

# **SUPPLEMENTARY ENVIRONMENTAL IMPACT STATEMENT REPORT**

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## SUPPLEMENTARY EIS REPORT

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## 1 DEFINITIONS

In this Supplementary Environmental Impact Statement (SEIS) Report unless otherwise provided or unless the subject matter is inconsistent therewith the expressions following (whether appearing with or without capital letters) shall have the meanings hereinafter respectively assigned to them.

“**ARC**” means Architectural Review Committee;

“**CBD**” means the Central Business District of Townsville;

“**BICA**” means the Breakwater Island Casino Agreement Amendment Act 2006;

“**CEMP**” means Construction Environmental Plan;

“**CMS**” means Community Management Scheme;

“**Council**” means Townsville City Council;

“**Development**” means mixed used development proposed to be developed directly opposite the Port of Townsville and adjacent to the existing Jupiters Townsville Hotel and Casino Complex, which upon completion will consist of:

- A cruise ship terminal (TOT);
- An integrated residential waterfront development known as Breakwater Cove, consisting of:
  - 200 detached dwelling sites with access to private marina berths;
  - Approximately 500 units (multiple dwellings);
  - 460 marina berths of which 10 will be able to accommodate ‘super yachts’;
  - Approximately 1,500m<sup>2</sup> of retail and commercial space;

“**DEWHA**” means the Federal Department of the Environment, Water, Heritage and the Arts;

“**DIP**” means the Department of Infrastructure and Planning;

“**DMR**” means the Department of Main Roads;

“**DNRW**” means the Department of Natural Resources and Water;

“**DPI&F**” means the Department of Primary Industries and Fisheries;

“**DSTE**” means the Design Storm Tide Event;

“**EIS**” - means Environmental Impact Statement;

“**EPA**” means the Environmental Protection Agency;

“**ERA**” - means Environmentally Relevant Activity;

“**Ergon**” means electricity provider Ergon Energy;

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“**ESD**” means Environmental Sustainable Development;

“**Executive Summary**” means the original Executive Summary document in the EIS document and any schedules, appendices or attachments;

“**FDA**” means the Future Development Area defined in the BICA;

“**IPA**” means Integrated Planning Act;

“**Port**” means the Port of Townsville;

“**PPA**” means Port Protection Agreement;

“**PPC**” means Port Protection Codes;

“**Preferred Developer**” means TABCORP/Consolidated Properties;

“**Proponent**” means City Pacific Limited;

“**TOT Project**” means the proposed Townsville Ocean Terminal and associated Development including Breakwater Cove;

“**SCL**” means Surplus Casino Land;

“**SEIS**” means Supplementary Environmental Impact Statement;

“**State**” means the State Government of Queensland.

“**TEC**” means Townsville Entertainment and Convention Centre;

“**TCC**” means Townsville City Council;

“**TMBYC**” means Townsville Motor Boat Yacht Club;

“**TPA**” means Townsville Port Authority;

“**TSP**” means Total Suspended Particulate; and

“**TOT**” means the proposed Townsville Ocean Terminal and associated Development;

## 2 BACKGROUND

The Townsville Ocean Terminal EIS public notification period concluded on Friday 1 February 2008.

One Hundred and Forty One (141) submissions were received during the public notification period from individuals, Stakeholders and Government Agencies.

The bulk of these submissions related to the temporary bridge and were submissions mostly from members of the Townsville Motor Boat Yacht Club. A breakdown of the submissions is set out below:

- 93 submissions (66%) from TMBYC members relating to the temporary bridge.
- 34 submissions from the public either individuals or associations, businesses or community groups.
- 14 submissions from the Port, the City and State Agencies. These represent the most comprehensive submissions.

On 13 March 2008, the Proponent received correspondence from the Queensland Department of Infrastructure and Planning (DIP), requesting that a Supplementary EIS be prepared addressing all relevant matters raised by the TPA, the TCC, DEWHA and the State Agencies. The primary purpose of this report is to satisfy that request. The list of matters canvassed in this report mirror the list provided by the State.

The SEIS consists of an Executive Summary which is Part A of Volume 1, this SEIS Report which is Part B of Volume 1, a Submitters Issues Matrix is provided in Volume 1 of the Supplementary EIS, Part C and encapsulates the profile of relevant key issues raised, an updated FDA Scheme at Part D and an updated Port Protection Strategy at Part E.

Volume 2 of the Supplementary EIS comprises a suite of Expert Reports which address these key issues.

### 2.1 Environmental Relevant Activities

The full suite of ERA's required by the project was canvassed in the preparation of the EIS and the list is duplicated below and is considered appropriate. If, as the construction methodology is further refined, other Environmental Authorities are required then the relevant approvals will be sought.

Activity	ERA No.	Description
Dredging	19	Capital dredging will be required within residential canals, access channels and the ocean terminal berth pocket to create the required depths for navigational access and maintenance dredging will be required to maintain these depths.
Stockpiling, loading or unloading goods in bulk	74	Loading and unloading of bulk provisions for cruise and naval vessels will be undertaken at the ocean terminal.
Marina	73	Marina berths will be provided within the Breakwater Cove precinct for marine vessels. Approval will be required for each marina containing more than 20 berths, including where appropriate sewerage disposal for vessels utilising the marina.

Port	71	The ocean terminal will provide a designated berth for cruise ships and naval vessels. It is expected that this new area will be added to the existing Townsville Port Authority designated area.
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## 2.2 Coastal Management District

The Proponent acknowledges that the FDA is in a Coastal Management District under the Coastal Protection and Management Act and as such the EPA is a concurrent agency for all development.

## 2.3 Developer Commitments

During the course of the development of the Masterplan, the preparation of the EIS and SEIS and the many discussions with a range of stakeholders, the Proponent has committed to do a number of things in relation to the development of the TOT Project. A list of these commitments is set out in Appendix One of this report.

The Proponent acknowledges that this list is still to be finalised during the approvals process with the Coordinator General and relevant agencies.

As an example, infrastructure charges are accepted in principle, however a formal agreement on infrastructure charges will be settled with the Council as part of the normal development process.

## 3 PROJECT NEED AND ALTERNATIVES

### 3.1 Compatibility with the Port of Townsville

Overall consideration of Port Compatibility is provided in the Transpac Consulting Report: Port Compatibility (Appendix A31 in Volume 2). This report reviews data presented in the original EIS and integrates the detailed findings from additional technical assessments undertaken in relation to air quality impacts, acoustic emissions and overpressure risks. The report also considers the historical record of residential complaints about the Port – particularly on environmental related matters. Finally, detailed case studies of Australian ports and those of Singapore and Auckland were undertaken, to assess the nature of port-residential interface issues that are being addressed elsewhere and how these other jurisdictions are responding to the associated challenges.

Key findings from these technical assessments are presented below. The overall conclusions are that:

#### 3.1.1 Complaints

- The Port is an important economic contributor to the region, and concerns about proposed development that could adversely impact on the Port's viability going forward is understandable.
- Recent historical data on residential complaints to and about the Port indicate that they have been extremely low in number. Given expected levels of emissions, it is not anticipated that there is likely to be a dramatic increase in either the number or the nature of complaints emanating from Breakwater Cove residents. Such risks can be further mitigated by managing residential expectations as well as by providing aggregating processes via the PPA to manage how complaints are processed and responded to.
  - The most comprehensive dataset, namely that presented in Townsville Port Authority/Port of Townsville Annual Reports, records 217 complaints in total between 2001/02 and 2006/07 at an annual average of 36 complaints. The most number of



recorded complaints (61) were for 'dust, noise and vehicles' with a peak of 23 in 2003/04, followed by 40 complaints over the period in relation to 'boat ramps'.

