Townsville Ocean Terminal Project

Initial Advice Statement

17 October 2006

City Pacific Limited

Contents

1 Introduction and Project Overview

1.1 Background and Scope of Initial Advice Statement

The project is being developed as a joint venture between TABCORP and City Pacific Limited. Contractual arrangements between the State, and TABCORP and City Pacific Limited were executed in June 2006.

The proposal will provide Townsville with:

- A dedicated cruise terminal and wharf to attract cruise ships and military vessels, located on the Port Western Breakwater, adjacent to the Port of Townsville;
- An integrated residential and tourism development providing residential land parcels of mixed density for development.
- Extended public access to the Breakwaters and provide future open space areas to land to be reclaimed to the north of the existing Townsville Hotel and Casino Complex and the Townsville Entertainment Centre; and
- Increased marina berths for the marine industry, general recreational vessels, and provide berthing facilities for superyachts.

This Initial Advice Statement (IAS) has been prepared to provide a description of the proposed project and enable scoping of the potential impacts that will be investigated as part of the preparation of the Environmental Impact Statement (EIS) for the project.

The information in this IAS combined with advisory agency requirements and submissions from stakeholders and the community will enable the subsequent preparation of the Terms of Reference (TOR) for the EIS.

1.2 Site Location and Description

The Townsville Ocean Terminal (TOT) project site (the Project Site) is located on and adjacent to the existing Townsville foreshore and incorporates the existing Port Western Breakwater and the Northern (Offshore) Breakwater, the existing perimeter of the land around the Townsville Hotel and Casino Complex and the Townsville Entertainment Centre. A location plan for the site is included in Appendix A as sketch C001 and C002.

The Project Site is located to the north east of Sir Leslie Thiess Drive and Entertainment Drive. The future residential areas will gain vehicular and pedestrian access from Entertainment Drive. The Project Site is in close proximity to the recently completed Strand foreshore improvement works.

The existing Casino Peninsula, Mariners Drive Peninsula and the Northern Breakwater were reclaimed and constructed between 1980 and 1986 with the Port Western Breakwater constructed prior to this time. The Breakwaters and revetment walls consist of rock walls with reclaimed land formed from hydraulically and mechanically placed fill.

The Casino Peninsula is the location of the Townsville Hotel and Casino Complex and the Townsville Entertainment Centre. A large portion of the Casino Peninsula is also used for event and overflow parking for the Townsville Entertainment Centre and the Casino Complex.

Mariner's Drive peninsula is currently used for various purposes including residential apartments, Townsville Sailing Club, marina and fuel services including boat maintenance.

The existing Port Western Breakwater forms the western side of the navigation channel known as the "Platypus channel", the main access channel for the Port of Townsville. This channel forms an extension to Ross Creek and the channel is currently dredged to a level of approximately 12m below Lowest Astronomical Tide (LAT).

The Cruise Ship Berths proposed to be "cut" into the Port Western Breakwater, with the reclamation of land for the cruise ship terminal and proposed residential area being located adjacent. The reclamation works will require the sourcing of approximately 2,500,000m^3 of fill material to be imported to the Project Site together with necessary armour rock and breakwater construction materials. The extraction site(s) have not been finalised at this stage. A number of alternative extraction sites will be assessed as part of the EIS process.

The Project Site is noted on the Great Barrier Reef zoning maps as being outside the Great Barrier Reef Marine Park (GBRMP) boundaries by 2 – 3 kms. However, the Project Site is in the Great Barrier Reef World Heritage Area (GBRWHA). Construction and operational activities may have some impacts on the Marine Park or GBRWHA. These potential impacts will be assessed as part of the EIS process.

1.3 The Proponent

The proponent for the TOT Project is City Pacific Limited. The Queensland State Government has entered into contractual arrangements with TABCORP and City Pacific Limited to provide an ocean terminal as part of an integrated residential and tourism development. TABCORP's direct involvement will not extend beyond the approvals process and the design and construction will be the full responsibility of City Pacific Limited.

1.4 Project, Vision and Rationale for the Project

The project reflects the Queensland Government's commitment to expanding Queensland's cruise shipping industry and its implementation of the Queensland Cruise Shipping Plan. The State has identified that one of the major impediments for growth of the cruise shipping industry is the lack of dedicated berthing facilities along the Queensland coast.

Queensland is known internationally for its spectacular coastline and has great potential to expand tourism and benefit economically through developing its cruise shipping industry. Cruise shipping is a high-growth, high-yield tourism industry. Recent studies by the AEC Group for Cruise Down Under indicated that in 2005/6,

the cruise shipping industry in Australia was worth approximately $438 million and in Queensland approximately $108 million.

The cruise shipping industry and local community are supportive of the TOT. A cruise ship terminal catering for larger cruise ships will enhance the appeal of Townsville as an international tourist destination and the development of Townsville's existing tourist facilities. In conjunction with Cairns cruise ship terminal developments, a facility at Townsville will allow the design of more varied itineraries and ultimately attract more tourists to North Queensland.

The superyacht industry would also benefit from the improved facilities which would be created as part of this project. Facilities for these vessels are currently limited and the potential provision of additional berthing and servicing facilities would help to increase current visitation levels.

USA and Australian Military vessels currently utilise the existing Townsville Port commercial facilities. The design of the TOT will encourage additional visits to Townsville by military vessels through the provision of dedicated berthing facilities. This will generate additional income for the local community through increased numbers of visiting naval crew. The TOT will also reduce the impact of these vessels on the normal operation of the port.

The inclusion of a high quality residential/marina development within the project will encourage investment in the Townsville area and is in line with Townsville City Council's CBD Master Plan and City Plan 2005. This will encourage investment within the city centre as restaurant, entertainment facilities and support services will be required to cater for the increased residential community. This will generate employment within the service industry as well as capital investment in the city centre.

It is estimated that over 1200 jobs will be created during the construction of the project and the operational cruise ship, marina and residential development will generate substantial additional employment in service industries and other supporting services.

1.5 Assessment against Criteria for Significant Project Status

In declaring the project to be a significant project the Coordinator-General will consider the following matters under Section 27 of the SDPWO Act.

> *"(a) detailed information about the project given by the proponent in an initial advice statement;*
> *(b) relevant planning schemes or policy frameworks, including those of a relevant local government or of the State or the Commonwealth;*
> *(c) the project's potential effect on relevant infrastructure;*
> *(d) the employment opportunities that will be provided by the project;*
> *(e) the potential environmental effects of the project;*
> *(f) the complexity of local, State and Commonwealth requirements for the project;*

(g) the level of investment necessary for the proponent to carry out the project;
(h) the strategic significance of the project to the locality, region or the State."

