006	Option 6 Plan 2 - 2009	Current Plan - 2012
Development Cost	\$2.6 billion	\$1.15 billion	\$592 million
Reduction From Plan 1		56 percent	77 percent
Hotels	Three hotels with a total of 700 rooms	One hotel with 300 rooms	One hotel with 250 rooms
Number of Eco Resort Villas	1,500	1,700	750
Number of Eco Resort Apartments	1,200	300	300
Marina	560 berths	560 berths	250 berths
Golf Courses	Two golf courses	One golf course	One golf course
Approximate Infrastructure Footprint (including roads, buildings, airstrip) - percent of the Island	17 percent	8 percent	3.5 percent
Approximate Golf Course Footprint - percent of the Island	7 percent	3 percent	3 percent
Airstrip	2 kilometre jet airstrip in the centre of the island	1,500 metre runway in Fisherman's Beach Precinct	1,500 metre runway in Fisherman's Beach Precinct
Environmental Protection Area	Nil	545 hectares of Environmental Protection Area	575 hectares of Environmental Protection Area
Development on North-eastern Part of the Island	Hotel, golf course and Eco Resort Villas	Deleted. No development on north-eastern part of island	Deleted. No development on north-eastern part of island

TABLE 1.7 COMPARISON OF THE ORIGINAL AND CURRENT PLANS (CONTINUED)

	Option 5 Plan 1 - 2006	Option 6 Plan 2 - 2009	Current Plan - 2012
Joint Development Proposal on Woppaburra Land	Yes	No	No
Disturbance to Leeke's Beach Wetland Area	Proposed airstrip and marina to encroach the wetland area	No disturbance to wetland area	No disturbance to wetland area
Research Centre	Not included	Not included	Proposed to be included
Carbon Positive Commitment	No	No	Yes
Use of Island Aquifers for Resort Operation Water Supply	Yes	Yes	No
Low Rise Building Concept	Yes	Yes	Yes
Forecast Job Creation in the Capricorn Region	3,000 operational and construction jobs	2,300 operational and construction jobs	1,400 operational and construction jobs
Annual Economic Contribution to the Local Economy	\$200 million per annum	\$145 million per annum	\$83 million per annum
Impact on Visitor Days to the Capricorn Region	Substantial increase to the total visitor days to the Capricorn Region	Substantial increase to the total visitor days to the Capricorn Region	Substantial increase to the total visitor days to the Capricorn Region

The Proponent acknowledges the input by the Australian and Queensland governments, Capricorn Conservation Committee, Island residents, the Capricorn Region community, Traditional Owners and the EIS project team in the re-design of the proposed development.

Figure 1.6 OPTION 5 - 2006 REVITALISATION PLAN



FINAL CONCEPTUAL MASTERPLAN



Wimberly Allison Tong & Goo
Architecture, Design, Planning and Consulting

GREAT KEPPEL ISLAND RESORT
GREAT KEPPEL ISLAND, AUSTRALIA | FINAL CONCEPTUAL MASTERPLAN | 09 AUG 2006

Figure 1.7 OPTION 6 - 2009 REVITALISATION PLAN





1.6.2 Airstrip and Marina Alternatives

1.6.2.1 Airstrip Alternatives

The ever increasing competitive nature of the tourism industry and the time pressures faced by Australian tourists means that quick and efficient accessibility to a leisure resort is essential for a resort to attract guests. In particular, with the commencement of low-cost air travel options to South-East Asia, the provision of direct air access to resorts is now more critical to Australian resorts than ever before.

Access to the island would currently involve a two-hour journey (including bus, ferry and waiting time) for guests from the nearest domestic airport at Rockhampton. In the current competitive times, this would make it extremely difficult for a new resort on the Island to appeal to the family market from outside the Region.

Another relevant consideration is the fact that the Rockhampton Airport is subject to floods. In the recent 2010/11 flood, the Rockhampton Airport was closed for approximately three weeks, which would have significant adverse economic impacts on an operating resort on the Island during a peak season.

The primary objective of the airstrip options investigation was to seek to improve the Island's accessibility by air and to ensure that air transportation is consistent with current Civil Aviation Safety Authority (CASA) standards.

The design of the airstrip by RANDL PTY Limited, evolved over two broad phases, the evolution of which is described in **Appendix R – Airstrip Options**, and summarised in the following subsections:

(a) Phase 1 – Existing Airport Upgrade

Phase 1 comprised an investigation into an upgrade of the existing runway to the applicable present day standard for current operations. The existing runway was designed to the standards of the day, but does not comply with those standards now applied by CASA Manual of Standards (MOS)².

The proposed design approach would be consistent with CASA's requirement to align all passenger transport operations with present day standards.

As each of the options under Phase 1 requires closure of the existing airstrip for the period of construction, the Island would be inaccessible by fixed wing aircraft during that phase of development. The existing airstrip can only accommodate light aircraft, not the larger aircraft as per the GKI Revitalisation Plan objectives discussed previously. Due to physical and environmental constraints the existing airstrip cannot be extended to accommodate larger aircraft.

2

Part 139 for small aeroplanes (not exceeding 5,700 kilograms maximum take-off weight) conducting air transport operations

(b) Phase 2

The Phase 2 design philosophy sought to provide direct air access to Brisbane, Cairns, Sydney, and Townsville. This would provide the Resort with the ability to greatly increase its accessibility to domestic and international tourists and allow the Resort to be genuinely competitive in the national domestic tourism market.

The primary objective for Phase 2 options was therefore to accommodate air services by larger aircraft such as the 74 seat Dash-8 Q-400 operated by QantasLink or the 68 seat ATR72 and the 104-seat Embraer 190 operated by Virgin Australia.

These types of aircraft trigger a CASA design requirement for a 30 metre wide runway with maximum one percent longitudinal grade and a maximum 1.5 percent transverse grade, located within a formed/graded 90 metre wide runway strip (as per MOS Part 139, Chapter 6), together with protection of the Obstacle Limitation Surface (OLS).

Such aircraft also trigger the provision of a 60 metre long clearway and 90 metre long runway end safety area (RESA) at each end of the runway, requiring a formation length of approximately 1,750 metres to enable the desired runway length of 1,500 metres.

(c) Airstrip Option Analysis

Table 1.8 is a matrix that provides an analysis of potential airstrip facility locations on the Island against key assessment aspects.

TABLE 1.8 AIRSTRIP FACILITY OPTION SUITABILITY MATRIX

Option No.	Assessment Aspect (✓ = suitable ✗ = unsuitable)			
	Direct Flights from Brisbane / Cairns / Sydney / Townsville	Marina Compatible	Airstrip Construction Period Access (Air)	Earthworks Contained on Site
1A	✗	✓	✗	✗
1B	✗	✓	✗	✗
2	✗	✓	✗	✗
3	✓	✓	✓	✗
4	✗	✓	✓	✓
5	✓	✓	✓	✗
6	✓	✓	✓	✗
7A	✓	✗	✓	✓
7B	✓	✓	✓	✓



Option 7B (the airstrip illustrated on **Figure 1.2** and described in detail in **Appendix R**) was selected as the preferred option as it is the only option that achieves all the objectives nominated above and the primary outcome of providing direct air access from Brisbane, Cairns, Sydney or Townsville. This option also allows for balancing of the cut and fill earthworks requirements and containing the airstrip outside of other privately owned land parcels.

1.6.2.2 Marina and Jetty Alternatives

There is currently no marina or jetty facility on the Island. Water transport is currently required to land on Fisherman's Beach during suitable tide levels to allow passengers to board and disembark. Fisherman's Beach has been historically utilised for such landing access as it is a sheltered location and is immediately adjacent to the majority of existing development.

The use of this beach and landing method has the following issues:

- the transfer of persons and supplies directly on to a beach does not provide for all-weather accessibility to the Island;
- the transfer of goods (including food, fuel and waste bins) and equipment via the Island's main tourist beach is in conflict with the beach's use for tourist/recreational activities. There are obvious safety concerns with mixing recreational activity with such commercial activities and the creation of any exclusion zone along this main beach area is problematic;
- potential for contamination to water quality due to the lack of a purpose built offloading facility;
- potential for safety risks with the ferry having to land directly on the beach amongst the family swimming spot;
- it is also recognised that the current arrangement of visitors alighting from a beached vessel onto soft sand does not provide equitable access for those not fully able; and
- the GBRMP Zoning Plan designates Fisherman's Beach as within a Conservation Park Zone.

Central Queensland currently has a significant shortage of marine facilities when compared with the rest of Queensland.

Highlighting this is the fact that there are 73 marinas located throughout Queensland, yet between Bundaberg and Mackay there are currently only two commercial marinas, situated at Rosslyn Bay and Gladstone.



(a) Potential Benefits of a Marina Versus a Jetty

A marina on the Island would represent a major component of tourism infrastructure for the Region and would complement the adjacent mainland Rosslyn Bay Marina. The construction of a jetty facility rather than a marina was investigated, however it was not considered appropriate for the Resort due to the overwhelming number of benefits provided by the marina.

The GKI Marina is forecast to have the following principal benefits over a jetty:

Social

	Marina	Jetty
• provide safe and equitable access for persons of all capabilities;	✓	✓
• provide increased amenity through provision of a greater variety of recreational options and a potential community and cultural focal point for the Island;	✓	✗
• provide an effective marine berth facility for resort tourism activities such as fishing trips, day excursions and reef trips which is currently not available on any of the islands in the southern part of the Great Barrier Reef;	✓	✗
• provide a safe harbour for boat traffic from South-East Queensland to the Whitsundays;	✓	✗
• provide a central focal point and resort activity node with restaurants, cafés and retail shops;	✓	✗
• provide berthing facilities for emergency services (e.g., Queensland Police and the State Emergency Service); and	✓	✗
• improve the opportunity for recreational boat owners from the local community to visit GKI.	✓	✓

Economic

	Marina	Jetty
• meets growing demand for recreational boat moorage;	✓	✗
• provide synergy and mutual support to the Resort and Island, through provision of a transport hub, activated by shops, restaurants and community activities, and a singular focal point for residents, visitors and the Island's workforce;	✓	✗
• contribute to the appeal and viability of all accommodation and commercial enterprises on the Island;	✓	✓
• contribute to employment during construction, and additional permanent full time, part time and casual jobs once operational; and	✓	✗
• generate additional economic activity both on the Island and elsewhere in the Region through enhancement of the provision of supplies and supporting services.	✓	✗

Environmental

	Marina	Jetty
provide improved management of water quality compared to the existing unmanaged situation with unregulated boating activities through adoption of best practice environmental management in boat cleaning, fuelling, maintenance and waste disposal;	✓	x
provide berths which are a preferred alternative to swing moorings in meeting growing demand (berths occupy significantly less area and are potentially less destructive to the seabed habitat); and	✓	x
provide an appropriate and accessible location for the proposed GKI Research and Heritage Centre.	✓	x

(b) Marina Location Options Analysis

The appropriate location for the marina has been identified as a critical element of the EIS process. International Marine Consultants (ICM) met with the EIS team on a number of occasions to understand and integrate the environmental constraints into the marina's design. Putney Beach was selected after extensive investigations and constraints mapping as the preferred location for the marina.

A review of the proposed location of the marine facility has been undertaken to determine the appropriateness of the proposed Putney Beach location (refer **Figure 1.2**) and to also consider any other potential locations which may be available on the Island. The specific aspects of the review included:

- i) coastal process and coastal engineering considerations;
- ii) environmental impacts; and
- iii) land use integration.



(b) (i) Coastal Process and Coastal Engineering Considerations

A review of coastal process and coastal engineering considerations associated with the proposed marina at Putney Beach and other potential locations on the Island was undertaken comprising the following investigations:

- wave exposure;
- tropical cyclone impacts; and
- coastal processes and dredging.

Wave Exposure

The Island is exposed to wind-waves that may be generated within the Southern GBR lagoon over fetches of 100 to 400 kilometres. Decaying swells propagating from the Coral Sea may also influence the wave climate at times in the vicinity of the Island.

Statistics on the wave climate in the vicinity of the Island can be inferred from a wave rider buoy that is deployed approximately 20 kilometres to the south-east of the Island and operated by the Queensland Department of Environment and Resource Management (DERM) (now known as DNRM). The wave rider buoy has been in place since 1996 providing a total of 14 years of record. **Figure 1.8** shows the location of the wave-rider buoy, while **Figure 1.9** displays the direction distribution of wave heights and periods from the Emu Park Wave-Rider buoy over the entire available record.