- Additional data provided by TPA (originally reported in the Economic Impact Assessment Report) indicated that 84 complaints have been made since 2001 about amenity issues. Of these, 51 were from residents of South Townsville and 8 were from residents to the west of Ross Creek, i.e., those closest to the FDA site and to the Port. Of those from the western side of Ross Creek, 3 related to noise, 2 to rubbish and one each related to trees growing near their land, light from a research vehicle and black dust.
- An analysis of the data shows an annual average of 0.54 environmental nuisance complaints per 1,000 persons for the population of South Townsville, Castle Hill/North Ward, Townsville CBD, Belgian Gardens/Rowes Bay, West End and Railway Estate.
- Complaints, no matter how small in number, are inevitable and will need to be managed by minimising the likelihood of irrational and emotional responses through monitoring and information dissemination, awareness raising and ongoing public relations. The proposed complaints management processes embedded in the PPA will also go towards minimising the impact of complaints on day-to-day Port operations and resourcing.

### 3.1.2 Specific Emissions

- In terms of specific emission impacts, the assessments found that:
  - Air quality impacts in terms of nuisance dust and metals content are currently within acceptable criteria and are expected to remain so.
  - Similarly, noise impacts emanating from the Port are also within acceptable criteria and are expected to remain within acceptable criteria with the exception of noise caused by ships' horns and the loading and unloading of motor vehicles. These two latter cases are infrequent in nature, and design-based performance-driven mitigations have been proposed as part of the PPA and the Codes to achieve acceptable internal performance levels within dwellings.
  - Odour from live cattle exports and other trades may continue to cause nuisance. The low frequency of live cattle loading activity is expected to cause few complaints, as per current complaint rates.

Refer to the Air Quality Reports at Appendices A1 - A5 in Volume 2.

### 3.1.3 Overpressure

- An assessment of the consequences of overpressures has been undertaken by Lloyds Register and Hyder Consulting. This analysis reviewed the Port explosive limits and outlines the consequences of explosive overpressure at the Port on surrounding areas and uses including the proposed Townsville Ocean Terminal Project.
- The report initially formed the view that the existing limits created a risk to public safety in terms of AS3846. This was reviewed with the Department of Mines and Energy (DME). DME provided comments on the interpretation of the Australian Standard and the application of risk in establishing the limits which are acknowledged and accepted by the consultants.
- The clarification by the Chief Inspector resolves any overpressure issues for the Townsville Ocean Terminal.

- Refer to reports entitled “Explosive Overpressure - Situational Analysis” and “Supplementary Advice on AN + Class 1 Explosives (Lloyds Register) at Appendix A17 in Volume 2.

#### 3.1.4 Case Studies

- The challenges of the port-residential interface are common throughout Australia. The case studies confirm the existence of diversity of experiences and approaches to interface issues. The experiences are idiosyncratic. There is simply no single ‘right or wrong’ model or a ‘one size fits all’ approach. There is certainly no clearly applied policy of a 1000m - 2000m buffer zone in Queensland or Australian ports. In all cases, challenges of port-residential interface have confronted all stakeholders. The imperatives have been informed by a recognition of:
  - Economic importance of each of the ports;
  - The economic and social importance of residential development on waterfronts, which draws from extensive international experiences that point to the strategic significance of waterfront development for sustained city prosperity (Urban Land Institute, 2004); and
  - The need to manage the interface and ultimately negotiate and re-negotiate the co-existence of different neighbours;
- The distances between port and residential activities vary considerably across the areas that were examined, ranging from as little as ~200m in Sydney and up to ~850m at Port of Botany. Typical distances tend to be between 600-800m;
- The direction of interface varies across the case studies, as do the nature and extent of the interface issues. These are, in turn dependent on a range of factors surrounding the nature of port activity, the geography of the port and layout of existing facilities which contribute to the ports ability to minimise interface issues and the extent and location of land available for redevelopment;
- The response of the ports and how they manage their interfaces and impacts is reasonably consistent across all ports, in the sense that all the port authorities and management bodies recognise the importance of community engagement. What does differ appears to be the extent to which the port is prepared to work with communities to identify issues and to minimise or mitigate the impacts; and
- Ultimately, as the case studies indicate, all interface management outcomes are what can be described as ‘negotiated settlements’ that effectively balance the needs, expectations and interests of different parties, and that the balance achieved is not static but a constant ‘work in progress’.
- A menu of responses has been developed in different jurisdictions, revolving around core themes such as:
  - Establishing and sustaining communication protocols between neighbours to effectively ‘manage expectations’ and where possible enlist all stakeholders into a shared future;
    - A number of port operators appear to have taken a proactive approach to managing their activities and inter-relationships with their neighbours – including residents. This approach is based on a recognition that residential renewal in and around older ‘industrial’ areas is a contemporary reality of urban re-settlement patterns, and co-existence with old and new neighbours requires new approaches to responsible corporate behaviour;

- Developing 'appropriate' buffer zones and strategies. It can be noted that what constitutes an 'appropriate' buffer depends very much on the specific circumstances of the port-residential interface issues in question; and
- Design based mitigation measures, at both source and at receptor. Again, the specific permutations of these measures are dependent on the particular circumstances in question.

### 3.1.5 Emissions associated with Port Operations

The contention that the Port is a noisy, dusty, smelly and dangerous industrial location beside which residential development would be inappropriate is not borne out by the facts either from monitoring, modelling or a review of complaints by existing residents in close proximity to the Port.

Consistent with the Port's excellent record of improving its environmental management of the Port over many years, these amenity impacts are with very few exceptions, within acceptable ranges for residential development.

Notwithstanding that, it is recommended and accepted by the Proponent that further monitoring is undertaken in close co-operation with the Port so as to provide feedback to the Port to assist it in its ongoing and excellent programme of environmental improvement. In addition, the regular monitoring which would be combined with the Port monitoring process would provide the Body Corporate with a clear record of the actual affects of noise, dust, etc., both to inform buyers and residents of impacts and with which it will be able to alleviate many of the concerns of its residents.

Updated descriptions of the potential for nuisance, health and amenity impacts with the proposed Breakwater Cove precinct associated with existing and future predicted emissions from the Port are covered in the following Expert Reports (Volume 2):

Predicted acoustic and air quality (including odour and dust fall out) within the FDA are specifically covered in:

- Appendices A1 – A5 - Air Quality Reports
- Appendix A6 - Acoustics/Noise Reports
- Appendix A8 - Review of Construction Issues
- Appendix A11 - Water Quality Management during Construction
- Appendix A12 - Operational Dredging Impacts on Water Quality

Lighting emissions from the Port have been reviewed by consultants. The opinion is that the light sources could be better shaded and directed but were consistent with light levels from street lights in a suburban setting.