This IAS provides a detailed description of the project in Section 2 and the State and Commonwealth legislative framework under which it will be assessed is described in Section 3. The potential environmental effects of the proposed development also outlined in Section 5 and detailed assessment of these effects will be undertaken during the EIS process.

1.5.1 Existing Infrastructure

The project will be developed to ensure minimal impacts on existing infrastructure. Adequate site access can be provided for both residential and terminal traffic by an extension of Entertainment Drive. Road carriageway and intersection upgrades will be provided as required to ensure minimal impacts from projected traffic increases as a result of the project.

Existing overland stormwater flow paths will not be impacted by the proposed development. Stormwater generated from the site will be collected and treated by on-site stormwater quality improvement devices for removal of gross pollutants and sediments prior to discharge to Cleveland Bay. Environmental values and water quality objectives for the site will be determined during detailed stormwater modelling.

It is expected that adequate supply of potable water can be provided to the site by the Townsville City Council municipal infrastructure. In addition, treatment of wastewater from the site will be provided by connection to existing Council infrastructure. Water supply and sewerage demands from the site will be determined during the detailed network analysis but it is expected that adequate capacity will be available to service the site.

1.5.2 Employment Opportunities

The TOT Project will generate considerable employment during the construction phase and it is expected that the specialist skills required will be drawn predominantly from the available workforce within the Townsville region. Construction activities will require full-time, part-time and contract labour for approximately 4 years.

Following completion of construction activities, the operation of the ocean terminal facilities and associated services will generate long-term employment opportunities for the local community and potential opportunities for additional tourism-related businesses. In addition, existing local businesses and service providers are expected to benefit from the flow on effects of the operational development.

1.5.3 Level of Investment

The TOT project is estimated to be worth in excess of $1 Billion and as such is arguably the largest single precinct based construction project to happen in Townsville.

This project will be worth more than Two (2) years worth of construction activity in the Townsville region.

When combined with current and ongoing development of the Surplus Casino Land, the Townsville Breakwater project rates as one of Queensland and Australia's more significant property developments.

2 Project Description

Purpose

This purpose of this section is to provide a description of the major components of the Townsville Ocean Terminal (TOT) project. The project has been divided into three major parts:

- The cruise ship terminal and associated facilities (the TOT Precinct);
- The residential development and associated facilities (the Breakwater Core Precinct); and
- The material extraction site(s).

The relationship of the various TOT associated components are indicated on sketch C003, while possible material extraction sites are indicated on sketch C004.

All sketches are included in Appendix A.

2.1 The TOT Precinct

2.1.1 TOT Precinct Elements

The Townsville Cruise Ship Terminal comprises the following primary elements:

- Indentation of the Port Western Breakwater and the construction of a dedicated berth;
- Construction of the wharf and the terminal building;
- Land reclamation;
- Associated road works, car parking and infrastructure services; and
- Helicopter landing pad.

2.1.2 Dedicated Berth

General

The TOT Precinct will provide a dedicated berth (the TOT Berth) for both military and cruise vessels located generally as shown on sketch C005.

The operation of the TOT Berth is to be conducted to minimise interruptions to the normal commercial port operations of the Townsville Port.

Berth Specifications

Military Vessels

The TOT Berth will be able to accommodate vessels of a size up to the "Wasp" class naval vessel (length over all = 258m, beam = 32.3m, deck beam = 42m; draft = 8.3m) such as the USS Boxer, Essex and Bonhomme Richard on a regular basis.

Cruise Ships

The TOT Berth will be able to accommodate the State's 'Benchmark Cruise Ship' identified in the Queensland Shipping Plan (length over all = 238m, beam = 33m) on a regular basis.

Berth Size

The TOT berth will be dredged to RL-11.7m minimum over the approximated 45 350m x 33m berth pocket with the profile of this dredged pocket shown on sketch C006.

In addition, dredging will be carried out to RL-11.7m between the berth pocket and the existing swing basin and inner harbour channel as shown on sketch C005.

Location of Berth

The TOT Berth will be seaward of the current front lead in the Ross Creek navigational channel and will be some 46m clear of the Platypus channel centre line, measured from the side of a 45m (extreme breadth) vessel at the waterline. This orientation is shown on the attached sketch C005.

Shipping Movements

When the cruise terminal opens, it is estimated that there will be an increase from the current use of 7 – 8 visiting cruise ships a year to approximately 20 cruise ships per year visiting Townsville. Cruise ship arrival and departure times and dates are determined many months in advance and are published in local newspapers and on the internet.

The number of military vessels using the facility is not confirmed but it is likely that increase from approximately 30 vessels to 40 to 50 military vessels would use the facility every year.

During military vessel use of the dedicated berth there would be no public access to the actual cruise ship terminal area at any time. An exclusion zone would apply both on land and in the water while ships are berthed.

In addition to the uses listed above, Ross Creek is currently accessed by a number of other users including:

- Townsville Motor Boat and Yacht Club;
- Magnetic Island ferry services;

- Charter boat operators;
- Local boat ramp users; and
- Miscellaneous local leisure craft users.

The impact of both the construction and operation of the TOT Precinct on these uses will be assessed as part of the EIS with specific consultation to occur. This may require local restrictions on channel usage and construction method limitations in the construction stages. The increase in cruise ship visitors will be of benefit to local tourist uses in the area in due course.

2.1.3 Wharf Infrastructure and Services

General

The wharf structure will be 200m in length and have a width of 30m. A layout plan and section through the wharf structure is detailed on sketches C005 and C006. The structure will be designed in accordance with the relevant Australian Standards for a structure of this type and capacity.

The TOT wharf will also have the capacity for military tanks up to 65 tonnes and tank/truck trailer combinations up to 95 tonnes

The maximum load from any wharf traffic is not to exceed highway loading requirements as all vehicles will be transported to the TOT Precinct by means of the surrounding road system.

Wharf Services

The wharf will be provided with the following services:

- Power supply shall include 415 Volt, 50 HZ, 50 Amp, 3-phase power. Points will be provided and located at regular spacing on the wharf adjacent to a bollard;
- Potable water will be provided through a pipeline connection from the City Water reticulation system capable of delivering 200t/hour;
- Wharf lighting will be provided. Flood lights are to be appropriately shielded to prevent interference with navigation beacons and residential areas;
- Sewage and grey water will be disposed of in an environmentally acceptable manner. A typical discharge from the Benchmark ship is 230 litre/capita/day, with a design discharge of 2.5 litre/s. This is consistent with the arrangement undertaken currently at the TPA facility for vessels;
- Sewage/grey water will be discharged directly into the town sewerage system through a storage tank, pump station and piping system. Single or multiple storage tanks of a combined capacity of 90,000 litres will be provided at the TOT facility to provide interim storage for 10 hours of

inflow at the design discharge rate from the vessel of 2.5 litre/s. This interim storage capability will provide flexibility for pumping predominantly at off peak times;

- The Wharf will not cater for ballast water receiving storage and/or treatment; and
- No onsite fuel storage or bunkering will be provided. Fuel, if required, will be provided by means of road tankers. Such fuel transportation will be actively managed by the operator of the TOT.