Figure 1.8 EMU PARK WAVE-RIDER BUOY LOCATION





Figure 1.9 EMU PARK WAVE-RIDER BUOY WAVE ROSES (1996-2010)

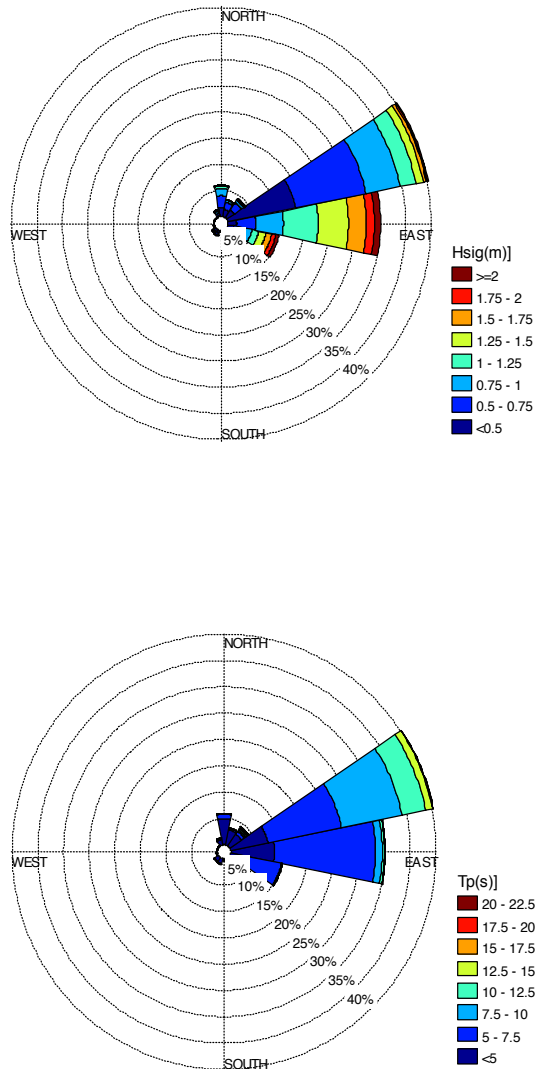


Figure 1.9 shows that prevailing south-east to north-east winds generate relatively short, five to seven second, period wind waves with significant wave heights generally less than 1.5 metres. Approximately 10 percent of the time, significant wave heights from the south-east through to north-east exceed 1.5 metres. However, **Figure 1.9** also displays the almost complete absence of waves from the west above 0.5 metres. This is due to the limited prevalence of westerly winds and the short fetches and shallow depths between the Island and the mainland to the west.



Relating this wave climate to the westerly facing Putney Beach would indicate this potential marine facility location experiences a relatively quiescent wave climate compared to other north-east through to south-easterly facing location options on the Island. The relatively quiescent wave climate on the western coastline provides the opportunity to significantly reduce the infrastructure footprint of the breakwater and/or other wave protection structures required for the facilities compared to other location options on the Island.

Tropical Cyclone Impacts

The Island is subject to tropical cyclone activity originating within the Coral Sea and the Gulf of Carpentaria. Tropical cyclone impacts could be expected at the Island on average once every four years. More frequent exposure to severe storm conditions could be expected when considering east coast low and other mid latitude disturbances.

Review of historical cyclone tracks from the Bureau of Meteorology (BOM) shows no discernible pattern of movement of cyclones in the area, with cyclones passing in the vicinity of the Island from both the landward and seaward direction and travelling both parallel to the coast and offshore.

Tropical cyclones have the potential to generate very damaging storm waves and elevated storm tide conditions and the potential impact of tropical cyclones will weigh significantly on the design of the marine facility and the breakwater footprints. **Figure 1.10** shows undesirable marine facility locations due to potential exposure to extreme cyclonic wave conditions.

Fortunately, the westerly fetch at Putney Beach is very limited at approximately 10 to 15 kilometres and depths are relatively shallow at generally less than seven metres. This will significantly limit the size of storm waves that can directly impact Putney Beach and the proposed marina site during tropical cyclones compared to other north, east and south facing marine facility location options on the Island. In addition, the probability of the westerly Putney Beach location experiencing a combination of large storm wave and elevated storm tide conditions is considered significantly lower than alternative north, east and southerly locations on the Island.

The less extreme design storm wave climate conditions expected to be experienced on the westerly facing coastline at Putney Beach will significantly reduce the infrastructure footprint of a breakwater and/or other wave protection structures required to provide safe anchorage during cyclones or other extreme weather events compared to other location options on the Island.



Figure 1.10 UNDESIRABLE MARINE FACILITY LOCATIONS DUE TO POTENTIAL EXPOSURE TO EXTREME CYCLONIC WAVE CONDITIONS



Coastal Processes and Dredging

Putney Beach is close to the end of a littoral system that terminates as the spit of accreted sand that divides Putney and Fisherman's Beach. By locating the marina close to the end of a littoral system, the risks of the facility causing changes to long sections of beaches and shorelines downdrift of the site is reduced.

The relatively quiescent wave climate experienced at Putney Beach would be expected to result in lower sediment transport rates within the littoral zone relative to other locations on the Island with greater exposure to wave action. The relatively lower rates of sediment transport in the vicinity of Putney Beach could be expected to minimise the rate of sedimentation of harbour basins or channels associated with the facilities due to wave action and therefore reduce the scale and frequency of maintenance dredging.

The Putney Beach location potentially provides the opportunity to take advantage of the accelerated tidal current conditions that occur due to the constriction between Middle Island and the Island and minimise the length of access channel required.

Refer **Appendix Z– Coastal Environment Technical Report** for further details.

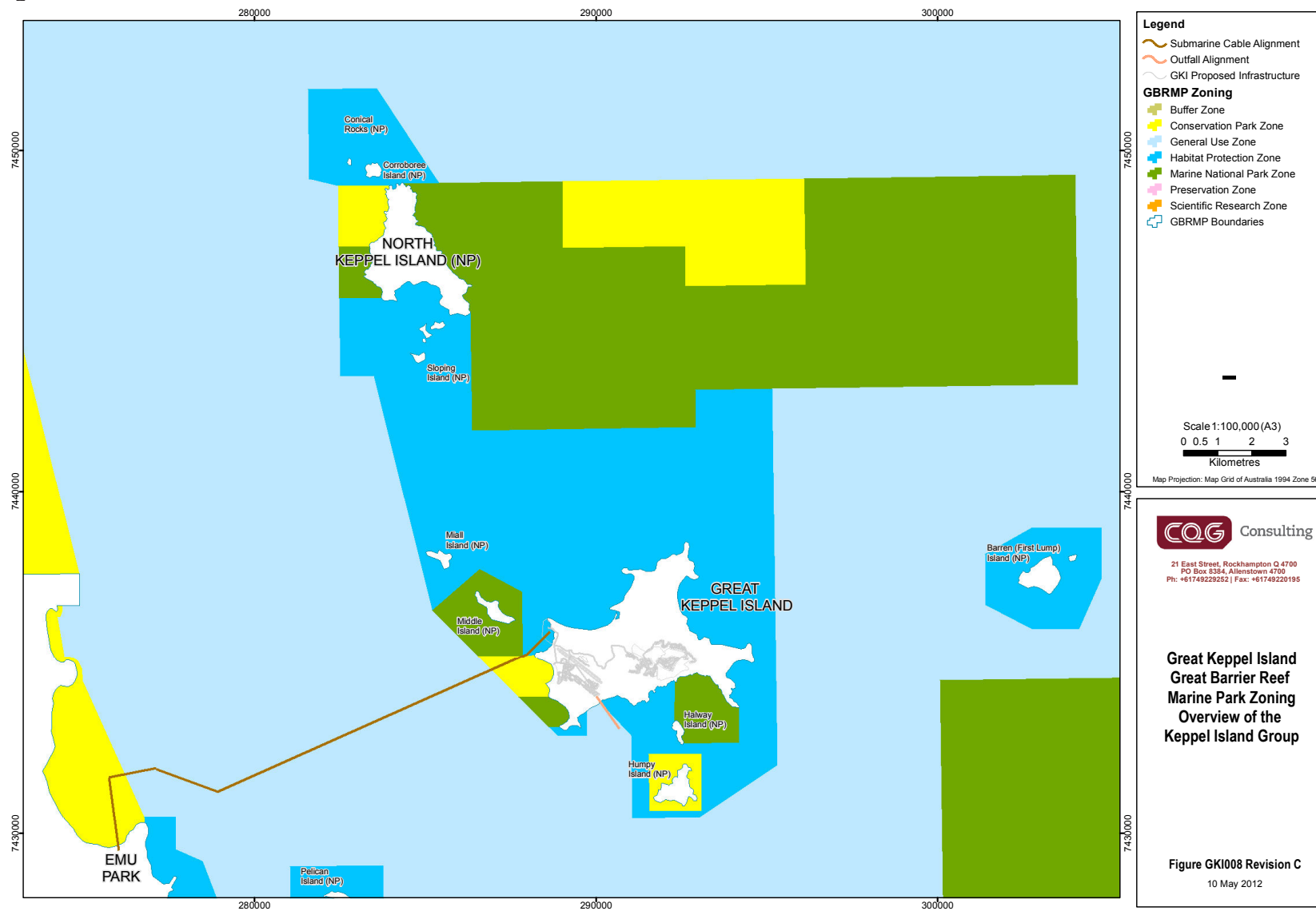


(b) (ii) *Environmental Impacts*

Figure 1.11 presents the mapped GBRMP zones surrounding the Island.

The Great Barrier Reef Marine Park Zoning Plan zones Fisherman's Beach as a Conservation Park Zone. Monkey Beach and Clam Bay on GKI and the nearby Middle Island are designated as Marine National Park and contain important coral reef areas. There is a significant wetland area behind the eastern end of Leeke's Beach. Accordingly, siting the marina is not proposed in these areas, further supporting the Putney Beach location.

Figure 1.11 GREAT BARRIER REEF MARINE PARK ZONING PLAN



Refer **Appendix W – Aquatic Ecology Technical Report** for further details.



(b) (iii) Land Use Integration

Areas in the east and north of the Island are comparatively remote both from the existing and planned concentrations of resort activity on the Island and do not have established land (road) access or easy future access available to them. Accordingly, Butterfish Bay, Wreck Beach, Little Wreck Beach, Svendsen's Beach and Red Beach (refer to **Figure 1.2**) are considered unsuitable as a marina location due to their remoteness.

Clam Beach on the southern coastline, would not be appropriate for a marina due to the very steep terrain located behind the beach. Long Beach would provide for suitable land use integration as it is within proximity to the existing resort and the terrain is accessible.

On the eastern coastline, Monkey Beach and Shelving Beach would not be appropriate for a marina due to the difficulty in providing access from the Resort to these locations.

Fisherman's Beach is well located due to its proximity to the Resort and ease of access; however, the majority of the beach frontage is currently occupied by individually owned premises and businesses which would create land use integration issues. Furthermore, Fisherman's Beach has historically been used as the main community recreational beach and the construction of a marine facility in this location would impact on this current use.

Putney Beach is well located in terms of proximity to the main resort area and requires limited new infrastructure to provide suitable integration.

(c) Marina Location Suitability Summary

Table 1.9 is a matrix that provides an analysis of potential marine facility locations on the Island against key assessment aspects (i.e. coastal engineering, environmental and land use integration matters).

TABLE 1.9 MARINE FACILITY LOCATION SUITABILITY MATRIX

GKI Coastline		Assessment Aspect (✓ = suitable ✕ = unsuitable)		
	GKI Beach	Coastal Engineering	Environmental	Land Use Integration
West	Putney	✓	✓	✓
	Fisherman's	✓	✕	✕
	Shelving	✓	✕	✕
	Monkey	✓	✕	✕
South	Long	✕	✕	✓
	Clam	✕	✕	✕
East	Red	✕	✓	✕
	Little Wreck	✕	✕	✕
	Wreck	✕	✓	✕
North	Butterfish	✕	✕	✕
	Svensen's	✕	✕	✕
	Leeke's	✕	✕	✕

The proposed marine facility at Putney Beach will be an integral and essential component of the GKI Revitalisation Plan. There are significant social and economic reasons that suitably justify the establishment of a marine services precinct on the Island.