The issue of Electro Magnetic Radiation (EMR) has been further considered. The technical consideration was hampered by the lack of access by consultants to US Navy data on the subject. As a consequence, Admiral R Natter US Navy Retired (R Natter & Associates) was commissioned to investigate this and other relevant matters directly with the US Navy. Refer to the report by Admiral R Natter US Navy Retired (R Natter & Associates) at Appendix A23 in Volume 2. Admiral Natter concludes that the only radar operated while US Navy vessels are in port is the ship's navigation system which is similar to commercial ships. There is consequently no danger to people in the area.

### 3.1.6 Health and Social Impacts

Further descriptions of the analysis of the risks and hazards to people and property in the proposed Breakwater Cove precinct to determine if location of the residential development is appropriate in relation to existing and proposed Port activities is covered in the following Expert Reports (Volume 2):

- Appendix A5 Metals Emissions Report
- Appendix A17 Explosives Overpressure at Townsville Port Report and Supplementary Advice on AN + Class 1 Explosives Report

These reports specifically cover fire and explosions and the potential for heavy metals in the dust fall out from the Port.

Sleep disturbance range (30 – 35 dBA) will be taken into account in the development of the Port Protection Codes.

### 3.1.7 Economic Impacts

A number of submissions raised concerns about the potential for higher environmental compliance costs for the Port and/or port users as a result of the project. These concerns have been assessed in detail in a number of the expert reports. Specifically, the Transpac Consulting Report: Port Compatibility – especially Sections 2.3 and 2.4 (Appendix A31 in Volume 2) and the Transpac Consulting Report: Potential Economic Impacts (Brought Forward Costs) (Appendix A28 in Volume 2).

These assessments conclude that the risk of higher environmental compliance costs for either the Port or port users is extremely low as a result of the project. Such risks relate particularly to the potential for future residential complaints to escalate, resulting in the need for the Port or users to incur costs to improve environmental performance outcomes and/or a change in the relevant regulatory, legislative or licensing standards that govern environmental performance requirements.

As noted above, the assessment of historic complaints and estimates of potential risk of residential complaints from future residents indicates that the risk is extremely low. Further, such risks are to be managed through a range of mechanisms embedded in the PPA including disclosures of potential impacts to future residents as well as a complaints management method that sees any residential complaints being channelled via the Body Corporate (rather than direct to the Port).

Future expansion activities at the Port – either undertaken by the Port or port users – are likely to be driven by market conditions and the commercial merits of the investment. It should be noted that all Port capital investments in excess of \$2m require notification to shareholding Ministers, and investments of greater than \$5m require Shareholding Ministerial approval. These approvals will be provided on the basis of the commercial merit of the proposed investment, taking into account the potential of the investment to enhance shareholder value.

Under these circumstances, the overall assessment is that the likelihood of higher environmental compliance costs for either the Port or port users as a result of the project is considered to be low.

Consideration has also been given to the potential costs to the Port in managing complaints, administering the PPA etc.

Proximity of substantial residential development where clearly the EIS and supplementary report show that the amenity impacts from the Port are relatively benign and the infrequent exceedances can be adequately mitigated. The EIS and Supplementary have clearly demonstrated that the amenity impacts from the current and future operations of the Port would not be significantly problematic. Administrative cost increases in managing complaints are unlikely to be significant. Estimates of these are presented in Transpac Consulting Report: Port Compatibility at Appendix A31 in Volume 2.

In addition, the potential costs of administering the PPA – particularly in terms of the proposed Architectural Review Committee processes – were examined. The assessment indicated that the costs to the Port, including the costs of independent consulting services, would be relatively low and that these costs could readily be recovered through the provision of an ‘application fee’ regime for potential homeowners. In effect, a cost-neutral model is feasible for the ARC.

### 3.1.8 Mitigation

The actual mitigation measures will be determined at the time of drafting the Port Protection Codes (PPC). What is clear from the various investigations to date is that the external emissions that need to be mitigated are not extraordinary.

The potential for the Deeds of Covenant and Release to not be novated over time to subsequent buyers is the only potential loss of effectiveness. The probability of this occurring is extremely low given the fact that the seller of a property would remain liable to the Port even after having sold the property and that under the CMS the Body Corporate manager will notify the buyer (and the seller) of the need to novate the Deed. It is also noted that the effectiveness of the PPA does not depend on the Deed and will still maintain robust measures without the Deed in the unlikely event that the novation was missed.

From discussions with the State, a detailed approach in developing the criteria for meeting internal noise criteria is to be dealt with in the formulation of the Port Protection Codes.

## 4 DESCRIPTION OF THE PROJECT

### 4.1 Ecological Sustainable Development

The Proponent wants to work with Council to ensure this development becomes a model for ESD principles in Townsville and has commissioned an Environmental Consultant to provide some direction - refer to the report at Appendix A20 in Volume 2. Refer also to the acoustic expert report and the specific comments in relation to acoustic design, ESD, lifestyle and cost. (Appendices A6 and A20 in Volume 2.)

### 4.2 Concept Masterplan

The updated draft FDA Scheme is provided in Volume 1, Part D. The FDA Scheme will be finalised with input from State Agencies and Council prior to its assessment by the State and if approved, its implementation.

In discussions with the State it has been agreed that this will be thoroughly workshopped with the relevant State Agencies and the TCC once the EIS process is complete.

An updated version of the Port Protection Strategy is provided in Volume 1, Part E.

### 4.3 Construction

#### 4.3.1 Construction Methodology and Sequencing

During the construction of the development, the existing Breakwater Marina Channel will be cut off for craft accessing the marina. A temporary channel to the west of the existing alignment is proposed. This has been investigated by Flanagan Consulting Group (FCG) and the channel depth surveyed and the depth is considered to be adequate. Refer to the FCG report at Appendix A12 in Volume 2.

In addition, there are a number of reports by FCG reviewing and amplifying the construction methodology and sequence.

Refer to the suite of FCG reports at Appendices A7 – A12 in Volume 2.

#### 4.3.2 Material Extraction and Delivery

The important issue of sourcing and moving the material required for the project to the site includes an analysis of a variety of haulage options. The option to use a temporary bridge across Ross Creek has been supplemented by an alternative for the crossing of using a barge.

Refer to the revised bridge design at Appendix A19 in Volume 2 and the commentary in the FCG report at Appendices A7 and A8 in Volume 2.

The post project construction traffic has been modelled and is not expected to be a problem. The 700 dwellings to be constructed in the completed development will be spread over approximately 20 years. Allowing a construction period of 2 years per dwelling, 50 to 100 dwellings would be under construction at any one point in time. This is the current construction rate at Mariners Peninsula and is considered manageable. It is expected that Council will be seeking a construction traffic management plan for the large multiple dwelling developments from the builders when building works occur.

## 5 ENVIRONMENTAL VALUES AND MANAGEMENT OF IMPACTS

### 5.1 Land Use Suitability

Hyder Consulting Group has investigated the potential for salt leaching and the risk of corrosion and advise that:

*"All concrete structures as part of building shall be designed and constructed in accordance with AS3600 -2001 Concrete Structures, which stipulated minimum requirements for reinforcement steel cover and concrete mix design to cater for a wide variety of soils conditions including saline or aggressive soils."* (Reference: Hyder Consulting - email of 12 May 2008 3.31pm).