The impact of these servicing requirements on the existing service infrastructure will be assessed as part of the EIS. It is proposed to connect to the existing Townsville City Council infrastructure and Ergon Energy supply services where these facilities are currently situated in Sir Leslie Thiess Drive near the intersection of The Strand.

2.1.4 Associated Road Works and Services

General Vehicular Access

The TOT Precinct will be linked to Entertainment Drive by means of a two lane road. This new road will cater for public, private and service vehicles and will be designed to meet the relevant Australian road design standards and Townsville City Council standards so as to cater for the expected vehicles accessing the wharf.

There will be no separation between heavy vehicles and light vehicles, apart from the separate parking areas that are described herein. Sketch C007 shows the proposed road configuration.

The impact of increased road traffic due to the TOT on the surrounding road network will be assessed as part of the EIS process.

Pedestrian Access

The TOT Precinct will be fully fenced and gated to restrict any pedestrian access to the area of the precinct on non-ship days or as determined by the terminal operator for customs purposes. The extent of the fencing and its location is shown on sketch C007.

During operational (ship) days, pedestrian access will be restricted in accordance with the security arrangements required by the type of vessel (Cruise Ship or Navy Vessel). Access is proposed to be managed by the Operator of the TOT.

Bicycle Access

No designated bicycle paths are to be provided for the TOT Precinct. All cyclist access will be via on road cycling.

Public Transport

Separate demarcated set down areas will be provided for buses and taxis. The extent of the set down areas is shown on sketch C007.

Two spaces for taxis and two spaces for buses will be provided in the set down area immediately adjacent to the TOT Terminal. A holding area will be provided in the TOT Precinct for an additional 8 taxis and 10 buses.

Emergency Vehicle Access

Emergency vehicles will access the TOT Precinct via the internal road system.

Parking Facilities

The following parking facilities will be provided. These are shown on sketch C007:

- The TOT Precinct will provide for ten (10) onsite parking spaces for tour and shuttle buses;
- The bus parking area will also serve as a parking area for up to 8 heavy trucks (prime movers) in the event of visitation by Navy vessels;
- The TOT Precinct will provide onsite parking for 100 visitors cars in a designated parking area;
- Reserved uncovered parking will be provided for twelve (12) official vehicles adjacent to the terminal building; and
- The TOT Precinct will have twenty (20) uncovered spaces for VIP and hire vehicles in close proximity to the TOT terminal.

2.1.5 Separation and Security

General Separation and Security Measures

The design of the TOT Precinct has taken into consideration the separation needs and security issues for naval vessels from those for cruise ships. In the instances where the land side 100m clearance zone around a Military vessel berthed at the TOT is not met, a 3 m secure solid timber or precast concrete barrier wall will be provided as a physical separation as well as an acoustic separation (refer to acoustic barrier on sketch C007).

Surveillance

Cameras will be utilised to cover surveillance of the wharf and surrounding area.

Security Gates and Guardhouses

A guardhouse facility will be provided at each end of wharf.

2.1.6 Terminal Building

General

The Terminal Building is an open and flexible, air conditioned building comprising the following spaces:

(a) An area for Australian Quarantine Inspection Service (AQIS), Australian Customs Service (Customs) and Department of Immigration & Multicultural & Indigenous Affairs (Immigration) (fitout will be provided by terminal operator with specialist equipment to be provided by AQIS, Customs and Immigration);

(b) A general hall area to cater for the functions of arrival and departure; and

(c) space for meet, greet and farewell activities.

The Gross Floor Area of the Terminal Building will be 1000 square metres and will be divided into two main areas, designated the Main Hall and the Arrivals & Departure Hall. The Terminal Building is shown on sketch C008 attached.

Building Form

The Terminal Building is to be single storey generally 3.5m high at the eaves and rectangular in shape as shown on sketches C008 & C008. The design will create a contemporary light form with a nautical theme.

Office Facilities

Five offices will be provided. There will be a security room.

These offices are provided for the following:

(a) Operational staff and management;

(b) Australian Quarantine Inspection Service;

(c) Customs; and

(d) General office and interview room

Café

A small café area of approximately 20 sqm is provided in the Main Hall as shown on the sketch C008. The cafe will service visitors and friends and it is envisaged that it may be licensed. Licensing will be the responsibility of the terminal operator.

2.1.7 Landscaping

Open spaces will be landscaped and made accessible to people with disabilities when the facility is open to the public.

As part of the Port Protection and Security Measures, a 3m high berm plus 3m acoustic barrier will be constructed as a separation between the Ocean Terminal Precinct and the Future Development Area.

2.1.8 ART Built-In

Provision has been made to provide built in art as required by Government policy in that 2% of the State's contribution to the Terminal Building only will be spent on Art Built-in. This recognises that elements of Building itself are and will be designed with artistic input and they will be included in the calculation for built-in art.

2.1.9 Helicopter Landing Pad

A helipad will be provided at the entrance to the terminal for operation of tourist helicopter flights. It is expected that flights will operate between the TOT Precinct and Magnetic Island as well as other tourist destinations in the vicinity.

2.2 Breakwater Cove Precinct

2.2.1 General Development Parameters

The intent of the Breakwater Cove Precinct is to provide a residential waterfront community comprising a mixed range of dwelling types, including detached dwellings, attached dwellings, multiple dwellings and associated uses that relate to each other and service local residents needs. The FDA concept is indicated on the sketch C003.

The Breakwater Cove Precinct will be created on reclaimed land from the existing bay. It will be formed of engineered fill protected by revetment walls.

The key development elements of the Breakwater Cove Precinct include the following:

Perimeter Breakwaters

The Breakwater Cove Precinct is to be constructed adjoining the TOT Precinct. The existing Northern Breakwater (which is designed to "fail" in a cyclonic event), will be fully reinforced and updated to create an open space area and provide protection to the residential fingers of the Breakwater Cove Precinct and the marina. The public space area will be used as parkland for passive recreation, particularly for fishing, walking trails and a place for sitting and reflection with significant views of Magnetic Island the horizon.

The new Strand Breakwater is to be constructed generally to the west of the proposed residential waterway development and alongside the marina channel entrance. The Strand Breakwater will provide protection to the Breakwater Cove waterways and the access navigation channel to the existing Townsville marina precinct.