An examination of the various coastal engineering, land use, and environmental impact considerations indicates that Putney Beach is the most suitable location for the establishment of a marine services precinct on the Island.

To minimise impact on Putney Beach and its environs, it is also considered that siting the facility at the northern end of Putney Beach against the existing headland is the most appropriate solution, particularly with regard to environmental and coastal engineering aspects.

1.6.2.3 Wastewater Alternatives

Consideration was given to several wastewater treatment options (refer to **Table 1.10**) including

- pre-treatment and pump to mainland for treatment at Council's wastewater treatment plant;
- individual on-site treatment and disposal systems;
- single wastewater treatment plant on GKI; or
- multiple wastewater treatment plants on GKI.

TABLE 1.10 WASTEWATER TREATMENT

Description/ Comment	Advantages	Disadvantages	Conclusion
Pre-treatment and pump to mainland for treatment at Council WWTP.			
- Rockhampton Regional Council has indicated their wastewater treatment and recycled water infrastructure has the capacity to accept all effluent from the GKI Revitalisation Plan. - In order to transfer wastewater approximately 16 kilometres back to the mainland for treatment, raw wastewater must be pre-treated to reduce the negative effects of hydrogen sulphide build-up due to septicity issues associated with long detention times.	- No treatment plant required on the Island. - No issues with regard to effluent disposal including contamination of groundwater, ocean discharge of effluent.	- Increased water demand needed to make up for shortfall by not reusing any recycled water produced from Island-based treated wastewater. - Increased risk of potential environmental impacts associated with accidental damage to pipeline resulting in relatively untreated wastewater discharge to the ocean. - Hydrogen sulphide corrosion of infrastructure due to the long period of time it will take for wastewater to travel from GKI to the mainland treatment plant. - Relatively high ongoing cost to GKI Resort to provide at least primary treatment and pumping as well as ongoing charges for sewerage treatment and purchase of potable water that could not be offset by reuse of recycled water use produced at Island-based WWTP. - Relatively high capital cost associated with constructing mainland pipeline connection. - Mainland connection potentially subject to damage causing disruption to supply during cyclonic events or boat anchor strike. - Does not fully reflect the self-sustainability objectives of the GKI Revitalisation Plan.	This is not a preferred option due to the potential environmental impacts of accidental discharge of untreated wastewater and the lost opportunity to reuse treated wastewater to offset non-potable water supplies on the Island.



TABLE 1.10 WASTEWATER TREATMENT (CONTINUED)

Description/ Comment	Advantages	Disadvantages	Conclusion
Individual On-Site Treatment and Disposal Systems			
• Installation of individual treatment and disposal systems for each villa with separate on-site treatment and disposal systems to service core facilities such as the Fisherman's Beach Precinct and Marine Services Precinct.	• Individual treatment would provide for easier staging of development.	• Many individual treatment units do not support the large-scale reuse of recycled water for irrigation of areas such as the golf course. • Small-scale treatment units unlikely to achieve the same high level of treatment able to be achieved by a larger scale plant. • Many individual units with relatively high level of inspection and maintenance, including pump out of septic tanks. • High risk of degradation of groundwater due to lower standard of treatment. • Requires relatively large area of land near each villa and other facilities to contain treatment and disposal infrastructure.	• This is not a preferred option due to the ongoing maintenance difficulties and costs, and the potential for water quality impacts due to lower standard of treatment.
Single WWTP on GKI			
• Installation of a single wastewater treatment plant servicing the entire GKI Resort. • Preferred location would depend on providing buffers to sensitive receivers, and considering the proximity to wastewater sources and recycled water reuse sites.	• Only one wastewater treatment plant to license, operate, maintain and monitor. • Larger treatment systems are typically more efficient than smaller treatment systems. • Less time and fewer staff required to operate a single plant as opposed to multiple plants. • Ensures consistent standard of treatment for all wastewater generated across the Island. • A single WWTP would consume less energy than multiple WWTPs.	• A single plant would require multiple, expandable treatment trains to accommodate progressive increase in flows over the 12 year construction period (Note: Two or more parallel plants enable greater operational flexibility).	• This could be and is a viable option with the preferred location of the plant to be in the Clam Bay Precinct in close proximity to the recycled water irrigation area.



TABLE 1.10 WASTEWATER TREATMENT (CONTINUED)

Description/ Comment	Advantages	Disadvantages	Conclusion
Multiple WWTPs on GKI			
Installation of two wastewater treatment plants, including: – One WWTP servicing the Fisherman's Beach and Marina Precincts - most likely located on the north-eastern side of the airstrip within the vicinity of the facilities maintenance compound; and – One WWTP servicing the Clam Bay Precinct - most likely located to the north-west of the golf course. (However, the exact location would depend on providing buffers to sensitive receivers.)	• Provides greater flexibility to support staging of the development. • Reduces the need to pump wastewater from Clam Bay Precinct to Fisherman's Beach Precinct or vice versa for treatment.	• Double the ongoing licence fees and monitoring would be required for two WWTPs. • Need to pump recycled water from Fisherman's Beach WWTP across to the Clam Bay Precinct for irrigation of the golf course. • Treatment likely to be less efficient than a single plant due to the smaller size of each individual plant. • Higher energy consumption than a single plant.	• Preferred option. However, with reuse of recycled water largely intended for the golf course, the single WWTP option is to be further considered during the design phase.



TABLE 1.10 WASTEWATER TREATMENT (CONTINUED)

Description/ Comment	Advantages	Disadvantages	Conclusion
Wastewater Treatment Plant Options			
Sludge sedimentation and stabilisation / oxidation lagoons as follows: – Grit chambers / screens to remove floating solid items and grit. Screened solids and grit disposed of at a licensed landfill facility on the mainland; – Primary sedimentation tanks with collected sludge to sludge digestion tanks, sludge removed, dewatered, dried and used for landscaping, liquid from sludge process passed to the stabilisation lagoons; – Stabilisation / oxidation lagoons for treatment of liquid from sedimentation tanks; – Effluent from the stabilisation lagoons pumped to the golf course storage pond(s).	• Robust system with minimal power requirement. • Simple technology and low maintenance. • Relatively low cost solution. • With minimal power requirement, system is not significantly affected by power outages.	• System would need to be combined with a membrane or similar filtration system and disinfection in order to achieve the required recycled water quality for unrestricted use. • Likely to require significant buffer (e.g. 500 to 800 metres) between plant and to tourist / residential facilities. • Odour may be an issue from time to time. • Requires relatively large area of land for plant.	• This option is not preferred on the basis that the treatment system is not likely to be capable of achieving the required recycled water quality.



TABLE 1.10 WASTEWATER TREATMENT (CONTINUED)

Description/ Comment	Advantages	Disadvantages	Conclusion
Sludge sedimentation and oxidation ditches: – Grit chambers / screens to remove floating solid items and grit. Screened solids and grit disposed of at a licensed landfill facility on the mainland; – Primary sedimentation tanks with collected sludge to sludge digestion tanks, sludge removed, dewatered, dried and used for landscaping, liquid from sludge process passed to the oxidation ditches; – Oxidation ditches for treatment of liquid from sedimentation tanks; – Finishing lagoons; and – Effluent from the finishing lagoons pumped to the golf course storage pond(s).	• Robust system with minimal power requirement. • Simple technology and low maintenance. • Relatively low cost solution.	• System would need to be combined with a membrane or similar filtration system and disinfection in order to achieve required recycled water quality for unrestricted use. • Likely to require significant buffer (e.g. 500 to 800 metres) between plant and to tourist facilities. • Odour may be an issue from time to time. • Requires relatively large land area for plant.	• This option is not preferred on the basis that the treatment system is not likely to be capable of achieving the required recycled water quality.



TABLE 1.10 WASTEWATER TREATMENT (CONTINUED)

Description/ Comment	Advantages	Disadvantages	Conclusion
Proprietary package treatment plants (MBR or similar): – Grit chambers / screens (within package plant) to remove floating solid items and grit. Screened solids and grit disposed of at a licensed landfill facility on the mainland; – Package plant with treatment and retention times to meet the required treatment standard for unrestricted reuse for irrigation of the golf course and ocean outfall. Note that the package treatment plants could be based on membrane bioreactor technology (MBR system) with UV disinfection after the plant. – Effluent from the package plant pumped to the golf course storage pond(s), or, when required, direct to the ocean outfall.	• Package plant capable of producing recycled water quality suitable for irrigation of golf course with unrestricted access. • Package plant capable of producing recycled water quality suitable for direct discharge via the ocean outfall. • MBR technology is well proven and capable of producing high quality effluent. • MBR type and other package plants generally have a small footprint (i.e. are compact and require minimal land area). • Odour issues are generally low to non-existent – allowing these plants to be located close to residential dwellings etc.	• Relatively higher cost than stabilisation lagoon or oxidation ditch systems above. • Relatively high maintenance requirements needing specialist skills and knowledge. • Relatively higher operating and maintenance costs than stabilisation lagoon or oxidation ditch systems above. • Require substantial power for operation.	• This is the preferred option due to the smaller footprint, proven ability to produce high quality effluent and less odour generation issues.





From these options further consideration was also given to wastewater effluent reuse and disposal (Refer to **Table 1.11**) including -

- 100 percent discharge of wastewater via ocean outfall;
- 95 percent reuse of recycled water for irrigation of golf course and other landscaped areas with 5 percent discharge of treated wastewater via ocean outfall;
- 100 percent reuse of recycled water for irrigation of golf course and other landscaped areas with emergency treated discharge; or
- Installation of non-potable water reticulation to enable use of recycled water for non-potable purposes such as toilet flushing, laundry and garden use.

The identification for a golf course as part of the Project was stimulated by the preferred option for wastewater treatment which identifies a required area for irrigation. Water treated to the standard identified (refer to **Appendix AN**) is consistent with the Municipal Use-Open spaces, sports grounds, golf courses, dust suppression etc criteria as defined under the Australian Guidelines for Water Recycling: Managing Health and Environmental Risks/Phase 1 (ANZECC, 2006). Therefore associated with the preferred environmental wastewater treatment option for the island, a golf course is the best commercial option for irrigated space.

TABLE 1.11 WASTEWATER EFFLUENT REUSE AND DISPOSAL

Description/ Comment	Advantages	Disadvantages	Conclusion
100 percent discharge of treated wastewater via ocean outfall.			
Discharge all treated wastewater to the ocean via an outfall pipeline extending from Long Beach.	- Avoids requirement for construction of large wet weather storage ponds. - Requires fewer pumps than an irrigation / non-potable water supply system or mainland return rising main.	- Increased risk of potential impacts including cumulative impacts on water quality and ecological communities near the outfall due to reliance solely on the treatment plant to achieve required water quality as opposed to additional treatment achieved through assimilation of treated wastewater by plants and soils during irrigation. - To achieve water quality objectives given volume and frequency of discharge, wastewater will require a very high level of nutrient removal, which typically involves significant energy consumption and / or use of chemical treatment processes. - Does not achieve any beneficial reuse of water or nutrients contained in treated wastewater and is therefore not consistent with sustainability objectives of the GKI Revitalisation Plan. - Increased requirement for potable water sources to be used for non-potable purposes. - Negative perception of ocean disposal by potential guests as well as within the broader community.	This option is not preferred primarily on the basis that it is inconsistent with the sustainability objectives of the GKI Revitalisation Plan, which aims to maximise beneficial reuse wastewater and due to the increased risk of environmental harm.



TABLE 1.11 WASTEWATER EFFLUENT REUSE AND DISPOSAL (CONTINUED)

Description/ Comment	Advantages	Disadvantages	Conclusion
95 percent Reuse of recycled water for irrigation of golf course and other landscaped areas with 5 percent discharge of treated wastewater via ocean outfall			
• Reuse of 95 percent of recycled water produced by an Island-based WWTP for irrigation of the golf course and other landscaped areas. • Discharge up to 5 percent of treated wastewater to the ocean via an outfall pipeline extending from Long Beach. • Assuming a 31 hectare irrigation area, this option would require a wet weather storage pond of approximately 13 megalitres plus 2.6 megalitres climate change buffer.	• Achieves 95 percent beneficial reuse of treated wastewater averaged over a 50 year period, which is consistent with DERM's (now known as DEHP) general policy for sewerage treatment plants involving effluent reuse. • Provides a controlled point of release to the ocean in the event of wet weather storage reaching capacity as opposed to possible uncontrolled release to the environment from overtopping of wet weather storage. • Requires only a relatively small wet weather storage (less land area and materials for lining) compared to irrigation schemes achieving a higher level of reuse.	• Due to the volume and frequency of discharge, subject to more detailed dispersion modelling, a greater level of nitrogen and phosphorus removal may be required compared to recycled water used for irrigation meaning multiple treatment trains could be needed. • Not considered to maximise beneficial reuse of treated wastewater in accordance with the sustainability objectives of the GKI Revitalisation Plan.	• This is not the preferred option largely on the basis that the level of reuse does not meet the sustainability objectives of the GKI Revitalisation Plan.