### 5.2 Traffic and Transport

#### 5.2.1 Existing Transport Infrastructure

The existing non-port waterway traffic in Ross Creek has been surveyed and vessel movements are confirmed to be low.

Refer to FCG report on Maritime Traffic Impacts at Appendix A7 in Volume 2.

In addition, traffic counts of Boundary Road were confirmed to be low.

Refer to the Traffic report and updated traffic models at Appendix A21 in Volume 2.

### 5.2.2 Potential Impacts and Mitigation Measures – Land Based Transport

The analysis of impacts on State controlled and local government controlled road networks has been updated. This analysis has compared the projected traffic situation with and without the Project and it has taken into account comments from TCC and DMR. The analysis has also considered cumulative increases from other approved developments and presents peak hour traffic volumes.

Refer to the Traffic report and updated traffic models at Appendix A21 in Volume 2.

The matter of fuel tankers for cruise or military ships has been considered.

Refer to the Admiral R Natter US Navy Retired (R Natter & Associates) report at Appendix A23 in Volume 2, for commentary on fuel tankers for military ships. It is noted that the State is considering the viability of adding a fuel line to the terminal as a variation to the terminal design.

In relation to the impact of construction traffic likely to occur after the initial reclamation and operational works, the post project construction traffic has been considered and it will not cause undue congestion. It is expected that Council will be seeking a construction traffic management plan for the large multiple dwelling developments.

Any impact on existing land based transport infrastructure will be discussed with the relevant asset owner with regard to accelerated pavement damage and an appropriate package agreed prior to construction. An estimate of predicted pavement impacts has been included in the FCG report at Appendix A8 in Volume 2.

The TCC has a policy on providing the infrastructure to allow for public transport to access all new developments. As a consequence, the roads have been designed to comply with this TCC requirement. In addition to public transport going to the Ocean Terminal the road layout within the development will accommodate buses to the round-a-bout on the northern breakwater with a bus stop adjacent to the park. Another bus stop is planned adjacent to the marina precinct.

### 5.2.3 Potential Impacts and Mitigation Measures - Marine Transport

The impact of the development on marine transport has been considered afresh in this Supplementary EIS. This has included any modifications required to the Port infrastructure, including beacons and markers, ship to ship interaction relative to ships in the Ocean Terminal, impacts of construction activities on non-port waterway traffic, the operation of the temporary bridge, and the potential for the project to increase the demand for public boat launching facilities. These matters were extensively discussed with the Regional Harbour Master and all issues can be and will be satisfactorily dealt with.

Refer to the FCG reports at Appendices A7, A11 and A12 in Volume 2.

In addition, in the supplementary review any constraints to maritime traffic and navigation have been considered. With the changes to the temporary bridge operating plan the Regional Harbour Master was satisfied that there would be no significant constraint to maritime traffic.

Refer to the report by Admiral R Natter US Navy Retired (R Natter & Associates) at Appendix A23 in Volume 2.



### 5.3 Non-Transport Infrastructure

The augmentation of existing water and sewerage infrastructure has been considered. This was the subject of much discussion with TCC. An independent review of the existing water and sewerage infrastructure to service the development and the TCC commissioned report by Maunsell has been undertaken.

Refer to the report by UDP Consulting at Appendix A22 in Volume 2.

The augmentation of the existing infrastructure is manageable and similar to that required in other new developments.

### 5.4 Coastal Environment

#### 5.4.1 State Coastal Plan

In response to a request for clarification, the Project's consistency with the relevant policies of the State Coastal Management Plan 2001 has been considered in the context of the provisions of the BICA legislation. In particular, the policies relating to port compatibility and residential use have been specifically addressed.

- The State Coastal Management Plan (Coastal Plan) was developed under the Coastal Protection and Management Act 1995 (Coastal Act).
- The Coastal Plan is a policy and therefore sub-ordinate to the Coastal Act which is made by the legislature. It has in law the same status as a policy under the Integrated Planning Act 1997. The Coastal Plan calls up a number of policies.
- Policies typically exist to assist delegated decision makers in the exercise of their discretion. Non-compliance with a Policy is not fatal to an administrative process but does suggest that more consideration is required before an approval should be given.
- Policy 2.1.1 seeks to ensure that strategic gateway sites are not adversely impacted upon by future neighbouring developments. The EIS and the Supplementary EIS material makes it clear that the Port will not be adversely impacted by the TOT and Breakwater Cove.
- It will be broader community expectations and environmental regulations which will ultimately shape the future operation of the Port rather than the residents of Breakwater Cove.
- The investigations conducted as part of the EIS and the investigations to compile the Supplementary Material establish that the emissions from the Port are generally within acceptable standards and that only when there are peak exceedances that the residents of Breakwater Cove will need to access the mitigation tools to screen out the Port's emissions.
- Buffers or separation distances that are mandatory for hazardous materials have been considered in a report by Hyder Consulting and Lloyds Register which can be found at Appendix A17 in Volume 2. This report shows that existing workplaces and residences in or close to the Port are at risk under the current policies and licences. Any risk relating to the FDA is much the same.
- The range of Port Protection Measures outlined in the EIS and in the revised Port Protection Strategy (at Part E of Volume 1) will ensure the operations of the Port are not impacted by the TOT Project.



- It is also noted that any Coastal Policy would be sub-ordinate to express legislation such as the BICA. The BICA legislation put in place administrative processes for the development of the Townsville Breakwater including the FDA. The 2006 amendment confirmed the status of the FDA and introduced particular measures for its development assessment.

In legal terms the relationship between specific and general legal principles is described by the acronym “specialia generalibus derogant” or specific words modify general words. The provisions of the BICA would therefore modify any conflicting Coastal Policy. Notwithstanding this, the EIS and the SEIS have included studies to show that residential uses are not incompatible with the continuing operation and expansion of the Port.

The studies into noise, dust, odour and explosive and fire hazards in the EIS and Expert Reports in this SEIS (refer Appendices A1 - A5, A6 and A17 in Volume 2) show that the environmental impacts of the Port in relation to these issues is within acceptable limits for the majority of the time. The reports identify a small range of exceptions of noise and odour impacts. It is only for these impacts that the Port Protection Agreement and the related building codes are required. These instances include:

- loading of scrap metal;
- loading of cars;
- ships’ horns; and
- loading live cattle.

The Port Protection Measures mitigate both the effect of these impacts as well as define the process of residents’ complaints. The measures assume in general that the Port will continue to operate within acceptable environmental limits and in accordance with its ERA permits.

The risk assessment has been undertaken considering the results of the various studies and the likelihood and consequences were determined from these results. In addition it was not considered that the demographic mix of the new resident population would in any way increase the risk of action or complaint against the Port. Indeed the opposite may be true. From an analysis of the complaints received by the Port and the EPA, it is clear that even though complaints are very low (84 over 7 years relating to noise, dust and odour) the majority of these were from the South Townsville area rather than that of the residential precinct at the eastern end of the Strand and around the Breakwater Marina, particularly on the eastern side.