The new Strand Breakwater will provide an extension to the Strand as a public access promenade. It will provide a paved surface for pedestrians and emergency vehicles. The final design of the wall has not been determined and will be assessed as part of the EIS process. The wall may be either a mass rock or a piered type structure containing a wave baffle and walking deck.

The eastern side of the Breakwater Cove Precinct links to the TOT Precinct, the associated TOT facilities and open space area.

Open Space areas

The public currently use the Port Western Breakwater wall as an access trail for walking, exercise, jogging, fishing and a place for reflection. Public access to this wall will not be available during the construction phase of the project and will be restricted to public during the times of visitation by ships in port to the TOT. This area is to be replaced by the new Strand Breakwater and the Northern Breakwater Parkland area.

Open space is to be provided to act as a buffer between the TOT, car parking access and the FDA residential precincts.

Open space shall be provided adjacent to the end portions of the Port Western Breakwater wall and the Northern Breakwater wall.

Public access is to be provided as an extension of the Strand promenade along the new Strand Breakwater.

Structure of Development

The EIS will describe the structure of future development in relation to the *Integrated Planning Act* 1997 (IPA) and provide the basis upon which a Future Development Area Scheme will be approved under the *Breakwater Island Casino Agreement Amendment Act 2006*, particularly with respect to future applications relating to Material Change of Use (MCU), Operational Works (OPW), and Reconfiguration of a Lot (ROL). The EIS will also define specifics of the Future Development Area Scheme parameters and development codes.

Land Uses within the FDA

The FDA Scheme (when approved) will provide for a range of uses which are to be authorised under IPA as a Preliminary Approval pursuant to Section 3.1.6 of IPA, and known as the "FDA Scheme". The uses will be identified in relation to IPA levels of assessment as exempt, self assessable, code assessable or impact assessable. The uses may include apartments, attached dwellings, detached dwellings, medium density detached dwellings, cafes, car park, caretakers residence, childcare centre, commercial services, convenience shop, display home, estate sales office, home occupation, home office, indoor recreation facility, medical centre, multiple dwellings, office, park, restaurant, shop, landscaping and public utilities.

Building Height

Building heights range from single storey to nine (9) storeys in various precincts and will be controlled by the FDA Scheme.

Site Coverage

Site coverage of all buildings is to create a built environment that is not bulky or visually intrusive and will be integrated and managed by the FDA Scheme.

Residential Accommodation Density

The FDA Scheme is expected to authorise:

- Approximately 240 detached dwellings;
- Medium Density Attached and/or detached dwellings/apartments of approximately 350 residencies in total.

Siting of Buildings

Buildings are to be sited to take advantage of the significant vistas, views and new waterways.

Waterway Features

- Waterway canals dredged to depths generally to – 2.5m LAT;
- Access channel dredging to a depth of approximately – 3.5m LAT to new waterway canals and existing Townsville marina;
- Private recreational vessel berthing moorings, jetties, and pontoons;
- Moorings for super yachts; and
- Boardwalks to waterways.

Transportation

The transportation modes available to the Breakwater Cove Precinct include:

- Pedestrians – ongrade footpaths and walkways are to be provided on footpath areas and within open space zones;
- Bicycles – bicycle routes shall be accommodated in a combination of ongrade pathways and within road corridors;
- Bus set down – bus set down areas will service the main thoroughfare to the Breakwater Cove, TOT and open space areas. The set down areas will service the eastern end of the residential peninsulas;
- Taxi – taxi set down areas will service both the TOT and Breakwater Cove precincts; and
- Vehicular access – the residential waterway peninsulas shall be accessed by conventional roadways. Visitor parking shall be provided on street and within the future properties.

2.2.2 Infrastructure and Services

Access Provisions

The Breakwater Cove will be connected to Entertainment Drive by means of two way road. These new roads will cater for public, private and service vehicles and

will be designed to meet the relevant Australian road design standards. The road will be designed to cater adequately for pedestrians and on road cyclists.

Access to the new Strand Breakwater will be provided via the Mariners Drive precinct. Access will be provided for pedestrians, cyclists and maintenance/emergency vehicles only. This access will be lit during the hours of darkness.

Water Supply

The Breakwater Cove Precinct will be connected into Townsville's municipal potable water supply. Water supplies will be provided to each lot and each super yacht berth.

Stormwater Drainage

Stormwater drainage from roads and residential sub-lots will be disposed of in an environmentally acceptable manner. It is envisaged that stormwater will be discharged to the bay after appropriate treatment to achieve acceptable water quality standards.

Sewage and Grey Water

Sewage and grey water will be disposed of in an environmentally acceptable manner. It is envisaged that all sewage and grey water generated in Breakwater Cove will be connected into Townsville's existing sewage treatment facilities with adequate sewage pumping capacity provided for the projected maximum demand.

Electrical and Telecommunications Services

Electrical and telecommunications services will be provided to each lot as a normal residential supply.

Sufficient 415 volt, 50 Amp, three phase power supplies to service the final number of super yacht berths will be provided.

Street lighting will be provided to meet the requirements of AS1158.3.

Landscaping

All open and shared spaces will be landscaped with appropriate planting to enhance the appearance of the development area. All landscaping will be designed to present a consistent theme with the existing foreshore and strand area.

2.3 Material Source Sites

The overall TOT project will require the sourcing of the following approximate quantities of material:

- General fill, for example, sand: 2,750,000m^3;

- Armour Rock – 1 Tonne to 5 Tonne - 220,000m^3;
- Armour Rock – 0.1 Tonne to 0.5 Tonne - 80,000m^3.

2.3.1 General Fill

The source site for the general fill has yet to be confirmed. It is likely that this material will be extracted from a coastal or riverine sand deposit. This could be either pumped or barged to the Project Site and placed by dumping, pumping or mechanical methods.

Current extraction sites that will be investigated in the EIS include, but are not limited to:

- Ross River estuary;
- Ross River/Ross Creek upper reaches;
- Don River lower reaches;
- Burdekin River lower reaches; or
- Herbert River lower reaches;

These sites are indicated on sketch C004.

The EIS process will examine the impact of material extraction, transport and placement and identify the preferred sites and alternatives. It will identify potential approvals (licencing/permits), monitoring points, quantitive assessment levels and mitigation measures required to minimise environmental impacts.

Issues to be addressed under the EIS for the extraction site(s) will include:

- Transportation issues including the impact on the existing transport network;
- Geological impacts including slope stability and acid sulphate soils issues;
- The effect on flooding, surface water flows and groundwater;
- Tidal hydrodynamic impacts including the impact and control of silt plumes, sedimentation and tidal flows;
- Impacts on terrestrial and aquatic flora and fauna;
- Impacts due to noise and vibration during extraction;
- Waste control including dump sites and environmental controls associated with this activity;
- Air quality issues;
- Cultural heritage issues;
- Native Title matters; and
- Community liaison and social issues.