TABLE 1.11 WASTEWATER EFFLUENT REUSE AND DISPOSAL (CONTINUED)

Description/ Comment	Advantages	Disadvantages	Conclusion
100 percent Reuse recycled water for irrigation of golf course and other landscaped areas , with emergency discharge			
- Reuse of practically 100 percent of recycled water produced by an Island-based WWTP for irrigation of the golf course and other landscaped areas. - Discharge only in extreme weather events (i.e. 1 in 10 year event) when treated wastewater may be discharged to the ocean via an outfall pipeline extending from Long Beach. - Assuming a 31 hectare irrigation area, this option would require a wet weather storage pond of approximately 37 megalitres plus approximately 7 megalitres climate change buffer.	- Achieves practically 100 percent beneficial reuse of recycled water for irrigation of golf course and other landscaped areas. - During extreme weather events the dispersion modelling of the outfall demonstrates water quality objectives can be achieved within small mixing zone based on same standard of nutrient removal proposed for reuse by irrigation (N=20mg/L, P=7mg/L) meaning multiple treatment trains are not required. - Provides a controlled point of release to the ocean in the event of extreme weather storage reaching capacity as opposed to possible uncontrolled release to the environment from overtopping of wet-weather storage.	- A small proportion of treated wastewater potentially remains unused (i.e. less than 1 percent averaged over 50 years). - Capital costs associated with construction of irrigation infrastructure as well as outfall pipeline which will have limited use.	This is the preferred option on the basis that it achieves the maximum reuse of recycled water while providing a feasible wet weather storage, and limiting discharge to the ocean to extreme wet weather events (i.e. 1 in 10 years on average) when water quality will likely be degraded by more significant land-based pollutant sources.



TABLE 1.11 WASTEWATER EFFLUENT REUSE AND DISPOSAL (CONTINUED)

Description/ Comment	Advantages	Disadvantages	Conclusion
Installation of non-potable water reticulation to enable use of recycled water for non-potable purposes such as toilet flushing, laundry and garden use.			
Installation of a network of “third pipe” or “purple pipe” reticulation to enable recycled water to be used for non-potable internal purposes such as toilet flushing and laundry as well as external irrigation and washdown.	- Provides an alternative source of non-potable water supply to replace potable water demand for certain purposes, that is not dependent on rainfall as is the case for harvested stormwater runoff and roof water collection. - Consistent with sustainability objectives of the GKI Revitalisation Plan.	- High ongoing compliance costs associated with ongoing monitoring and reporting required for dual reticulation schemes to protect public health. - The volume of recycled water produced would achieve only limited reduction in demand for potable water supplies, given that non-potable water supply for toilet flushing, washing machines, garden watering, car and boat washdown, can also be derived from rainwater harvesting. - The availability of recycled water will be highly variable due to the fluctuating occupancies and therefore generation of wastewater effluent associated with tourist facilities, and is therefore not considered to be a sufficiently reliable source of water for these types of non-potable purposes. - Not all recycled water produced by the GKI Resort Revitalisation Plan could be reused for this purpose. As such, dual reticulation would need to be combined with an alternative reuse option such as irrigation. - Significant ground disturbance and ongoing pumping costs / energy consumption would be associated with the extensive recycled water distribution and storage system required for a dual reticulation scheme. - Achieves beneficial reuse of water component of recycled water only, not beneficial reuse of nutrients as occurs through irrigation to the golf course.	- This option is not preferred due to the high establishment and ongoing maintenance / compliance costs and the relatively small proportion of recycled water that could be used for this purpose relative to the cost of the scheme. - Note also, that the estimated quantity of effluent available can more readily and economically be used for Golf Course irrigation.





1.6.2.4 Resort Scale Option

The scale for the Resort including the Eco Resort Villas was calculated on an economic basis to allow environmental and other innovation. It was determined that the villas would generate enough economic return to justify the capital expenditure for the following pieces of infrastructure

- construction of a submarine cable to supply potable water rather than accessing groundwater supplies;
- construction of an Australian Aviation accredited runway to increase national and international visitation to the island and the region; and
- the construction of roads to allow safer passage around the island.

The Eco Resort Villas also play a critical role in the GKI Revitalisation's Plan for a carbon positive status (Refer to **Appendix AH**) by providing 89 percent of the total area required for the installation of solar panels.

1.7 The Environmental Impact Assessment Process

1.7.1 Methodology of the EIS

The objective of the Environmental Impact Assessment (EIA) process under State and Commonwealth legislation is to integrate environmental management with planning for projects and establish a process for:

- ensuring the Proponent assumes primary responsibility for protection of any environmental values that may be affected by their projects;
- addressing environmental management through the life of projects;
- forming a basis for statutory decisions on whether a project meets ecologically sustainable development principles, and if so, relevant environmental management and monitoring conditions; and
- incorporating community and stakeholder views in assessment and decision making processes.

An Initial Advice Statement (IAS) was lodged with the Office of the Coordinator-General (OCG) of the then Queensland Government Department of Infrastructure and Planning on 16 July 2009. The Project was declared to be a 'significant project for which an EIS is required' under Section 26 of the *State Development and Public Works Organisation Act 1971* (SDPWO Act) on 28 August 2009.



Projects are declared as state significant because of a number of factors including:

- potential significant environmental, economic and/or social impacts;
- the need for robust impact environmental assessment;
- the need for whole-of-government coordination to ensure effects on all aspects of the environment are considered: natural; social; economic; cultural and built; and
- to provide a framework for conducting an EIS that is acceptable to other government agencies.

Significant projects are:

- not a status awarded to project by government;
- not an indication of approval or support for the Project; and
- developments that can be refused by the Coordinator-General.

The declaration initiated the statutory environmental impact assessment process of Part 4 of the SDPWO Act, requiring the preparation of this EIS. The CG has invited relevant Australian, State and Local Government representatives and other relevant authorities to participate in the process as advisory agencies.

Following the 'significant project' declaration, a draft Terms of Reference (TOR) for an EIS was prepared and made available for public comment for a period of eight weeks, commencing on 2 October 2010 and concluding on 29 November 2010. All relevant Commonwealth, State and Local Government agencies and authorities were invited to participate in the process as advisory agencies, including a site visit to the Island. In finalising the TOR, the CG gave regard to all submissions received on the draft. The final TOR was released by the CG on 3 June 2011 and is included at **Appendix A**.

Following rejection by the Australian Government of the original design the Proponent engaged a number of specialists across Australia to develop a proposal that could be considered for assessment. The proponent and its key advisers met with officers from the Department of Environment Water, Heritage and Arts (DEWHA) (now SEWPaC) to work up a plan that had minimal impact. This process resulted in the Project's current proposed footprint.

The revised project was then referred for consideration under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) on 1 June 2010. The assessment process commenced following a determination on 4 July 2010 by the then Federal Minister for Environment Protection, Heritage and the Arts, the Hon Peter Garrett MP, that the proposed development was a "controlled action" under the provisions of the EPBC Act. The controlling provisions for the Project under the EPBC Act include:

- World Heritage properties (sections 12 and 15A);
- National Heritage places (sections 15B and 15C);
- Great Barrier Reef Marine Park (sections 24B and 24C);





- Listed threatened species and communities (sections 18 and 18A);
- Listed migratory species (sections 20 and 20A); and
- Commonwealth marine areas (sections 23 and 24A).

On the same day as the declaration, Minister Garrett determined that an EIS would be required for the Project. The EIS Guidelines identify the issues that the Australian Government requires the Proponent to address in the EIS.

Further, the Minister announced that the Project would be assessed by EIS under the EPBC Act (rather than via the bilateral agreement with the Queensland Government). The EIS process is therefore being administered in parallel by:

- the OCG on behalf of the Queensland State Government; and
- SEWPaC on behalf of the Australian Government.

The EIS process therefore addresses matters for the individual assessments of both the Queensland and Australian Governments.

As a component of the Project involves an activity that requires a permission under the *Great Barrier Reef Marine Park Regulations 1983* (GBRMP Regulations), the referral under the EPBC Act is taken to be an application under the GBRMP Regulations. A single integrated assessment will be undertaken to support decisions under both the EPBC Act and *Great Barrier Reef Marine Park Act 1975* (GBRMP Act).

Draft Australian Government EIS Guidelines for the Project (EPBC 2010/5521/GBRMPA 33652.1) were released for public comment in October 2010. Comments received from the public, government agencies and the Proponent informed the preparation of the final Australian Government EIS Guidelines which were released on 21 February 2011, (refer **Appendix B**).

The EIS has been prepared under the provisions of the SDPWO Act and the EPBC Act to address the final TOR and Federal Guidelines for the Project. Included in **Appendix C** and **Appendix D** respectively are cross-reference tables demonstrating where in this document each of the final TOR and Federal Guideline requirements have been addressed.

A public notice has been placed in relevant local and state newspapers advising where copies of the EIS are available for inspection, how the EIS can be obtained, that submissions about the EIS may be made to the (OCG and/or to SEWPaC), and the timeframe for the submission period. During this 'public notice' period, members of the public have the opportunity to make submissions about the EIS. Following the submission period, the Proponent may be required to prepare a Supplementary Report / Addendum to the EIS to address specific matters raised in submissions on the EIS.





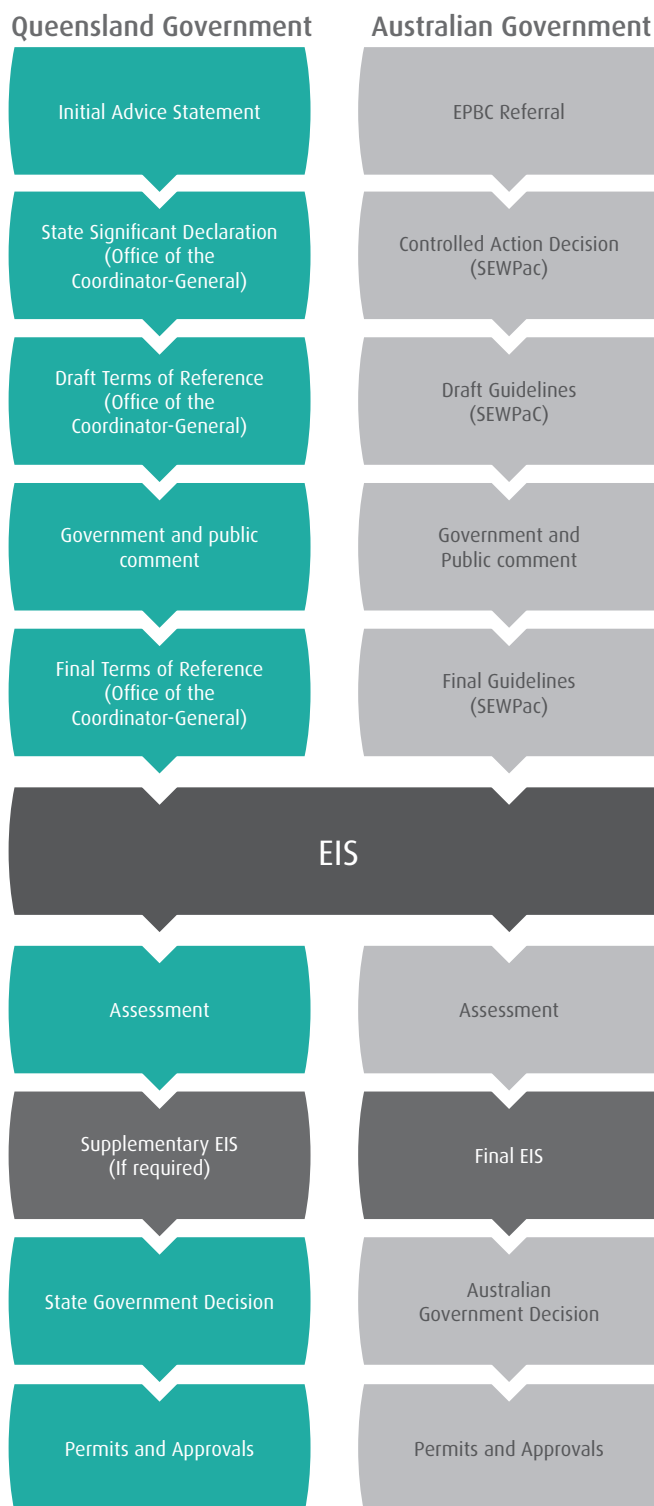
At the completion of the EIS assessment phase, the CG will prepare a report evaluating the EIS and other related material, pursuant to Section 35 of the SDPWO Act. The Federal Minister of SEWPaC will do likewise, pursuant to the EPBC Act and the GBRMP Act and Regulations. The reports will include an evaluation of the EIS and any related matters, and will reach a conclusion about the environmental effects and any associated mitigation measures. The evaluation will take into account all relevant materials including: the EIS; all properly made submissions and other submissions accepted; any other proffered materials considered relevant; comments and advice from advisory agencies; technical reports on specific components of the Project; and legal advice.