It is clear from the study results that residents will be able to enjoy the North Queensland outdoor lifestyle for the majority of the time with the occasional need, at their discretion, to move indoors at those infrequent occasions when an impact is uncomfortable. To a degree, the climatic conditions in Townsville in the summer months have led to a high incidence of air conditioned living. Breakwater Cove’s compatibility with the Port however in no way relies on this fact. It is clear that the Proponent is not pushing the concept that for Breakwater Cove to be compatible with the Port, residents will need to be sealed away for the majority of time in their dwellings. The very opposite is true as the amenity impacts from the Port are according to the studies, not significant and are consistent with comparable urban living environments.

In addition to this point a large number of the residents are located no nearer than other existing residences and occupants in the area. This issue is also relevant in relation to distances from hazards such as fires and explosives. The closest developments to the Port are the existing TEC and South Townsville houses.

#### 5.4.2 Dredging

Expanding on the studies in the EIS, the supplementary studies have further considered monitoring triggers for water quality. These studies have also included siltation rates compared to those in the Port, rehandling of dredge spoil for disposal on land, access to disposal sites, a discussion of offshore disposal of dredged material and water quality issues surrounding dredging including the monitoring and management of water quality during dredge operations. Dredging during the construction phase will be limited and any material from maintenance dredging during the operation phase will be dewatered within the FDA before disposal to land fill.

Refer to the FCG reports at Appendices A11 and A12 in Volume 2

#### 5.4.3 Water Quality

An assessment of the potential threats to the water quality and sediment quality within the surrounding waters has been made associated with the construction and operation of the development. This assessment has included:

- Nutrients in sediment and waters of the development site.
- The potential intersection with groundwater during deep excavation.
- Ammonia in groundwater.
- Stormwater runoff from developed areas, including dust contamination and nutrient “spikes” from landscaping activities.
- Interaction of stormwater flows with existing stormwater drainage ie TEC, Casino, SCL.
- Provide a presentation of residence time in artificial waterways, including the existing Breakwater Marina.
- Provide more detail on the susceptibility to algal blooms in the artificial waterways, including an operational response plan for algal blooms.
- Elevated turbidity during early stages of construction caused by placement of quarry material and breakwater construction.
- Description of the dewatering operations, size of ponds, criteria for release to receiving waters. Discuss impacts of high rainfall events on dewatering operations.
- Where discharge waters are predicted to have poorer quality than the receiving waters, plume modelling and an assessment of the potential impacts on adjacent fisheries habitats (i.e. seagrass beds) is required.

In regard to the interaction of stormwater runoff from developed areas, including dust contamination and nutrient spikes from landscape activities, the Proponent proposes that the design of stormwater drainage systems within the reclaimed land forms will be based on the principles of interception and treatment of “first flush” runoff using state of the art water quality technology and systems. Design of landforms will be such that runoff from lots will fall towards roadways for capture in primary drainage systems for interception and treatment prior to discharge. Primary drainage systems will be based on minimising catchment size and interception of “first flush” runoff prior to discharge using proprietary interception devices to collect gross pollutants such as trash, litter, organic matter, transported sediments and hydrocarbons. Following treatment in Gross Pollutant Traps, first flush runoff can be diverted to small wetlands in landscape features upstream of primary outlets to remove soluble pollutants such as nutrients from fertilisers, detergents and heavy metals from roadways. Full details of the design strategy for the protection of water quality and minimisation of point source pollutants will be detailed in the Operational Works Submission which will be subject to approval by Townsville City Council

Water Quality impacts during construction of the buildings on the reclaimed land forms will be controlled by requirements for Erosion and Sediment Control plans for each individual building site which will require diversion of uncontaminated flows away from disturbed areas, minimising concentration of flows to prevent erosion and sediment transport, interception of flows to remove gross pollution and sediments and progressive rehabilitation of disturbed areas. The Erosion and Sediment Control strategy will be subject to approval by Townsville City Council as part of the Operational Works Approval process.

In regard to interaction of stormwater flows with existing stormwater drainage from TEC, Casino and SCL, the Proponent proposes the stormwater drainage and water quality systems in the FDA will be independent from and will not interact with existing stormwater drainage systems with the TEC, Casino and SCL areas. Where works within the FDA compromise existing outlets, stormwater systems will be extended and incorporated into the FDA stormwater drainage regime. Consequently, the FDA stormwater quality strategy will be implemented via the installation of gross pollutant traps/inception devices and first flush diversion to wetlands for removal of soluble pollutants.

A comprehensive Stormwater Quality Management Plan will be prepared as part of the Operational Works Approval process which will deal with the stormwater quality management for the FDA and any external catchments/drainage networks which are impacted by the FDA works.

A programme to determine the baseline water quality at the site and of nearby sensitive receptors has been agreed with the EPA. Works is scheduled to begin in August. This and all of the other items above have been investigated and are adequately addressed and resolved in the two primary engineering consultant reports.

Refer to the FCG reports at Appendices A11 and A12 in Volume 2 and the Hyder Consulting report at Appendix A13 in Volume 2

#### 5.4.4 Coastal Engineering

The storm buffer provided by the existing beaches has been reassessed in light of the change to predicted beach alignment. The impact is not considered to be significant.

Refer to the report by Coastal Engineering Solutions (CES) at Appendix A24 in Volume 2.

In this SEIS the potential impact of extreme events such as cyclones has been reconsidered. This has included the appropriate DSTE, climate change, the risk and cost of repairs to the protecting works if any, the mitigation of extreme wave overlapping and the threat that this poses for people and property. In addition the questions of the potential for long waves has been reviewed and discussed.

The 100 year ARI is consistent with other developments in the Breakwater precinct approved by TCC and EPA.

This is covered in the CES report at Appendix A24 in Volume 2.

Also refer to the independent analysis by FCG in their report on Climate Change at Appendix A10 in Volume 2.

The only likely area which could require reconstruction works as a result of storm damage is the park area on the northern breakwater - no private property damage would be incurred.

The need for such works will be influenced by the DSTE. This is discussed in the supplementary report by CES at Appendix A24 in Volume 2.

## **5.5 Noise and Vibration**

The assessment of offsite noise and vibration has been considered in light of the increase in road transportation required for this project and it is considered manageable. The noise on the road network is a small part of the current noise of the network except for a higher concentration at the eastern end of the Strand. The effects are manageable and the alternative barge option for moving trucks across Ross Creek largely removes this impact.

Refer to the Acoustics/Noise report by Ron Rumble at Appendix A6 in Volume 2.

## **5.6 Nature Conservation**

### **5.6.1 Terrestrial Fauna**

The incidence of fauna in the area has been reviewed and updated. This includes a description of the use of the area by migratory and nomadic birds, fish and terrestrial fauna. This study also considers the nature of breakwaters as habitat for species listed under the Nature Conservation Act 1992 and the EPBC Act 1999. The temporary removal of fauna from the FDA during the construction phase is not expected to cause habitat problems.

Refer to the Draft Nature Conservation report at Appendix A14 in Volume 2, including internal Appendix B - Avifauna report

### **5.6.2 Aquatic Biology and Fisheries**

The nature and extent of existing seagrass with the FDA site has been thoroughly investigated. The report also considered a revised seagrass monitoring programme and the management of trapped fish and mammals during the initial pump out activity.

Refer to the Draft Nature Conservation Report (Appendix 14 in Volume 2) and Internal Appendix A on Marine Habitat Mapping.

The seagrass mapped is relatively sparse with seagrass overall covering 30.5% of the site. Seagrass densities were low in the project site. All seagrass will be removed with the draining and excavation work on the site.