2.3.2 Armour Rock

As with the general fill material, source sites for armour rock have not yet been finalised. Options for this material could include:

- Existing local Townsville quarries – rail or truck to site;
- Material available at key resource areas in the vicinity of Townsville. This could include extensions to existing quarrying operations or the establishment of new quarrying operations;
- Material sources from remote sources such as Mt. Isa, Mackay or Rockhampton.

As listed above, there are a number of alternatives regarding source of material and transport methods. Further alternatives exist in the form of man-made armour materials including concrete blocks or hanbars or interlocking block facings.

A full engineering assessment will be required to finalise the type and size of rock required, final quantity, source site and transport options. In conjunction with this assessment, the EIS for the project will include environmental impacts associated with the extraction and transport of the final chosen material.

3 Relevant Regulation, Approvals and Planning Schemes

3.1 General Considerations

The EIS for the TOT Project and material extraction sites will proceed under the requirements of the *State Development and Public Works Organisation Act 1971 (SDPWO Act)*. This requires the project to be designated by the Co-ordinator General as a "significant project" and provides for public and government comment on the draft Terms of Reference for the EIS and the draft EIS.

It is also proposed the project will proceed pursuant to the requirements of the *Breakwater Island Casino Agreement Amendment Act 2006*, which allows, (subsequent to completion of the EIS process) for approval of the FDA Scheme and applications for Leasehold tenure to be granted prior to reclamation works.

Key legislation expected to apply to the TOT project and considered throughout the EIS process are:

- *Environment Protection and Biodiversity Conservation Act 1999 (Cth);*
- *Environment Protection (Sea Dumping Act) 1981 (Cth);*
- *Great Barrier Reef Marine Park Act 1975 (Cth);*
- *State Development and Public Works Organisation Act 1971 (Qld);*
- *Breakwater Island Casino Agreement Amendment Act 2006*
- *Integrated Planning Act 1997 and Associated Legislation (Qld);*
- *Transport Infrastructure Act 1994 (Qld);*

- *Environmental Protection Act 1994 (Qld);*
- *Aboriginal Cultural Heritage Act 2003 (Qld);*
- *Marine Park Act 2004 (Qld);*
- *Fisheries Act 1994 (Qld);*
- *Coastal Protection and Management Act 1995 (Qld); and*
- *Townsville City Planning Scheme.*

Relevant State policies are also expected to apply to the proposed development.

Details of the key legislation expected to apply to the project are outlined below:

3.2 Commonwealth Regulations

3.2.1 Environment Protection and Biodiversity Conservation Act **(EPBC Act)**

Referral of the TOT project to the Commonwealth Department of Environment and Heritage (DEH) under the provisions of the EPBC Act to confirm the project is a "controlled action" has occurred.

City Pacific (as the proponent) has received confirmation that it is a controlled action on 16 October 2006 DEH have confirmed the project is a controlled action with designations under the following provisions of the EPBC Act:

- Sections 12 and 15A (World Heritage);
- Sections 16 and 17B (Wetlands of international importance);
- Sections 18 and 18A (Listed threatened species and communities; and
- Sections 20 and 20A (Listed migratory species).

The EIS requirements under the provisions of SDPWO Act are accepted through the Queensland Bilateral Agreement as a satisfactory assessment process under the EPBC Act for these designations. Accordingly, the Co-ordinator General will be the lead agency for the EIS, with input (and later approval) from DEH.

3.2.2 Environment Protection (Sea Dumping) Act

Dredging and disposal of dredged material will be required for the reclamation of the Townsville Ocean Terminal and future development areas. Options for disposal of unsuitable dredge material not required for the project site will be assessed as part of the EIS. It is possible that consideration could be given to a deep water, offshore site located in Commonwealth waters.

The *Environment Protection (Sea Dumping) Act 1981* (Sea Dumping Act) requires a permit be obtained to lawfully carry out disposal of dredge spoil (including the loading for the purposes of dumping dredge spoil) in Commonwealth waters.

The Department of Environment and Heritage (DEH) is the determining authority that administers the Sea Dumping Act and issues permits for all sea dumping activities. The applications and assessment procedures are outlined in the National Ocean Disposal Guidelines for Dredge Material (NODGDM).

3.2.3 Great Barrier Reef Marine Park Act **(GBRMP Act)**

The project site is located in an area identified as being outside the GBRMP on the current marine park zoning maps (September 2004). However, the GBRMP Act will need to be considered because of the proximity of the Project Site to the Great Barrier Marine Park and the possibility of material transport in shipping routes through the Marine Park waterways.

3.3 Queensland State Regulations

3.3.1 State Development and Public Works Organisation Act

The State Development and Public Works Organisation Act (1971) (SDPWOA) enables the Coordinator General to declare the TOT Project to be a significant project for which an EIS is required.

The SDPWOA provides the framework for which is to be conducted. It generally sets out:

- Requirement for the EIS and of the draft terms of reference;
- Public notification process for the draft terms of reference:
- The manner by which the Coordinator General may seek information to assist in preparation of the EIS;
- Content for preparation of EIS – the EIS prepared by the proponent:
  - must, for the whole project, address the terms of reference to the satisfaction of the Coordinator General; or
  - may, for a particular stage of the project, address the terms of reference to the satisfaction of the Coordinator General;
- Public notification of the EIS;
- Making submissions on EIS; and
- Coordinator General evaluates EIS, submissions, other material and prepares report.

The Queensland Bilateral Agreement also extends these requirements to require a supplementary EIS or response to public submissions to be provided.

3.3.2 Integrated Planning Act and Associated Legislation

Until such time as the FDA Scheme is approved by the Minister under the *Breakwater Island Casino Agreement Amendment Act 2006*, normal provisions of IPA and the Townsville City Council Planning Scheme will not be applicable to the TOT Project as State waters are not part of the local government area.

At the point of approval, the FDA Scheme will act as a preliminary approval, pursuant to Section 3.1.6 of IPA and will act as a "mini planning scheme" for the FDA moving forward, particularly in terms of future land use after reclamation and for ensuring that overall development controls and integration of the entire area are maintained.

Subsequent to the FDA Scheme becoming effective, the standard IPA processes will be followed in relation to future development applications.

3.3.3 Transport Infrastructure Act 1994

The Transport Infrastructure Act 1994 (TIA) is to "provide a regime that allows for and encourages effective integrated planning and efficient management of a system of transport infrastructure".

In particular, the purpose of the TIA is to allow the Government to have a strategic overview of the provision and operation of all transport infrastructure.

The relevance of the TIA for the Townsville Ocean Terminal and the Future Development Area is that the TIA purpose for ports is to establish a "regime under which a ports system is provided and can be managed within an overall strategic framework by GOCs in accordance with the principles specified in the *Government Owned Corporations Act 1993*".