The Australian Government will provide comment on the draft EIS and require the preparation of the final EIS. An assessment will be undertaken on the final EIS to determine if the Project will be rejected or approved with conditions. Submission by the public will be conducted by all levels of government to ensure a robust, transparent process.

Figure 1.12 summarises the environmental impact assessment process of the SDPWO Act and EPBC Act under which the Project is being assessed and **Section 1.9** further explains the regulatory framework for the assessment process. It is the objective of this EIS process that the Project meets all of its legislative requirements under the State and Federal government specifically those identified under the EPBC Act and the GBRMP Act.



Figure 1.12 GKI ENVIRONMENTAL IMPACT ASSESSMENT PROCESS





In order to effectively engage with the community regarding the development of this project and in response to the statutory assessment process, the Proponent has initiated an extensive community consultation process. The public consultation process for the Project is outlined in Chapter 4 and is discussed in detail in **Appendix K**.

In addition to the requirements under the SDPWO Act and EPBC Act, the Project will require a range of development approvals under the *Environmental Protection Act 1994* (EP Act) and the *Sustainable Planning Act 2009* (SPA).

1.7.2 Objectives of the EIS

The purpose of the EIS is to provide information on the nature and extent of potential environmental, social, cultural and economic impacts (direct and indirect) arising from the construction and operation of the Project, and to provide strategies for management of these potential impacts.

The EIS process also provides:

- for decision-makers and other stakeholders, a basis for understanding the Project, the need for the Project, the alternatives, the environmental values that it may affect, and the impacts that may occur and the measures to be taken to manage those impacts;
- assistance and guidance for the detailed engineering phases of the Project in avoiding potential impacts where possible and identifying appropriate management measures for unavoidable impacts;
- an outline of the effects of the Project on the area, including access for groups or persons with rights or interests in the land;
- demonstration of how environmental impacts can be managed through the protection and enhancement of environmental values. Through the EIS process, an Environmental Management Plan (EMP) which describes strategies for the management of potential impacts that may occur during construction and operational phases of the Project;
- a framework against which decision makers can consider the environmental aspects of the Project in view of legislative and policy provisions, in order to determine if the Project can proceed or not. Also, as appropriate, the government will set conditions of approval to ensure environmentally sound development and, where required by legislation, recommend environmental management and monitoring; and
- facilitation for provision of input by stakeholders and decision-makers into the environmental management and monitoring programs.

The EIS provides a holistic assessment of the environmental, social, cultural and economic impacts (beneficial and adverse) and demonstrates strategies that may be applied to effectively manage these impacts.



The structure of the EIS which has been stipulated by the TOR and guidelines will assist with the meeting of the aforementioned objectives:

- **Executive Summary** is a stand alone document which describes the Project's potential impacts and proposed measures. It summaries the "find map" of the subsequent chapters;
- **Chapters 1 and 2** introduce the Project and Proponent and describe the Project in detail, based on information preceded by the Proponent and its engineering and design team. Including a discussion on the needs, costs, benefits, options and alternatives to the Project;
- **Chapter 3** describes the various environmental values associated with the Project site is based on data collection (including review and collation of existing information) and specialist studies conducted for the Project. The purpose of this phase is to provide a baseline from which to determine potential impacts associated with the Project. This chapter also discusses potential impacts, including impacts on MNES, applicable to the construction and operation of the Project and describes potential management/mitigation measures that may be required. The identification and quantification of potential impacts that may result from development of the Project are based on an analysis of known impacts associated with the proposed works, from previous knowledge and experience, and the characteristics of the areas to be impacted. From this analysis, potential impacts are identified and quantified, where possible, and possible mitigation strategies developed, where necessary, to minimise the potential impacts;
- **Chapter 4** describes the various social values associated with the Project and potential impacts and mitigation measures;
- **Chapter 5** describes the economic impacts and benefits of the Project, and includes a narrative on the Project's sustainability credentials;
- **Chapter 6** identifies the accidental hazards and risks reasonably associated with the Project, in particular airstrip hazards and risks. Chapter 6 also describes: the health and safety issues potentially associated with construction and operation phases of the GKI Revitalisation Plan; and emergency response planning.
- **Chapter 7** describes the cumulative impacts of the Project, both in isolation of and in the context of other projects in the Region;
- **Chapter 8** is an overview of the Environmental Management Plan that seeks to manage or mitigate all project risks for both construction and operation phases of the Project; and
- **Chapter 9 to 11** includes conclusions, recommendations, references and appendices applicable to the Project.

These chapters are to be read in conjunction with the detailed technical reports which are presented in the appendices.



1.7.3 Submissions

The EIS will be released for public review to enable the public and advisory agencies to comment on the Project. During the EIS public display period, Government agencies and the public can lodge a submission to the OCG and SEWPaC. Submissions will be accepted during both advertising periods as per the public notice.

Notification of the display centres, submission centres, submission procedures, lodgement address, deadlines and purchasing details will be advertised in the following newspapers:

- *The Morning Bulletin* (Rockhampton);
- *The Courier Mail* (Brisbane); and
- *The Weekend Australian*.

Submissions may be made to provide additional data, to correct inaccuracies, to raise issues of concern, to seek additional information, or for any other relevant reason. These submissions will be assessed by the relative State Government agency within the EIS process.

Written submissions in relation to the Queensland government assessment process and all State Government matters will be received by the Office of the Coordinator General (CG) until the date specified by the CG. Submissions should be forwarded to:

Post: Office of the Coordinator-General
Attention: EIS Project Manager
Great Keppel Island Project
Significant Projects Coordination

PO Box 15517
City East Qld 4002

Written submissions in relation to the Australian government assessment process regarding matters of National Environmental Significance will be received on behalf of the Department of SEWPaC until the date specified by the Minister. Submissions to SEWPaC should in fact be sent directly to Tower Holdings, who will then forward them onto SEWPaC. Submissions should be forwarded to:

Email: mail@towerholdings.com.au
Fax: 02 9923 1233

Post: Tower Holdings Pty Ltd
Level 32, Northpoint, 100 Miller Street,
NORTH SYDNEY
NSW 2060

During the public review period, any person may make a submission about the EIS.

A properly made submission means a submission that:

- is made to the Office of the CG or SEWPaC in writing; and
- is received on or before the last day of the submission period; and
- is signed by each person who made the submission; and
- states the name and address of each person who made the submission; and
- states the grounds of the submission and the facts and circumstances relied on in support of the grounds.

The OCG and SEWPaC will refer all accepted submissions to the Proponent to provide a response that is considered in the EIS process. Responses to submissions may identify additional environmental measures to address specific issues.

1.8 Public Consultation Process

Consultation with advisory agencies (**Photograph 1.11**), members of the public and other stakeholders has formed an integral part of the EIS process and will continue to be a fundamental part of the Project development. The community consultation process aims to ensure clear, transparent, multilateral communication regarding the Project and particularly encourages interested and affected stakeholders to engage with the Project development process. The process provides an opportunity for the Proponent to impart information to the stakeholders regarding the Project, to obtain valuable local knowledge from stakeholder groups and to respond to concerns through appropriate actions. Stakeholders are provided the opportunity to engage with the process of the Project's development, to express views and concerns and to provide feedback.

Photograph 1.11 ADVISORY AGENCY MEETING - GREAT KEPPEL ISLAND





A comprehensive consultation program commenced with the initiation of the EIS process through the development of the TOR and Guidelines for the EIS, and has continued throughout the impact assessment and EIS compilation phases. The consultation program will continue during project implementation, with key consultation activities planned for the public review of the EIS and beyond.

The objectives of the consultation program are to:

- identify the stakeholders and how their involvement will be facilitated;
- initiate and maintain open communication between stakeholders and the Proponent on all aspects of the Project and the environmental impact assessment;
- inform the different interest groups about the Project and encourage involvement in the process;
- seek an understanding of interest group concerns about the Project;
- explain the impact assessment research methodology and how public input might influence the final recommendations for the Project and incorporate that into the projects design where appropriate;
- provide an understanding of the regulatory approval process to all stakeholders;
- seek local information and input in the Project by providing a range of opportunities for stakeholders to identify key issues for consideration;
- provide the community with a sense of ownership in the Project; and
- proactively work with the community to propose recommended strategies to minimise negative impacts.

A variety of communication tools and activities have been utilised to inform and receive feedback, including meetings, newsletters, presentations, public displays, workshops, a project office, a freecall number, e-mail enquiries and a website. A summary of key communication activities from the Consultation Program is described in more detail in **Chapter 4**.

The consultation tools, activities and timings (including future planned key communication events), along with a list of the stakeholders identified/contacted are further described in the consultation plan and report in **Appendix K**.

The stakeholders identified for the Project broadly encompass (refer to **Appendix K** for a complete list):

- Island residents, businesses and landowners;
- Native Title claimants;
- Federal Government agencies;
- State Government authorities/agencies and representatives;
- local Government departments, personnel and committees;
- residents and businesses of the Capricorn Coast and Rockhampton;



- day visitors to the Island;
- industry associations, including tourism, hospitality and construction;
- recreational groups;
- conservation groups;
- community groups; and
- education and training providers and associations.

Issues identified in, and outcomes of the consultation program, were recorded and fed back into the EIS process. Mitigation and management measures proposed in the EIS were expanded to specifically address issues identified by stakeholders.

1.9 Project Approvals

The GKI Revitalisation Plan requires approvals across the three tiers of government:

- Australian Government;
- State Government; and
- Local Government (Rockhampton Regional Council).

Section 1.9 outlines the Australian Government and State Government Project approval process under the EPBC Act and SDPWO Act respectively.

1.9.1 Commonwealth Legislation

Key Commonwealth legislation applicable to the GKI Revitalisation Plan includes but is not limited to the following:-

- *Aboriginal and Torres Strait Islander Heritage Protection Act 1984;*
- *Civil Aviation Regulations 1988;*
- *Civil Aviation Safety Regulations 1998;*
- *Environment Protection and Biodiversity Conservation Act 1999;*
- *Great Barrier Reef Marine Park Act 1975; and*
- *Native Title Act 1993.*

Table 1.12 provides a broad discussion on the applicability of the listed Commonwealth legislation in the context of the Project.