Preliminary discussions were held with DPIF on offsets. It was agreed that further discussion will be required once further detailed seagrass mapping is completed in the full growth season in November. A meeting will be arranged for January 2009.

### 5.6.3 Dolphins, Dugongs and Turtles

An updated impact assessment on dolphins, dugongs and turtles has been undertaken for the FDA site and ramifications within Cleveland Bay. This analysis includes an assessment of habitat loss, noise impacts particularly due to piling, and the risk of boat strikes and then set out proposed mitigation measures and potential monitoring where relevant.

The assessment determined that the development will not substantially impact the ecosystem as core feeding areas are some distance away from the site. Critical habitat for the relevant marine mammals is not located within the impact area of the TOT project. It was concluded that the effects of construction and operation of the development are unlikely to have significant consequences for dolphins, dugongs or other marine mammals.

For marine mammals (dolphins, dugongs, and marine turtles) refer to Appendix A35 in Volume 2.

## 5.7 Social

An updated report was prepared on the impacts on people who live, recreate, travel along, or work near the areas affected by the Project for both the construction and operation phases of the development. This considered the submissions received on the EIS, stakeholder meetings, responses to the project team via the free-call number together with further consultation during this supplementary phase. The social impacts scorecard has been updated.

A number of submissions raised issues that related to the social impacts of the project. As such, the social impact assessment was updated. Please refer to the Transpac Consulting Report: Updated Social Impact Assessment (Incorporating a Revised Social Impact Scorecard) at Appendix A30 in Volume 2.

Submissions raised a number of issues, including:

1. The community survey and the adequacy of its methodology and accuracy of results; and
2. The impact of the temporary bridge on residents and upstream users of Ross Creek (including the TMBYC)

### 5.7.1 Community Survey

A review was undertaken of the statistical analysis and sampling issues associated with the original community survey. A revised analysis of data, which weights the results to reflect the distribution of the population in Townsville and Thuringowa is presented in the Transpac Consulting Report: Community Survey Sampling Related Issues at Appendix A27 in Volume 2. This review found that:

- The weighted results on attitudes towards the integrated development and its component elements are well within the maximum margin of sampling error at 95% confidence (+/-4.8%) estimated for the survey, with weighted results differing by an average ~1%; and
- On all key attitudinal questions, the re-weighted analysis confirms the overall assessment presented in the original research report. On this basis, the Consultants remain confident that the results as originally presented (as well as the weighted findings) are a fair and accurate reflection of community sentiments at the time the survey was undertaken (July 2007).

A peer review of the community survey was also undertaken by Enhance Management (Appendix A34 in Volume 2) and confirms that the original methodology was robust and consistent with industry practice and that the revised weighted results are appropriate.

#### 5.7.2 Townsville Motor Boat Yacht Club

Of the 141 submissions received, the TMBYC through its members made up 93 of the submissions (approximately 66%). The TMBYC raised specific concerns as follows:

1. The potential for the proposed temporary bridge across Ross Creek to become a permanent bridge;
2. The impact of the 100m exclusion zone around navy ships on recreational boat traffic and usage of Ross Creek and access of same;
3. A range of general safety concerns relating to the operation of the proposed temporary bridge;
4. Noise impacts of haulage trucks on the TMBYC; and
5. Financial impacts on TMBYC including loss of trade and devaluation of marina berths.

These issues are assessed in detail in the Transpac Consulting Report: Issues Raised by the TMBYC (Appendix A29 in Volume 2). This assessment concluded that:

- Townsville City Council's present policy is for the construction of a permanent bridge across Ross Creek, in response to emerging traffic congestion issues at critical intersections such as that at the corner of Flinders Street East and Denham Street. Whether such a crossing proceeds is a matter for Council. The proposed development is not the trigger for such a crossing;
- Advice from the US Navy and the Acting Harbour Master indicates that the proposed 100m exclusion zone does not pose insurmountable or unmitigatable barriers to civilian vessel access to Ross Creek. It is a preferred guideline only; and
- The proposed temporary bridge – on the basis of the operational regime that prioritises maritime traffic – is unlikely to have any significant and certainly no long lasting adverse impacts upon the value of TMBYC berths and facilities. It should be noted that the temporary bridge will be dismantled after completion of project construction, estimated at 3 years;

As an alternative, a barge option to carry trucks across Ross Creek has been considered by the project Proponent, which would effectively avoid any concerns about the impact of a temporary bridge structure on creek access.

This alternative to the temporary bridge across Ross Creek involves barging the trucks back and forth across the creek to the site. Discussions with the Port and the Regional Harbour Master have confirmed that this option is possible and two barge landing ramp locations have been identified with them and design work has been undertaken to show that the options are viable. The barging option has an advantage over the bridge in that noise on the Strand and Sir Leslie Thiess Drive is minimised.

As for potential noise impacts, the TMBYC Clubhouse is approximately 430m from the bridge. Use of the bridge will only be in daytime and therefore background noise levels will be high. In addition, the bridge surface will be treated with noise reduction material.

### 5.7.3 Updated Social Impact Assessment

The conclusions of the updated social impact assessment remain fundamentally unaltered from those arrived at originally in the two Social Impact Assessment volumes after the original extensive investigations in response to the Terms of Reference. Specifically, the conclusion is that on the whole the project delivers significant long-term social benefits to the City and the region and meets an identified demand for the type of high quality residential opportunities that are being contemplated within Breakwater Cove; and that adverse social impacts are limited in both scale and duration, and are amenable to mitigation.

Indeed, in light of recent commentary in relation to (a) the adverse reputation impacts of not being able to accept cruise ship visitors except via an industrial arrivals area and (b) the significant difficulties of the region in attracting highly trained medical specialists, professionals and para-professionals, the proposed residential precinct will enhance the City's reputation as being conducive to tourist development and visitations, and competitiveness in attracting and retaining such skilled workers.

On this basis, the following is an updated Social Impacts Scorecard. The Scorecard is presented as it was originally shown at Page 2:2 of the EIS, with additional comments or observations shown in *Italics*.

**Table 1: Social Impact Scorecard**

Anticipated Positive Impacts	Potential Adverse Impacts*
<p>Enhanced public amenity on the new breakwater in the form of public open space and continuation of the Strand via the new pier.</p> <p>Additionally the extended northern pier is conceived with dedicated fishing opportunities for recreational angling usage.</p> <p><i>In response to feedback from the State, we are advised the extent to which dedicated fishing piers can be created along the northern pier will require further detailed consideration.</i></p>	<p>Potential adverse amenity impacts on existing nearby residents during construction, particularly residents living at #1, 3 and 7 The Strand and on Sir Leslie Thiess Drive who will be impacted by increased traffic movement resulting from material haulage to the project site. This involves some 120 dwellings.</p> <p><i>Given the results of the traffic evaluations, we would anticipate that the potential impacts of haulage along the original preferred route (involving a temporary bridge across Ross Creek) are amenable to effective mitigations, which would be detailed at the appropriate operational approval stages.</i></p> <p><i>Such mitigations would include establishing a robust community communication programme to ensure impacted residents are fully aware of traffic movements and planned traffic movements and construction events, bridge surface treatments etc. However, this anticipation would require validation via more detailed assessments from an acoustics engineer.</i></p> <p><i>A new alternative has been raised during the post EIS period, namely the possible use of a vehicle barge to transport loaded and unloaded trucks across Ross Creek without the need for a bridge structure. This option would effectively obviate the potential impacts on nearby residents, as well as upstream users of Ross Creek.</i></p>