The TIA will be required to be considered in terms of the interaction of the Townsville Ocean Terminal, both as an operating concern and the Future Development Area on the ongoing operations of the existing Port of Townsville, In particular, Port Protection Agreements and various Port Protection measures will be resolved directly with the Townsville Port Authority and the State as part of the EIS process to ensure the efficiency of the overall Ocean Terminal and Port System is not adversely impacted by the TOT Project.

3.3.4 Environmental Protection Act

The *Environmental Protection Act* (EPA) will be the main Environmental Legislation considered in terms of the EIS and in particular, regard will be had to its adoption of a precautionary approach when assessing environment risk to ensure that all aspects of environmental quality, including eco system sustainability and integrity and the beneficial use of the environment are considered in the EIS and in making decisions in relation to the TOT Project.

The EPA (with the IPA) provides the legislative mechanism for approvals for the various Environmentally Relevant Activities that will be applicable to be FDA and material source site(s),

3.3.5 Aboriginal Cultural Heritage Act 2003 (QLD)

The main purpose of the Aboriginal Cultural Heritage Act 2003 (ACHA) is to "provide effective recognition, protection and conservation of Aboriginal cultural heritage".

The ACHA recognises the following fundamental principles underlie this Act's main purpose:

(a) the recognition, protection and conservation of Aboriginal cultural heritage should be based on respect for Aboriginal knowledge, culture and traditional practices;

(b) Aboriginal people should be recognised as the primary guardians, keepers and knowledge holders of Aboriginal cultural heritage;

(c) it is important to respect, preserve and maintain knowledge, innovations and practices of Aboriginal communities and to promote understanding of Aboriginal cultural heritage;

(d) activities involved in recognition, protection and conservation of Aboriginal cultural heritage are important because they allow Aboriginal people to reaffirm their obligations to 'law and country'; and

(e) there is a need to establish timely and efficient processes for the management of activities that may harm Aboriginal cultural heritage.

As part of the EIS process, Cultural Heritage Assessments with relevant traditional owners will occur in accordance with the ACHA for both the Project Site and finally determined source site(s).

3.3.6 Marine Park Act 2004

The main purpose of the Marine Parks Act 2004 (MPA) is to provide for conservation of the marine environment.

The MPA will be considered in terms of both source sites for material and transport routes in having source materials provided for the reclamation area.

In the event Permits are required under the MPA, these will be assessed and considered as part of the overall EIS.

3.3.7 Coastal Protection and Management Act

The project site is not included in either an erosion prone area, or a Coastal Management District under the CPMA, as no Regional Management Plan has been gazetted for this area as yet.

Matters of coastal protection and management however will be specifically addressed in the EIS in terms of its overall impact on the environment and more particularly, in relation to the proponent seeking approval to carry out work to reclaim the TOT Project Site if the Minister approves the Future Development Area Scheme, as the Chief Executive under the CPMA is a dedicated concurrence agency with referral jurisdiction under this Act, pursuant to Section 68(3)(c)(ii) of the Breakwater Island Casino Agreement Amendment Act 2006.

The CPMA provides the mechanism for dealing with tidal works structures within, on or over tidal waters such as pontoons, boardwalks, jetties and stormwater drainage discharge type facilities.

Depending on the final location of material source sites, the CPMA may also provide relevant statutory provisions for removal of material from tidal waters.

3.3.8 Fisheries Act

The main purpose of the Fisheries Act is to provide for the use, conservation and enhancement of the community's fisheries resources and fish habitats in a way that seeks to:

(a) *apply and balance the principles of ecologically sustainable development; and*

(b) *promote ecologically sustainable development.*

In relation to the TOT Project, the Act requirements will be reviewed having regard to the potential impacts on fisheries resources and marine plants.

3.3.9 Other Legislation and Policies

State Planning Policies:

- State Coastal Management Plan
- SPP 2/02: Planning and Managing Development Involving Acid Sulphate Soils
- Guideline for SPP 2/02: Planning and Managing Development Involving Acid Sulphate Soils
- SPP 1/03: Mitigating the Adverse Impacts of Flood, Bushfire and Landslide
- Guideline for SPP 1/03: Mitigating the Adverse Impacts of Flood, Bushfire and Landslide

3.3.10 Native Title Legislation

While not strictly part of the EIS process, the proponent will be required to consider all matters of Native Title relevant to the traditional owners of the area and in particular, conclude any ILUA necessary as part of the TOT Project.

3.4 Current Local Regulations

Presently, local regulations such as the Townsville City Council adopted City Plan 2005 are not directly applicable to the TOT Project Area. The *Breakwater Island Casino Agreement Amendment Act* has made specific provision for Planning and Development approvals to bring the TOT Precinct and the Breakwater Cove Precinct into the standard IPA process, pursuant to the FDA Scheme.

Upon the completion of work to reclaim the Future Development Area land platforms, those land platforms will respectively be deemed to be land within the Local Government Area of Townsville City Council, and therefore the City Plan 2005 will be applicable only in so far as it is not in conflict with the FDA Scheme as approved.

As the City Plan has limited interaction to this area without future amendment, it will be the FDA Scheme documentation and its inter relationship to standard assessment codes that will be the primary assessment documents at the local level.

The FDA Scheme proposal prior to its approval under BICA will be assessed as the general structure for the proposed development as part of the overall EIS process.

4 Coastal and Hydraulic Process Factors

4.1 General Characteristics and History

The project is located within Cleveland Bay and adjoins the Townsville Port Authorities existing activities. The site is relatively sheltered by Magnetic Island, however, periodic cyclone and storm events create significant storm surge and wave impacts.

The site abuts the Platypus channel which functions as the main access path to the Port of Townsville. This channel is regularly dredged by the Townsville Port Authority to maintain access for port traffic. Townsville Port Authority also conducts regular dredging in the vicinity of Berth 1, which is subject to sedimentation and siltation.

The existing Port Western Breakwater was constructed prior to 1974 and consists of a random rubble rock wall which provides protection to the port entrance. In the early 1980's, land reclamation at the current breakwater casino and convention centre was completed. This work included construction of the Mariners Drive Peninsula and the Northern Breakwater. The Northern Breakwater was constructed

to function as a wave break and to provide additional protection to the casino and Mariners Drive revetment walls.

The area bounded by the northern and Port Western Breakwaters and the casino site has been protected from wind and wave action. Some deposition of material has resulted in a layer of very soft sediments being present overlying the stiff sands and clays of the sea bed in this area. The channel for the Breakwater Island Marina is periodically dredged and is maintained to ensure navigable access to the marina.