TABLE 1.12 COMMONWEALTH LEGISLATION AND APPROVALS FRAMEWORK

Legislation	Decision-maker	Assessment Scope	Relevant Aspect of Project
Federal			
<i>Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (Cwth)</i>	Attorney-General's Department.	The purpose of the <i>Aboriginal and Torres Strait Islander Heritage Protection Act 1984</i> is to preserve and protect places, areas and objects in Australia and in Australian waters that are of particular significance to Aborigines in accordance with Aboriginal tradition from injury or desecration. This Act has been created to cover situations that may not be covered under State or Territory legislation.	Any aspect of the Project that may impact on areas or objects of significance to the Woppaburra People.
<i>Civil Aviation Regulations 1988 (Cwth)</i> <i>Civil Aviation Safety Regulations 1998 (Cwth)</i>	Civil Aviation Safety Authority (CASA).	This legislation gives power to the Civil Aviation Safety Authority to control the height of objects, structures, buildings and plumes which may create a hazard to aircraft.	Fisherman's Beach Precinct (airstrip).
<i>Environment Protection and Biodiversity Conservation Act 1999 (Cwth)</i>	The Commonwealth Minister for Department of Sustainability, Environment, Water, Population and Communities (SEWPaC).	The EPBC Act establishes a Commonwealth process for assessment of proposed actions that have the potential to have an impact on matters of national environmental significance or on Commonwealth land. The EPBC Act requires that actions, which have the potential to have an environmental impact on Commonwealth land, be assessed for the purpose of Commonwealth decision making. Refer Section 1.9 for further discussion.	Any aspect of the Project which is likely to impact on any of the following matters of national environmental significance (identified by the Minister for SEWPaC as relevant to their assessment):- • World Heritage properties (sections 12 and 15A); • National Heritage places (sections 15B and 15C); • Great Barrier Reef Marine Park (sections 24B and 24C); • Listed threatened species and communities (sections 18 and 18A); • Listed migratory species (sections 20 and 20A); and • Commonwealth marine areas (sections 23 and 24A).



TABLE 1.12 COMMONWEALTH LEGISLATION AND APPROVALS FRAMEWORK (CONTINUED)

Legislation	Decision-maker	Assessment Scope	Relevant Aspect of Project
<i>Great Barrier Reef Marine Park Act 1975 (Cwth)</i>	Great Barrier Reef Marine Park Authority (GBRMPA).	This Commonwealth Government legislation established the Marine Park and the GBRMPA, providing it with a framework for planning and management of the Marine Park through zoning plans, plans of management and permits. GKI lies within the GBRMP and operations in the Marine Park area adjacent to the Island are constrained by the Zoning Plan MPZ 32 – Mackay/Capricorn Management Area (refer Figure 1.11 (Section 1.6.2(2)(b)(ii)). The majority of waters surrounding GKI are included in the Habitat Protection Zone. Marine waters off Long Beach are included in the less-restrictive General Use Zone. The waters off the former resort area have been included in the Conservation Zone, while areas off Monkey Beach and Clam Bay, as well as the nearby offshore waters around Middle Island have been included in the Buffer Zone. Permits are required in the above zones for some but not all of various nominated activities. Permits would be required in all of the above zones for tourist programs. Shipping, other than in a designated shipping area, would not require a permit in the General Use Zone. Most activities, other than trawling and netting, would be permitted in the General Use, Habitat Protection and Conservation Zones. Fishing and crabbing are not permitted in the Buffer Zone. While the Zoning Plans regulate activities within the GBRMP, the Authority's policies regulate development within and adjacent to the Marine Park. Referral of an action under the EPBC Act is deemed to be an application under the GBRMP Act (refer Section 37AB, GBRMP Act).	Any aspect of the Project which is likely to impact on the GBRMP, including in particular direct marine impacts associated with development in the Marine Services Precinct. GBRMPA permits will be sought under the EPBC process for the construction of marine infrastructure (marina and berths) at Putney Beach, construction of submarine cable from Emu Park to GKI, construction of an outfall pipe on Long Beach and discharge of water from the outfall pipe during extreme wet weather events. Tourism permits will be applied for independently of this process .



TABLE 1.12 COMMONWEALTH LEGISLATION AND APPROVALS FRAMEWORK (CONTINUED)

Legislation	Decision-maker	Assessment Scope	Relevant Aspect of Project
<i>Native Title Act 1993 (Cwth)</i>	Attorney-General's Department.	<i>The Native Title Act 1993</i> which is administered by the Australian Government recognises the rights and interests over land and water by Indigenous people in Australia under their traditional laws and customs. The objects of the Act are to: • provide for the recognition and protection of native title; • establish ways in which future dealings affecting native title may proceed and to set standards for these dealings; • establish a mechanism for determining claims to native title; and • provide for, or permit, the validation of past acts and intermediate acts, invalidated because of the existence of native title.	An Indigenous Land Use Agreement may need to be signed between the Proponent and the Native Title claimants for parcels of State Unallocated Land which may be impacted by the proposed development.





1.9.2 Queensland State Government Legislation

State legislation applicable to the GKI Revitalisation Plan includes but not limited to the following:

- *Aboriginal Cultural Heritage Act 2003;*
- *Coastal Protection and Management Act 1995;*
- *Environmental Protection (Air) Policy 2008;*
- *Environmental Protection (Waste Management Policy) 2000;*
- *Environmental Protection (Waste Management) Regulation 2000;*
- *Environmental Protection (Water) Policy 2000;*
- *Environmental Protection Act 1994;*
- *Environmental Protection Regulation 2008;*
- *Fisheries Act 1994;*
- *Land Act 1994;*
- *Nature Conservation Act 1992;*
- *State Development and Public Works Organisation Act 1971;*
- *Sustainable Planning Act 2009;*
- *Transport Infrastructure Act 1994; and*
- *Transport Operations (Marine Safety) Act 1994;*
- *Vegetation Management (Regrowth Moratorium) Act 2009;*
- *Vegetation Management Act 1999;*
- *Water Act 2000; and*
- *Water Supply (Safety and Reliability) Act 2008.*

Table 1.13 provides a broad discussion on the applicability of the above listed State legislation in the context of the Project.

TABLE 1.13 STATE LEGISLATION AND APPROVALS FRAMEWORK

Legislation	Decision-maker	Assessment Scope	Relevant Aspect of Project
State			
<i>Aboriginal Cultural Heritage Act 2003 (Qld)</i>	Department of Natural Resources and Mines.	The <i>Aboriginal Cultural Heritage Act 2003</i> (ACHA) established a 'cultural heritage duty of care', which requires that a person who carries out an activity must take all reasonable and practicable measures to ensure the activity does not harm Aboriginal cultural heritage. The Act establishes a framework for the conduct of assessment of cultural heritage impact and processes to be undertaken in preparing Cultural Heritage Management Plans.	Any aspect of the Project that may impact on areas or objects of Aboriginal cultural heritage significance.
<i>Building Act 1975 (Qld)</i>	Chief Executive of Rockhampton Regional Council.	Regulation of Building Work.	All aspects of the Project that constitute building works
<i>Coastal Protection and Management Act 1995 (Qld)</i>	Department of Environment and Heritage Protection.	The principal objectives of the <i>Coastal Protection and Management Act 1995</i> are the protection, conservation, rehabilitation and management of the State's coastal resources and biodiversity by the provision, in conjunction with other legislation, of a coordinated and integrated management and administrative framework for the ecologically sustainable development of the coastal zone. Refer Section 1.9.2.1 for discussion on the Queensland Coastal Plan and Section 1.9.2.2 for discussion on the State Planning Policies.	The following aspects of the Project may trigger: - operational work that is prescribed tidal work (for development in the Marine Services Precinct and Utilities Services Corridor); - operational work that is 'tidal works' within a coastal management district (under the <i>Coastal Protection and Management Act 1995</i>) pursuant to Schedule 3, Part 1, Table 4, Item 5(a) of the <i>Sustainable Planning Regulation 2009</i> (for development in the Marine Services Precinct and Utilities Services Corridor); - operational work that is 'reclaiming land under tidal water' (under the <i>Coastal Protection and Management Act 1995</i>);



TABLE 1.13 STATE LEGISLATION AND APPROVALS FRAMEWORK (CONTINUED)

Legislation	Decision-maker	Assessment Scope	Relevant Aspect of Project
			- operational work that is 'moving or interfering with coastal dunes on land, other than State coastal land, that is in an erosion prone area as defined in the <i>Coastal Protection and Management Act</i> and above high-water mark' pursuant to Schedule 3, Part 1, Table 4, Item 5(b) (ix) of the <i>Sustainable Planning Regulation 2009</i> (for development in all Precincts and the Utilities Services Corridor); - operational work that is 'constructing or installing works in a watercourse' (under the <i>Coastal Protection and Management Act 1995</i>) pursuant to Schedule 3, Part 1, Table 4, Item 5(b) (iv) of the <i>Sustainable Planning Regulation 2009</i> (for development in all Precincts); - operational work that is 'interfering with quarry material as defined under the <i>Coastal Protection and Management Act</i> on State coastal land above high-water mark' pursuant to Schedule 3, Part 1, Table 4, Item 5(b) (i) of the <i>Sustainable Planning Regulation 2009</i> (for development in all Precincts); - operational work that is 'draining or allowing drainage or flow of water or other matter across State coastal land above high-water mark' pursuant to Schedule 3, Part 1, Table 4, Item 5(b) (iii) of the <i>Sustainable Planning Regulation 2009</i> (for development in all Precincts); and - allocation of quarry material under Section 73 of the <i>Coastal Protection and Management Act 1995</i> (for development in all precincts).



TABLE 1.13 STATE LEGISLATION AND APPROVALS FRAMEWORK (CONTINUED)

Legislation	Decision-maker	Assessment Scope	Relevant Aspect of Project
<i>Environmental Protection Act 1994 (Qld)</i>	Department of Environment and Heritage Protection.	Environmentally Relevant Activities (ERAs) required under the <i>Environmental Protection Act 1994</i> (EP Act).	The following aspects of the Project may be triggered: • ERA 16 Extractive activities – dredging (ERA 16(1)(a)) (for development in the Marine Services Precinct and Utilities Service Corridor); • ERA 16 Extractive activities – extracting other than by dredging a total of 5,000 tonnes or more of material in a year (ERA 16(1)(c)) (for development associated with the airstrip in the Fisherman's Beach Precinct); • ERA 8 – Chemical storage (associated with activities in all Precincts excluding the Environmental Protection Precinct); • ERA 63 Sewage treatment (for Sewerage Treatment Plant development and operation in the Clam Bay Precinct and Fisherman's Beach Precinct).
<i>Environmental Protection Regulation 2008 (Qld)</i>		Environmental Protection Policies (EPP) nominate criteria which developments must adhere to with the intent of protecting the environment.	
<i>Environmental Protection (Air) Policy 2008 (Qld)</i>			
<i>Environmental Protection (Noise) Policy 2008 (Qld)</i>			
<i>Environmental Protection (Water) Policy 2000 (Qld)</i>			
<i>Environmental Protection (Waste Management) Policy 2000 (Qld)</i>			
<i>Environmental Protection (Waste Management) Regulation 2000 (Qld)</i>			



TABLE 1.13 STATE LEGISLATION AND APPROVALS FRAMEWORK (CONTINUED)

Legislation	Decision-maker	Assessment Scope	Relevant Aspect of Project
<i>Fisheries Act 1994 (Qld)</i>	Department of Agriculture, Fisheries and Forestry	The main purpose of the <i>Fisheries Act 1994</i> is to provide for the use, conservation and enhancement of the community's fisheries resources and fish habitats in a way that seeks to apply and balance the principles of ecologically sustainable development; and promote ecologically sustainable development. The principal aspects of the proposed development which are likely to be affected by this legislation are development of the marina and its precinct in the inter-tidal areas, any dredging of channels for navigation and for the removal of "marine plants" from dunes and inter-tidal areas which may be necessary to construct infrastructure. Works affecting marine plants are controlled under the <i>Fisheries Act 1994</i> and by the DEHP under the Coastal Protection and Management Act. Development assessments in coastal areas are largely governed by the following policies and guidelines: • FHMOP 001 (2002) Management and Protection of Marine Plants; • FHMOP 004 (1998) Dredging, Extraction and Soil Disposal Activities; • FHMOP 005 (2002) Mitigation and Compensation for Works or Activities Causing Marine Fish Habitat Loss; • FHG 002 Restoration of Fish Habitats; and • FHG 003 Fish Habitat Buffer Zones.	Operational work for 'the removal, destruction or damage of a marine plant' (under the <i>Fisheries Act 1994</i>) pursuant to Schedule 3, Part 1, Table 4, Item 8 of the <i>Sustainable Planning Regulation 2009</i> (Marine Services Precinct and Utilities Services Corridor).