Anticipated Positive Impacts	Potential Adverse Impacts*
<p>The project is expected to result in enhanced public perceptions of Townsville as a mature, dynamic and progressive city.</p> <p>The community survey confirms that the majority of greater Townsville residents are favourable towards the proposed development and its impact on the city's reputation and residents' 'sense of place'.</p>	<p>Future Breakwater Cove residents' amenity may be impacted due to proximity to operating Port. In particular noise and odour impacts arising from port activities may impact these residents.</p> <p>Anticipated noise impacts are expected to be within acceptable limits or can be mitigated within the design of the dwelling. Odour impacts, particularly during movement of live cattle, are expected but can be mitigated to some extent through appropriate building design.</p> <p>Odour and noise impacts are also expected to be seasonally variable given changes to prevailing wind directions.</p> <p><i>Both noise and odour impacts are capable of mitigation through appropriate Codes associated with the Port Protection Measures.</i></p> <p><i>Future Breakwater Cove residents' amenity may be impacted by proximity to the Port, in particular in terms of nuisance dust. The air quality assessment found that anticipated nuisance dust impacts would be within acceptable EPA criteria for nuisance.</i></p>
<p>Reinforces public perceptions of Townsville as a tropical, relaxed maritime city.</p>	<p>Future Breakwater Cove residents' amenity may be impacted by proximity to the Ocean Terminal. The main source of impact will be noise associated with docked vessels. These impacts are capable of being mitigated.</p>
<p>Employment created by the project – both during construction and future operations – is expected to enhance lifestyles of residents into the future.</p>	<p>Public access to the existing Breakwater will be prohibited during the project's 3-year construction period.</p>
<p>The project can potentially improve Townsville's reputation as a desirable residential destination and contribute the city's competitiveness in attracting and retaining skilled workers.</p> <p><i>The importance of this to the ongoing competitiveness of Townsville has been reinforced through recent public commentary on the challenges faced by the local hospital in recruiting key personnel. High quality accommodation options in Townsville can only assist the city in being an attractive place to live (and work). This finding is consistent with a vast body of international literature that identifies the various factors that go toward enhancing a city's competitiveness to highly trained, mobile (global) workers.</i></p>	
<p>Additional Oceanside and marina residential opportunities are expected to meet evident needs and aspirations for this kind of 'active' residential lifestyle environment.</p>	
<p>The project is consistent with the values shared by the majority of greater Townsville residents of sustained economic opportunity and security for the region into the future.</p> <p><i>Providing employment opportunities in the construction and building sectors – at a time when the national economy is experiencing some contraction – can assist</i></p>	



## Anticipated Positive Impacts

## Potential Adverse Impacts\*

*local families mitigate the potential adverse effects of increased loan rates and cost of living.*

### 5.8 Economy

#### 5.8.1 Rental Accommodation

In the supplementary study, the potential for there to be a shortage of rental accommodation for construction workers was investigated.

A number of submissions raised issues about the potential shortage of rental accommodation for the construction workforce, and the possible need for mitigations. This issue has been assessed in detail in Transpac Consulting Report: Impact of Project Construction Workforce on Accommodation in Townsville-Thuringowa Region at Appendix A26 in Volume 2. The analysis concludes that there is sufficient short-term accommodation capacity in the region to support the needs of the temporary construction workforce at peak construction periods.

#### 5.8.2 Cost Benefit Analysis

In light of submissions and subsequent updated impact assessment information, the project has updated the cost benefit analysis. This update has looked at the consequences of the preferred material haulage route, the economic impacts on the Port and port users, environmental offsets and the demand on infrastructure and services.

The updated assessment is contained in Transpac Consulting Report: Cost Benefit Analysis (CBA) at Appendix A33 in Volume 3. The updated CBA concluded as follows:

- The project clearly delivers significant net public benefits, at little direct cost to the public. The vast majority of the project's capital and operational costs are internalised within the development itself, and risks associated with these are largely borne by the Proponent. As we understand, the State's contribution to capital costs associated with the ocean terminal has been capped under the terms agreed under the Development Agreement, and represent a minority contribution to the overall capital costs of the project.
- Further, the project will be required to make fair and equitable contributions towards a range of services and infrastructure costs that are to be levied through local government development charges. The affect of this approach, which is typical of all major development projects, is a project-pays methodology whereby the public is not exposed to costs that it would otherwise not have been responsible for.
- More specifically:
  - The base case assessment indicates that the overall project delivers a positive NPV at 7 years. At 8% discount rate, a positive NPV is achieved after 12 years. This is not an unreasonable time horizon for a project of this nature.
  - It should, however, be noted that much of the project cost is borne not by the public but by the project Proponent. The assessment indicates that the net external benefit of the project is in the order of \$12.8m realised in 7 years commencing from project construction. In NPV terms, the external benefit of the project is \$8.9m over the 7 year horizon.

- Additionally:
  - The assessment has not identified any specific avoided costs;
  - The assessment has not identified any cost savings, that is measurable reductions in existing levels of expenditure if a project proceeds; and
  - The assessment has not specifically estimated the potential impacts on revenues, but it would be fair to indicate that the increased economic activity is likely to feed into increases in State revenues either directly (e.g. stamp duties on land transactions) or indirectly (e.g. via GST revenues accrued from consumption expenditure).

In summary, a broad range of benefits to consumers and to the community as a whole have been identified, and these have been quantified to the extent that the Input-Output modelling showed significant annual value added and employment impacts should the project proceed.

## 5.9 Hazard and Risk

### 5.9.1 Risk Assessment

The risk analysis included in the EIS has been reviewed taking into account the results of the specific TCC submission on the subject and the EPA comments. The review has compared all risks and the allocations made by the TCC as well as any new risks that were identified from the additional expert reports undertaken for the SEIS specifically including the noise, air and odour assessments. The assessment has accepted certain matters raised by the TCC and commented on others where the assessments of risk differ. This assessment difference is in part due to the different criteria used by the TCC consultant and also to alternative views of the risk. All risks have been reassessed and the comments included for the TCC assessment differences. There is no appreciable change in the risk profile of the project.

Refer to the updated Risk Assessment reports by Hyder Consulting at Appendices A16 and A18 in Volume 2

### 5.9.2 Disaster Management Plan

A proposed Disaster Management Plan (DMP) has been developed with valuable input from the Emergency Services group. This includes:

- a) Awareness of residents and visitors;
- b) Evacuation of TOT, marina and residential areas and provision of on-site safe refuges for cyclones, toxic plumes etc;
- c) Impact on existing counter-disaster planning for the area, including the potential need for providing evacuation centre(s) for an additional approximate 2000 persons; and
- d) Risk of explosion and terrorist actions.

A proposed DMP has been completed with input from the emergency services agencies. This DMP forms the basis to develop a detailed DMP with input and approval of the emergency services agencies. Refer Proposed Disaster Management Plan at Appendix A15 in Volume 2.