In 2002, Townsville City Council completed the Strand beach upgrade. This project consisted of the construction of seawalls and groynes to help stabilise the existing strand beach and maintain a high quality foreshore. These works abut the site at the Mariners Drive Peninsula.

4.2 Hydrodynamic Influences

4.2.1 Tidal Hydraulics

Tidal process modelling will be required as part of the EIS process to ensure that the effect of the project on the prevailing tidal hydraulic regime is fully understood. The project has the potential to alter local current and tidal flows which could affect the operation of the facility and the port.

Dredging is currently carried out in the Platypus Channel and in the vicinity of Berth 1 at the port. Modelling of the impact of the project on siltation and sedimentation will be required to assess the extent that ongoing maintenance of the navigation channels within Cleveland Bay will be affected by the construction of the project.

Local effects of the project will also require investigation and mitigation as part of the EIS. Such effects include localised scour, localised sedimentation and formation of tidal bars, effect on sea grass beds etc.

Similar analysis and modelling will be required for the extraction site to ensure the extraction does not cause any adverse impacts to sedimentation and siltation processes in the vicinity of the extraction site.

4.2.2 Storm and Flood Hydraulics

The TOT Project will involve construction within and adjacent to the Ross River and Ross Creek estuary. This river provides a discharge point for the largely developed foreshores of the Ross River in Townsville city centre.

Any works which have an adverse impact on flooding may result in damage upstream of the project.

Adverse effects could occur as a result of:

- Increases in rainfall run-off;

- Loss of floodplain storage volume;
- Restriction of downstream discharge channels; and/or,
- Increased conveyance of upstream discharge channels.

Due to the project location, it is unlikely that the project would have any impacts on rainfall run off or floodplain storage volume. Increased sedimentation within the Platypus Channel could restrict the river/ creek discharge channel. However, as the channel will be maintained by dredging, this effect would be negligible.

The potential impact of the TOT Project on local flooding will be negligible as this area is open to the sea. However, the impact of storm tides on this area will need to be investigated as storm surge and flood levels will need to be confirmed to determine acceptable reclamation levels.

Storm surge and flood hydraulics will also impact on revetment wall heights and form.

Townsville City Council is in the process of reviewing flood modelling assessments of parts of Cleveland Bay in proximity to the Project Site. The findings of this study will be reviewed as part of the EIS process.

4.2.3 Wind and Wave Action

The project site is relatively protected from open sea waves as the Project Site is in the shadow of Magnetic Island. However, significant waves can impact the Project Site and modelling will be required to accurately define the design waves and impact velocities.

The predominant wave direction is approximately 30^{o} True. This is approximately parallel to the alignment of the new Strand Breakwater and normal to the Northern Breakwater. The most severe wave conditions will be experienced along the Northern Breakwater.

The seaward end of the New Strand Breakwater will experience similar wave impacts and heights to the Northern Breakwater. However, these will reduce closer to the shoreline.

The existing Port Western Breakwater is sheltered from the open sea and thus experiences the smallest waves.

Numerical modelling of Cleveland bay and the Project Site will be required in order to predict design waves and propose stable rock sizes and profiles. This may require additional wave height monitoring although significant data for this area exists from past studies. Models will need to be refined to reflect the current concept design layout. This will be completed as part of the EIS process.

4.2.4 The Strand Beach Impacts

Townsville City Council have recently completed a redevelopment of the Strand foreshore. This project included beach stabilisation and strengthening using seawalls and groynes. It is possible that construction of the New Strand Breakwater and the TOT Project could change tidal flows and wave action on the Strand Beach.

This will be investigated during the tidal hydrodynamic and wave modelling for the project to ensure that no adverse impacts are generated. The EIS will examine these effects and propose mitigation measures to ensure that any changes to the performance of the Strand Beach are managed. These measures could include adjustments to the project layout or suggested amendments to the Strand Beach strengthening provisions.

4.3 Capital Dredging

The navigation requirements for the TOT Berth and the Marina access through Breakwater Cove Precinct are noted in sections 2.1.2 and 2.2.1 above. Capital dredging will be required to provide these depths.

The quantity of capital dredging is to be confirmed. The effect of this dredging on the hydraulic performance of the Project Site and the environmental impact of the dredging process will be investigated as part of the EIS process.

This will include the effect of silt plumes, water quality targets and mitigation or control measures required to maintain these targets.

Capital dredging for the general fill material will be required at the extraction site(s). The effect of this dredging on the extraction site(s) including changes to hydraulic performance, effects on aquatic flora and fauna and water quality will be examined in the EIS.

4.4 Sedimentation and Maintenance Dredging

Maintenance dredging is currently carried out along the Platypus Channel and in the vicinity of Berth 1. Periodic dredging of the marina access channel is also required to maintain a navigable depth.

It is likely that this maintenance dredging will be required during construction and operation of the project. The EIS will investigate the impact of the project on the existing sedimentation patterns in the bay and propose measures to minimise any increase in dredging load.

The design of the Breakwater Cove Precinct will consider sedimentation patterns and include mitigation measures to minimise future maintenance dredging requirements.

4.5 Dredge Material Disposal

Dredged material from the port maintenance dredging is currently disposed of within an approved dump site. Extensive silt plume modelling of this material disposal has been carried out to predict the effect of this activity on local water quality. It is likely that this activity will continue unchanged following construction of the TOT Project.

It is intended that much of the dredged material will be treated and reused during the construction of the TOT Project. However, it is likely that dredged material unsuitable for building foundations will require disposal. The amount and nature of this material will be confirmed during the engineering design and EIS process.

Much of this material will consist of finer silt sized sediments which would not be suitable for beach nourishment. Disposal of such material at sea would generate turbid plumes and other potential impacts which would require investigation.

Further investigation of the potential quantities, the options for disposal available and controls required will be carried out as part of the EIS. The EIS will consider the impact of this additional material disposal on current dredging operations.

4.6 Water Quality Considerations

Water quality within the Project Site will be affected by two main factors:

- Tidal flushing; and
- Waste management within the Breakwater Cove Precinct and marina areas.

Tidal flushing will be investigated as part of the tidal modelling process to ensure that water exchange throughout the Breakwater Cove Precinct and marina area is sufficient to maintain acceptable water quality levels. Amendments to the Breakwater Cove Precinct layout may be considered should the tidal flushing performance of the current layout be found to be deficient.

Waste management within the Project Site will consider ‘best practice’ standards such as the provision of sewage pump out facilities, the enforcement of appropriate waste management protocols from vessels and the provision of adequate fuel management practices. No provision for boat maintenance will be included in the marina area.

Waste products will be quantified and modelled as part of the EIS process with appropriate monitoring and assessment activities identified. Appropriate management procedures and measures will also be proposed.