TABLE 1.13 STATE LEGISLATION AND APPROVALS FRAMEWORK (CONTINUED)

Legislation	Decision-maker	Assessment Scope	Relevant Aspect of Project
<i>Land Act 1994 (Qld)</i>	Department of Natural Resources and Mines (DNRM).	The GKI land holding contains some parcels of State-owned land leased by various parties. The <i>Land Act 1994</i> deals with the allocation of unallocated State land, including through the granting of leases. Further, any clearing of trees on State land requires permits under Part 6 of the <i>Land Act 1994</i> . Information to be provided as part of any application for a tree clearing permit includes a map delineating the area to be cleared, and/or a property vegetation management plan, as defined in Section 261 of the Act.	The following aspects of the Project may trigger the Land Act: • vegetation clearing (where on State land); • lease of State land below high water mark (Marine Services Precinct); • road closure of part of the esplanade followed by lease of this area of State land (Marine Services Precinct); • road closure in strata of part of the road reserve followed by volumetric lease of this area of State land (Fisherman's Beach Precinct (airstrip); • lease of State land below high water mark (Utilities Services Corridor); • road opening on Lot 21 on SP192569 (between Fisherman's Beach Precinct and the Clam Bay Precinct) or retain the land and treat the proposed road link as a private road within the Resort property (beyond the limit of the existing road reserve); • road Opening on Lot 1 on AP16085 (between Fisherman's Beach Precinct and the Marine Services Precinct); or apply for lease over State land for private road purposes; or obtain agreement from State Government to open public road reserve; • lease of any additional State land (Fisherman's Beach Precinct); and • evidence of Resource Entitlement for all State land involved.



TABLE 1.13 STATE LEGISLATION AND APPROVALS FRAMEWORK (CONTINUED)

Legislation	Decision-maker	Assessment Scope	Relevant Aspect of Project
<i>Local Government Act 2009 (Qld)</i>	Chief Executive of Rockhampton Regional Council.	Relevant Local Law Jurisdiction.	Approvals under the following Livingstone Shire Council Local laws may be required: • Local Law No.2 (Protection of Significant Vegetation) • Local Law No.9 (Entertainment Venues) • Local Law No.11 (Control of Signs) • Local Law No.17 (Parks and Reserves) • Local Law No.20 (Commercial Use of Roads) • Local Law No.21 (Roads) • Local Law No.27 (Swimming Pools)



TABLE 1.13 STATE LEGISLATION AND APPROVALS FRAMEWORK (CONTINUED)

Legislation	Decision-maker	Assessment Scope	Relevant Aspect of Project
<i>Nature Conservation Act 1992 (Qld)</i>	Department of Agricultural, Fisheries and Forestry .	The Nature Conservation Act 1992 (NC Act) is relevant to the Project if any species listed as Endangered, Vulnerable or Near Threatened species (or EVNT species) under the NCWR occur or are likely to occur within the Project area. The NC Act was developed as a piece of legislation to conserve nature and is administered by the Environmental Protection Agency. Under this Act a licence or permit is required for specific works in protected areas or that may affect protected species. Queensland's NC Act includes sections pertaining to the protection of wildlife and habitat conservation. The Nature Conservation (Wildlife) Regulation 2006 (NCWR) lists wildlife (including plants and animals) protected under the NC Act that are defined as: • Extinct in the wild wildlife; • Endangered wildlife; • Vulnerable wildlife; • Rare wildlife; • Least concern wildlife; • International wildlife; and • Prohibited wildlife. The NC Act is relevant to the Project if any species listed as Endangered, Vulnerable, Near Threatened or Least Concern under the NCWR occur or are likely to occur within the Project area.	Approval for the following activities may be required: • relocation of protected fauna under the NC Act; • clearing protected flora under the NC Act; and • clearing for of Least Concern flora; and • species Management Program for interfering with animal breeding places.
<i>Queensland Heritage Act 1992 (Qld)</i>	Department of Environment and Heritage Protection.	The <i>Queensland Heritage Act 1992</i> provides for the conservation of Queensland's non-aboriginal cultural heritage by protecting all places and areas on the Queensland Heritage Register.	Any aspect of the Project that may impact on the Leeke's Homestead as listed on the Queensland Heritage Register.



TABLE 1.13 STATE LEGISLATION AND APPROVALS FRAMEWORK (CONTINUED)

Legislation	Decision-maker	Assessment Scope	Relevant Aspect of Project
<i>State Development and Public Works Organisation Act 1971 (Qld)</i>	Department of State Development, Infrastructure and Planning.	The purpose of the <i>State Development and Public Works Organisation Act 1971</i> (SDPWOA) in regard to the Project is to administer the Proponent preparation and State Government assessment of the EIS. Refer Section 1.9.2 for further discussion.	All aspects of the Project.
<i>Sustainable Planning Act 2009 (Qld)</i>	Department of State Development, Infrastructure and Planning. Rockhampton Regional Council.	The <i>Sustainable Planning Act 2009</i> (SPA) provides the overall planning framework for Queensland. The purpose of SPA is to seek to achieve ecological sustainability by: Managing the process by which development takes place, including ensuring the process is accountable, effective and efficient and delivers sustainable outcomes; and Managing the effects of development on the environment, including managing the use of premises.	A development application will be lodged with the Rockhampton Regional Council, with copies of the EIS and the CG's report included as supporting information. Aspects of the Project that require Operational Works approvals under the <i>Water Act 2000</i> , <i>Fisheries Act 1994</i> , <i>Vegetation Management Act 1999</i> , <i>Environmental Protection Act 1994</i> and <i>Coastal Protection Management Act 1995</i> will be administered under SPA. Refer Section 1.9.3 for approvals required under the Livingstone Planning Scheme 2005 (Rockhampton Regional Council).
<i>Transport Infrastructure Act 1994 (Qld)</i> <i>Transport Operations (Marine Safety) Act 1994 (Qld)</i>	Department of Transport and Main Roads (DTMR): Maritime Safety Queensland.	The main objective of the <i>Transport Infrastructure Act 1994</i> is to allow the Government to have a strategic overview of the provision and operation of transport (air, land and water) infrastructure.	The following issues may impact on MSQ (Department of Transport and Main Roads) and will require prior consultation and/or approval of the Regional Harbour Master: • waterways management, particularly relating to anchoring, dredging, traffic management, and closures; • maritime infrastructure, such as the marina; • safety of navigation, particularly during the construction phase (temporary or permanent navigation aids, cable and pipe laying operations, Notices to Mariners etc); and • any increases in barge operations out of Rosslyn Bay Marina and possible impacts on commercial and recreational users, moorings etc.



TABLE 1.13 STATE LEGISLATION AND APPROVALS FRAMEWORK (CONTINUED)

Legislation	Decision-maker	Assessment Scope	Relevant Aspect of Project
<i>Vegetation Management Act 1999 (Qld)</i>	Department of Natural Resources and Mines	The purpose of the <i>Vegetation Management Act 1999</i> (VMA) is to protect endangered species and regulate the clearing of vegetation in a way that conserves remnant of concern regional ecosystems.	All aspects of the Project involving clearing of vegetation.
<i>Vegetation Management (Regrowth Moratorium) Act 2009 (Qld)</i>		Under the VMA all remnant (including Endangered, Of Concern and Not of Concern Regional Ecosystems) and all native vegetation on State land regardless of conservation status is protected. Clearing of such vegetation requires a development permit under the SPA and if clearing of Endangered or Of Concern RE, the provision of vegetation offsets may also be required in line with Department and State policies. Under the <i>Vegetation Management (Regrowth Moratorium) Act 2009</i> , clearing certain regrowth affected by the moratorium (which includes endangered regrowth in rural areas on State leasehold land) requires approval from DNRM.	



TABLE 1.13 STATE LEGISLATION AND APPROVALS FRAMEWORK (CONTINUED)

Legislation	Decision-maker	Assessment Scope	Relevant Aspect of Project
<i>Water Act 2000 (Qld)</i>	Department of Natural Resources and Mines	The <i>Water Act 2000</i> was introduced to manage water resources within Queensland. This was undertaken by establishing a system for the planning, allocation and use of water and also details a regulatory framework for the water industry. Improving the physical integrity of watercourses is a main purpose of this Act. A permit is required for destroying vegetation excavating or placing fill in a watercourse, lake or spring.	The following aspects of the Project are triggered: - operational work that is 'taking or interfering with water from a watercourse, lake or spring (other than under the <i>Water Act 2000</i>, Section 20(2), (3) or (5))' (under the <i>Water Act 2000</i>) pursuant to Schedule 3, Part 1, Table 4, Item 3(a) of the <i>Sustainable Planning Regulation 2009</i> (potential works associated with Putney Creek); 'all aspects of development for removing quarry material from a watercourse or lake' pursuant to Schedule 3, Part 1, Table 5, Item 1 of the <i>Sustainable Planning Regulation 2009</i> (potential works associated with Putney Creek); and - an allocation of quarry material under Section 280 of the <i>Water Act 2000</i> (Marine Services Precinct (if involving the esplanade).
<i>Water Supply (Safety & Reliability) Act 2008 (Qld)</i>	Department of Natural Resources and Mines	This Act relevantly regulates the provision of water services by water authorities, local governments and the owners of water infrastructure.	Where involving the taking of water from aquifers, watercourses and or water bodies for the provision of water services.





1.9.2.1 Queensland Coastal Plan

The Queensland Coastal Plan commenced on 3 February 2012 and provides direction and guidance on the management of coastal land in Queensland to achieve the objectives of the *Coastal Protection and Management Act 1995*.

The Queensland Coastal Plan replaces the State Coastal Management Plan (2001) and the Regional Coastal Management Plans.

The Queensland Coastal Plan includes State Planning Policy 3/11: Coastal Protection (SPP 3/11) which includes criteria for development assessment under the *Sustainable Planning Act 2009*.

Notwithstanding that the GKI Revitalisation Plan was declared a Significant Project prior to the commencement of SPP3/11 the following provides a summary of the key issues arising from an assessment of the proposal against SPP3/11:

- *Erosion prone areas* – Buildings or structures within the erosion prone area will be designed to withstand potential erosion of sandy substrate through coastal erosion processes or will alternatively be setback 100 metres from the shoreline. Design of essential coastal infrastructure (e.g. marina, public access infrastructure) within erosion prone areas will be designed to adapt to a 0.8 metre sea level rise by 2100 (refer to **Section 3.6**);
- *Coastal processes* – Hydrodynamic modelling simulations incorporating the marine facility were undertaken and compared to existing conditions. Construction of the marina will result in changes to the size and incident angles of waves on Putney Beach relative to existing conditions. In turn this is predicted to reduce the net sediment transport potential along Putney Beach. The impact of this change is expected to result in a reduction in the rate of shoreline recession currently being observed along Putney Beach and overtime, gradual accretion and progradation of the beach widths along Putney Beach. The relatively minor change to current speeds and directions predicted to arise from the construction of the marina are not considered to result in direct impacts requiring mitigation (refer to **Section 3.6.1**);
- *Coastal protection work* – the marine facility breakwater is the principal erosion control structure proposed to mitigate shoreline erosion hazards. Shoreline erosion management plans will also be prepared for Putney Beach and Fisherman's Beach;
- *High and medium coastal hazard areas* – The marine facility and development associated with the Fisherman's Beach Resort Precinct will in part be located within a storm tide inundation area. While the marina represents coastal-dependent development, in the Fisherman's Beach Resort Precinct the Revitalisation Plan does not propose any buildings further seaward than the current location. Further, building pad levels will be set above 3.74 metres AHD



at Putney Beach and 3.82 metres AHD at Fisherman's Beach, which comprises the projected Q100 storm surge level for 2100 accounting for projected sea level rise (refer to **Section 3.6**);