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## 6 ENVIRONMENTAL MANAGEMENT PLAN

The Environmental Management Plan (EMP) has been updated to reflect the changes from the new reports and to take into account comments from various State Agencies. Refer to the Reviewed Environmental Management Plan in the FCG report at Appendix A9 in Volume 2.

The CEMP will be developed for the review and approval of the relevant agencies as part of the operational works approvals.

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## APPENDIX ONE - DEVELOPER AND BODY CORPORATE COMMITMENTS

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## DEVELOPER AND BODY CORPORATE COMMITMENTS

1. The Proponent is agreeable to pay all lawfully imposed requirements for contributions to municipal infrastructure upgrades necessitated by the development.
2. The Proponent will contribute to all reasonable requests for the upgrading of the road network, including compensating the asset owner for reduced pavement life during the construction phase.
3. The revised temporary bridge design (with a smaller opening span) would be able to be opened and closed in under three minutes. Refer to the drawing at Appendix A19 of Volume 2 for more details. This means that the logistics of managing the movement of the construction traffic across the bridge and the passage of vessels up and down the creek can be such that the maritime vessels should not be significantly inconvenienced. The default position for the bridge will be “open” – it will only close when it is necessary to run trucks across. The majority of vessels would then be able to pass unimpeded.

A management plan will nevertheless be submitted by the Proponent with the Tidal Works Application and this plan will need to be workshopped with all stakeholders.

The management plan will address the following:

- Open/close cycle times;
- Communication tools – bridge to maritime vessels and bridge to trucks;
- Typical non-truck movement operational times

Eg. 7pm to 7am every night;

7am to 7pm Sundays and Public Holidays;

5pm to 7pm Wednesdays; and

3pm to 7pm Saturdays.

This plan provides absolute priority to maritime vessels.

In the event that haulage option 1 is selected and approved, the Proponent will build the bridge and the roadworks for the approaches at its cost and upon completion it will remove the bridge and make good the roads and creek revetment walls.

4. There will be a public pontoon landing area within the new marina and public carparking will be provided. The dedication of the pontoon facility to the State needs further consideration in light of the design and the overall marina operation arrangements. It is suggested that the dedication for public use can be a condition of the marina lease. The carpark will be within the large multi-use carpark area and this will be available to the public. The tenure of the carpark is freehold to be held by the Proponent but with access to the public.
5. Maritime access to the existing Breakwater Marina will be maintained via a corridor to the west of the current channel. This temporary channel will be required for approximately two (2) years – eventually the existing marina will be accessed via the Breakwater Cove waterways. The temporary channel will provide comparable accessibility as the existing channel.

Recent investigations by FCG indicate the depth of the temporary channel is similar to the existing channel.

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6. The CMS will include provisions for the ongoing maintenance and refurbishment of the Body Corporate's assets including the breakwaters in the ownership of the Body Corporate. The Body Corporate assets which will be the responsibility of the Body Corporate have been agreed as set out in the DNRW submission
  7. The Body Corporate (and the Proponent in the first instance) will work with the local Disaster Response Group to develop a Disaster Management Plan (DMP) for the Townsville Breakwater. This DMP will be based on the proposed DMP which has been developed with input from emergency services agencies. In addition, the Body Corporate will provide the following to its members/residents:
    - risk education - informing members/residents about the potential for exposure to disasters like tropical cyclones;
    - awareness - during emergency situations such as a cyclone alert, providing members/residents with regular up to the minute information of the risk, such as circulating Bureau of Meteorology bulletins; and
    - protection - ensuring members/residents have access to a "safe room" in which to shelter during an emergency. This, of course, will need to be enforced through the FDA Scheme.

NB: All residences will be connected to the Body Corporate's office via an intranet communication system which will not only provide the usual loud speaker but also radio, television and computer delivered information services.
  8. The Proponent acknowledges the need to continue with environmental monitoring and reporting and proposes to establish on site, at the earliest opportunity, a monitoring station which records noise, dust deposition, TSP and metal content in the dust. This data will alert the Proponent in regard to its site based management plan during the construction phase and will also improve the baseline data for communication to prospective buyers of property in the development of amenity impacts to be expected.

The data collected (like TSP) needs to be compared with the data collected by the EPA and the TPA to ensure accuracy and more importantly if remedial action is necessary. If for instance the metals content increases over time then it may be appropriate to investigate the cause of the increase.

It is essential therefore for any further monitoring on the site to be linked to the monitoring which it is understood will continue to be done by the EPA and the TPA. In the long term this monitoring station could be operated by either the EPA or the TPA. The capital cost of setting the station up will be borne by the Proponent.
  9. An agreement exists between the Proponent and the Council in which the Proponent indemnifies the Council against maintenance responsibilities for the canals which fall to the Council under the Coastal Protection and Management Act 1995. It is anticipated that Council will require novation of this agreement to the Body Corporate prior to registration of survey plans.
  10. Site monitoring and management of settlement will, in the first instance, be the responsibility of the Proponent. It is anticipated that the Proponent will need to demonstrate stability to Council before Council signs off on any survey plans. Similarly, the building certifiers will require soils/geotechnical reports before building construction can commence. By the time the Body Corporate takes responsibility for the assets it is unlikely there will be any residual settlement issues. The CMS will require the Body Corporate to undertake regular checks of its assets particularly the critical structural elements like the breakwaters.
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## APPENDIX TWO - DEVELOPMENT APPROVALS

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## DEVELOPMENT APPROVALS

Below is an updated list of Development Approvals.

Legislation	Jurisdiction	Application
<i>Breakwater Island Casino Agreement Act 1984</i>	Department of Infrastructure and State Development and Queensland Treasury	Specific Transitional Arrangements which provide for the application in respect of the TOT Project Site. Discussed further below.
<i>State Development and Public Works Organisation Act 1971</i>	Department of Infrastructure and State Development	Controls the EIS process for Projects of state significance. Details of this process are included in Section 1.4 of this EIS.
<i>Environmental Protection and Biodiversity Conservation Act 1999</i>	Commonwealth Department of Environment and Heritage.	Assessment process for Projects declared to be controlled actions for its impacts on matters of national environmental significance. This process is discussed in Section 1.7 of this EIS.
<i>Integrated Planning Act 1997</i>	Department of Local Government, Planning and	Application subject to BICA. Applies for general process for all future development assessment and approval for the Breakwater Cove Precinct.
<i>Environmental Protection Act 1994</i>	Environmental Protection Agency	Assessment of all environmentally relevant activities (such as dredging).
<i>Environmental Protection Policy (Noise)</i>	Environmental Protection Agency	Applies to assessment of noise impacts for proposed development.
<i>Coastal Protection and Management Act 1995</i>	Environmental Protection Agency	Assessment Criteria for Operational Works (Tidal Works) Applications pursuant to State Coastal Management Policy must be undertaken.
<i>Fisheries Act 1994</i>	Department of Primary Industries and Fisheries	Assessment process for approval to remove, destroy or damage marine vegetation (including sea grass/mangroves)
<i>Great Barrier Reef Marine Park Act 1995</i>	Great Barrier Reef Marine Park Authority	The Project Site is not within the jurisdictional boundaries of the GBR Marine Park.
<i>Nature Conservation Act 1992</i>	Environmental Protection Agency	Applies to works that may interfere with a protected animal or plant.

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