- *Nature conservation* - The proposed development areas of the Revitalisation Plan are located predominantly on the site of the former Great Keppel Island Resort and on land previously disturbed by historic grazing activities. In regard to the terrestrial environment, areas of conservation value have been avoided in the revised Revitalisation Plan as a result of a comprehensive environmental constraints mapping exercise which excluded all areas of nationally threatened ecological communities and the Leeke's Estuary from the development footprint. As much as practicable the GKI Resort Revitalisation Plan development will be located in areas of non-remnant vegetation (as verified and defined through ecological field investigations), additionally, offsets will be provided (refer to **Section 3.3.2.2** and **Appendix P**). In regard to the marine environment, construction of the marina will result in the unavoidable loss of fish habitat, and any removal of seagrass, mangrove and saltmarsh will be managed to limit the overall extent of clearing, further, offsets will be provided included offsets for permanent and temporary loss of bare substrate (refer to **Section 3.3.4.10** and **Appendix P**);
- *Scenic amenity* – The constraint-based mapping process has ensured that most of the proposed development associated with the GKI Resort Revitalisation Plan will be screened from view and separated into several discrete precincts. The main visual impact will be associated with the proposed marine facility which, although its location and built form controls (refer to **Appendix L**) will ensure it is partly-screened by Putney Point, Sand Spit and Middle Island, the built form and night-time lighting will be visible from within an arc of offshore view. All built form will be low-rise, muted in colour, set back from the shoreline and landscaped, such that other visual impacts are minor or capable of mitigation (refer to **Section 3.2.2** and **Appendix AL**);
- *Public access* - Public access to the coast will be maintained along all sections of the coastline. In the Marine Services Precinct a continuous pedestrian boardwalk or promenade is proposed around the edge of the marina and in a location which ensures functional and safe vessel access and movement. The GKI Revitalisation Plan does not propose any exclusive private access to the foreshore or beaches, except where required to ensure the functional and safe movement of vessels;
- *Maritime development and Maritime Development Areas* – The SPP requires that maritime development, including marinas, be located within a Maritime Development Area. While the proposed marina is not located within a Maritime Development Area, the Project was considered, and received its 'significant project' declaration under the now repealed State Coastal Management Plan





which did not require designation of maritime development areas pursuant to the maritime development area methodology. However, the selection of the preferred site for the marina has been based on a detailed analysis of environmental values and coastal processes, and is the most desirable location for the facility on Great Keppel Island (refer to **Section 1.6.2.2** in regard to the methodology and justification for the location of the marine facility). Further, it is considered that proposed marina and associated development site is suitable for identification as a maritime development area on the basis of the detailed assessments that have been undertaken as part of the EIS; and

- *Dredging* - dredging will be required for the construction of the marine facility basin, the marine facility approach channel and the reclamation of land and construction of the breakwater associated with the marine facility. Maintenance dredging of the entrance channel is only expected to be required at a frequency of approximately five years or greater, or following a severe tropical cyclone. A Dredge Management Plan will be prepared which will outline the proposed methods for disposal during construction and operation of the marina.

The GKI Revitalisation Plan seeks to ensure that the proposed development is sited and located to avoid impacts associated with coastal hazards and protect and manage coastal resources. While the proposed marina is not located within a Maritime Development Area, this policy did not have force and effect at the time the GKI Revitalisation Plan received its 'significant project' declaration. Further, to the extent that there is any conflict with the SPP3/11 it is noted that the proposal will constitute a development commitment under the Queensland Coastal Plan if the CG has evaluated the EIS under Part 4 of the *SDPWO Act*, and the report recommends the approval of the development (with or without conditions). In this context the development could proceed despite any conflict between the proposed development and SPP 3/11.

1.9.2.2 State Planning Policies

Table 1.14 identifies State Planning Policies (SPPs) that may be applicable to development on the Island:

TABLE 1.14 STATE PLANNING POLICY FRAMEWORK

Plan	Decision-maker	Assessment Scope	Relevant Aspect of Project
State Coastal Management Plan 2002	Department of Environment and Heritage Protection	The State Coastal Management Plan (SCMP) has the effect of a State planning policy. The Island is located within the Capricorn Coast coastal management region and is identified as within the Shoalwater Coast marine bioregion. The SCMP identifies the Keppel Islands as containing relatively high-energy sandy coasts as well as scenic rocky headlands. It is also acknowledged through the Plan that a major nature-based tourism industry exists in the Region, with specific emphasis on the area north of Yeppoon and the Keppel Islands. There is, as yet, no regional coastal plan for the Capricorn Coast however reference may be made both the 1979 Capricorn Coast Beaches report and the Curtis Coast Regional Coastal Management Plan 2003 for guidance on Queensland Government policy in this regard. The State Coastal Plan made under the <i>Coastal Protection and Management Act 1995</i> (CP & M Act), commenced in 2002 and describes how the coastal zone is to be managed as required by the CP & M Act. Policies for managing the major coastal issues are detailed under the following topics: • coastal use and development; • physical coastal processes (the effects of waves, tides, currents and coastal storms); • public access to the coast; • water quality; • Indigenous Traditional Owner cultural resources; • cultural heritage; • coastal landscapes; • conserving nature; • coordinated management; and • research and information. The State Coastal Plan provides coastal management policy direction and defines how these directions should be implemented by government, industry and the community.	All aspects of the Project.



TABLE 1.14 STATE PLANNING POLICY FRAMEWORK (CONTINUED)

Plan	Decision-maker	Assessment Scope	Relevant Aspect of Project
SPP 2/02 – Planning and Managing Development Involving Acid Sulfate Soils	Department of Environment and Heritage Protection	SPP 2/02 sets out the State’s interests concerning development involving acid sulfate soils in low-lying coastal areas and applies to all land, soil and sediment at or below 5 metres Australian Height Datum (AHD) where the natural ground level is less than 20 metres AHD.	Development in the Marine Services Precinct and Fisherman’s Beach Precinct.
SPP 1/03 – Mitigating the Adverse Impacts of Flood, Bushfire and Landslide	Department of Community Safety	The purpose of SPP 1/03 is to set out the State’s interest in ensuring that the natural hazards of flood, bushfire, and landslide are adequately considered when making decisions about development.	All aspects of the Project.
SPP 1/02 – Development in the Vicinity of Certain Airports and Aviation Facilities	Department of Transport and Main Roads	The purpose of SPP1/02 is to set out the State’s interest concerning development in the vicinity of those airports and aviation facilities considered essential for the State’s transport infrastructure or the national defence system. The SPP applies in the vicinity of those civil, military and joint-use airports and aviation facilities identified in Annex 1 of the SPP including Gladstone and Rockhampton airports, but does not apply to those airports or aviation facilities themselves.	Development in the Marine Services Precinct and Fisherman’s Beach Precinct is relevant to the efficient movement of air traffic on the Island.
SPP 4/10 – Healthy Waters	Department of Natural Resources and Mines	The purpose of SPP 4/10 is to ensure that development is designed and constructed and operated to manage stormwater and waste water in ways that protect the environmental values prescribed in the <i>Environmental Protection (Water) Policy 2009</i> .	All aspects of the Project, in particular total water cycle management on the Island (including proposed waste water treatment infrastructure).
Temporary SPP 1/11 – Protecting Wetlands of High Ecological Significance in Great Barrier Reef Catchments	Department of Environment and Heritage Protection	The purpose of Temporary SPP 1/11 is to ensure that development is designed and constructed and operated to prevent the loss or degradation of wetlands and their values, or enhance the ecological and hydrological values of wetlands.	Development in the Clam Bay Precinct, which is in the upper catchment of the Leeke’s referable wetland.





1.9.3 Local Government Approval Process

1.9.3.1 Integrated Development Approvals

The SDPWO Act recognises the need for high level public notification and consultation and the desire to avoid duplication in relation to the assessment process for significant development projects. In this regard the framework of the SDPWO Act integrates the EIS process with the Integrated Development Assessment System (IDAS) pursuant to the SPA. Therefore, the CG may make recommendations about other approvals required for the Project under the SPA, and may state conditions to be attached to the approvals under the SPA. The public notification period under the EIS Part 1 is taken to fulfil the referral and notification stages for certain development applications under the SPA. This means that separate public notification under the SPA will not be required.

The associated assessment of the development approval is to be conducted under the IDAS pursuant to Queensland's SPA, with some exceptions.

The GKI Revitalisation Plan involves 'development' pursuant to Chapter 1, Part 3 of the SPA, as it constitutes a material change of use of premises, as well as associated operational works.

Given the anticipated construction period for the Project (staged over 12 years) and the complexity of the GKI Revitalisation Plan a Material Change of Use Preliminary Approval overriding the *Livingstone Planning Scheme 2005* pursuant to Section 242 of the SPA is necessary to give guidance to the assessment of future individual development applications that will realise the GKI Revitalisation Plan. A preliminary approval may comprise a 'Plan of Development' which may vary the effect of the Planning Scheme by specifying:-

- exceptions to the type of development that may take place within the Great Keppel Island Resort Plan of Development Area; and
- codes (including new codes) which form part of the common material against which subsequent development applications within the Great Keppel Island Resort Plan of Development Area will be assessed.

The proposed Great Keppel Island Resort Revitalisation Plan of Development is provided at **Appendix N** and comprises:-

- Map 1 – Precinct Plan that organises the Plan of Development area into four precincts:
 - Clam Bay Precinct;
 - Environmental Protection Precinct;
 - Fisherman's Beach Precinct; and
 - Marine Services Precinct.





- Map 2 – Development Parameters Plan that identifies elements pertaining to the type and location of development;
- a purpose statement and overall outcomes for precincts;
- tables of assessment which alter the level of assessment of development; and
- a Place Code which provides additional and/or overriding assessment provisions for development within the Great Keppel Island Plan of Development area.

A Material Change of Use Preliminary Approval pursuant to Section 242 of the SPA does not authorise development to be undertaken, but establishes a development assessment framework for all development triggered by the Tables of Assessment contained within the Great Keppel Island Resort Plan of Development. Accordingly, future development applications for material change of use and operational works development permits will be required.

The following provisions of Section 37 of the SDPWO Act will apply to progress of the Project under SPA, namely:

- the information and referral stage and the notification stage of the IDAS do not apply to the application;
- there are no referral agencies under the SPA for the application;
- a properly made submission about the EIS is taken to be a properly made submission about the application under the IDAS;
- the CG's report is taken to be a concurrent agency response for the application under the IDAS; and
- the CG may exercise any power of an entity that but for Section 37 would have been the concurrent agency for the application.

The evaluation report on the Proponent's EIS by the CG is effectively a whole of government response, at the level of a concurrence agency under the SPA. The EIS process is taken as fulfilling the requirements under the information and referral stage and notification stage of the IDAS.

The decision stage of IDAS for the application does not start until the Office of the CG gives the Proponent a copy of the CG's report.

Section 39 of the SDPWO Act provides for the application of the CG's report to the IDAS process. However, the CG does not have power to direct that the application to be approved.

A development application for material change of use will be lodged with the Rockhampton Regional Council, with copies of the EIS and the CG's report included in supporting information.

The appeal rights conferred in Chapter 4 of the IPA will continue to apply to the decision of the Rockhampton Regional Council including the time periods for starting an appeal.



1.9.3.2 Livingstone Shire Planning Scheme 2005 – Living for Lifestyle

GKI is included within the Comprehensive Development Zone of the Livingstone Shire Council IPA Planning Scheme 2005 (The Planning Scheme), which applies to that part of the Rockhampton Regional Council area located in the former Livingstone Shire. All areas within the Comprehensive Development Zone are subject to a detailed Structure Map and locality code; in this case these are the Great Keppel Island Structure Map and the Great Keppel Island Code. The Structure Map allocates the Island into specific land uses which include Accommodation and Associated Facilities, Village Commercial, Conservation, and Aquifer.

Section (b) of the table of development for the Comprehensive Development Zone specifies the levels of assessment for various uses on the Island. Uses that are nominated in Column 2 of the Great Keppel Island Schedule (Section 3.20(3)) are

- Self assessable if in the precinct nominated in Column 1 of the Great Keppel Island Schedule corresponding to the purpose nominated in Column 2 of the Great Keppel Island Schedule;
- Code assessable if not impact assessable or if nominated as self assessable but are unable to comply with the applicable self assessment solutions or the nominated circumstance for self assessment; and
- Impact assessable if:
 - comprising buildings or structures higher than 7.5 metres above ground level; or
 - not for a particular use nominated in Column 2 of the Great Keppel Island Schedule in Section 3.20(3).

The Great Keppel Island Schedule is quite specific in the uses it lists, and relates to the Great Keppel Island Structure Map. This map identifies only a small part of the Island as being within precincts where development can take place as self or code assessable development. As such, a large component of the proposed GKI Revitalisation Plan will be classified as *Impact Assessable*.

The following Planning Scheme Codes are applicable to Great Keppel Island:

- Great Keppel Island Code; and
- Natural Features Code:
 - Protected Features Special Management Area;
 - Erosion Prone Special Management Area;
 - Acid Sulfate Soils Special Management Area;
 - Steep Land Special Management Area;
 - Wetland Special Management Area; and
 - Storm Tide Hazard Special Management Area.