During construction of the works, there is potential for impacts on water quality from dredging and placement of fill material and rock armouring. These effects can be managed with careful consideration of construction procedures and effective containment of affected areas. The EIS will consider possible procedures and containment measures. Suitable quality indicators will be defined and monitoring

programmes will be presented. The EIS will also include suitable intervention strategies in the event of contamination incidents.

5 Environmental Factors

The Project Site has been significantly modified by the construction of the existing Breakwater Casino site, Mariners Drive peninsula and the Port Western and Northern Breakwaters. The port area is also regularly dredged. Therefore, it is unlikely that significant flora and fauna sites exist within the project boundaries. However, the EIS will include surveys of the existing environment and an assessment of potential impacts of the TOT project.

The extraction site(s) have not been confirmed. The EIS will incorporate surveys of the environmental values of the extraction site and an assessment of any positive or negative impacts for the extraction including mitigation measures where appropriate.

5.1 Conservation and Marine Park Zones

There are various conservation and marine park zones adjacent to the TOT and Breakwater Cove Precincts and possible material source sites that need to be assessed as part of the EIS process. These will include identification of areas such as Fish Habitat Areas administered by the Department of Primary Industries, Great Barrier Marine Park Zones, the Great Barrier Reef World Heritage Area and Boundaries and Principal Shipping Routes, Townsville Port Limits, River Catchment Coastal Buffer Zones.

Seagrass and Dugong Protection Areas

The project site is located within the Cleveland Bay Dugong Sanctuary which is classified as Zone 'A' protection area under the NCA. These areas have been shown to contain over 50% of dugong in the southern Great Barrier Reef. The species is recognised as an environmental value of the Great Barrier Reef World Heritage Area and is protected under the *Natural Conservation Act 1992* (NCA) and the *Environment Protection and Biodiversity Conservation Act 1999*.

The EIS project will assess the potential impacts on dugong and seagrass habitats as a result of development of the TOT and Breakwater Cove Precinct and will implement protection measures to prevent unreasonable impacts to significant species.

5.2 Marine Ecology and Biology

Marine plants are defined as plants occurring on or adjacent to tidal lands including, macroalgae, seagrass, mangroves, saltmarsh and Melaleuca and

Allocausarina adjacent to tidal lands. All marine plants are protected under the Fisheries Act 1994 and require a permit for removal, destruction or disturbance.

Surveys of the existing marine plant communities at the project and extraction sites will be carried out to record existing plant communities and assess the effect of the development on these communities. The impact of the project on these communities would then be modelled and mitigating measures incorporated where required.

The TOT project is not expected to impact greatly on the tidal flows in the vicinity of the development. Dredging is currently carried out within the Platypus Channel and the marina access channel. The EIS will examine the effect of the construction and operation of the TOT project on the existing tidal hydrodynamics and provide an assessment of impacts on water quality and tidal flows. This will also cover impacts on the strand beach including effects on sand migration.

The impact of undertaking the activity of material extraction will need to be fully investigated as part of the EIS process. This will include marine ecology surveys and tidal hydrodynamic modelling to ensure the short and long term effects on the extraction site are accurately assessed.

5.3 Benthic Fauna

Benthic fauna includes invertebrates and organisms which live in the bottom of a water column or in the marine sediments on the sea bed. These organisms may be affected by dredging both at the material extraction site(s) and the Project Site.

This will require baseline surveys of the existing communities to assess the current environmental values, possible impacts and mitigation measures. These will be completed as part of the EIS process.

5.4 Fish and Fisheries

Soft sediments support feeding and spawning habitats for a range of species including species of commercial significance. It is proposed to investigate currently available information on the fish species present along the Port Western Breakwater and within the project area.

Townsville supports a commercial fishing fleet which is based at Townsville Port. It is unlikely that commercial fisheries would be adversely affected by dredging in the project area. However, dredging at the material extraction site could affect commercial fish stocks. Recreational fishing is also popular along the breakwaters and foreshore areas.

The EIS will examine the impact of the proposed extraction and development sites on fish stocks and their access by recreational and commercial fishing.

This may include modifications to dredging proposals to reduce the risk of interrupting important life cycle attributes including migration and spawning periods.

5.5 Shorebirds and Seabirds

The urban coastal location of the Project Site would limit its ability to support a high feeding or roosting value for shorebirds. However, an extraction site may have a high environmental value for shorebirds. Both sites will require investigation and assessment for shorebird habitat value.

The EIS will assess whether the material extraction or project sites are used as habitats by species of conservation significance under:

- International Bilateral Conservation Agreements (JAMBA or CAMBA);
- State Legislation, i.e. Queensland Nature Conservation Act 1994;
- Commonwealth legislation, i.e. the Environment Protection and Biodiversity Act 1999.

This assessment will include construction and operational effects including noise and air quality impacts. Potential impacts to shorebirds and seabirds will be investigated along with measures which could be incorporated into the projects to enhance habitat values for birdlife.

5.6 Terrestrial Flora and Fauna

The urban environment of the project site limits the impact of the project site on terrestrial flora and fauna. There are no areas of significant vegetation within the project boundaries which would be compromised by the construction and operation of the facility and the future development area. There is limited opportunity for colonisation from surrounding areas as the area is relatively developed.

The material extraction site(s) are yet to be determined. However, it is likely that the bulk of the fill material will be sourced from a river estuary or coastal location. In this case it would be likely that the effects on terrestrial flora and fauna would be negligible.

The EIS process will include an assessment of the potential impacts of both the project and the material extraction site on terrestrial flora and fauna.

5.7 Traffic and Transportation

The construction and operation of the TOT and FDA will generate additional pedestrian and vehicular movements to service the development. Traffic and transportation studies will be completed during the EIS to determine the effects and requirements of this additional traffic.

This study will include the impacts on existing networks for:

- Cars;
- Public transport;
- Cyclists;
- Pedestrians; and
- Commercial traffic.

The study will include assessment of the potential impacts on the existing Townsville Convention Centre operation during special events and the operation of the TOT and FDA areas.

5.8 Noise and Vibration

The Project Site is currently located adjacent to a busy port facility - the Townsville Port. Current sensitive noise receptors in the vicinity would include the Breakwater Casino and the Breakwater marina facility. The Mariners North residential apartment complex is the closest residential facility to the Project Site.

There will be increases in ambient noise levels during construction of the facility and during the operation of the cruise ship terminal. Construction impacts can be managed by the enforcement of noise level limits and construction watersheds which limit both noise levels and construction times.

Operational noise impacts are likely to be short term impacts, i.e. during arrival and departure of cruise ships. Vehicle movements during ship servicing operations will also cause noise impacts.

The creation of a residential subdivision adjacent to the existing operating port and new cruise ship terminal will create a major new sensitive noise receptor that currently does not exist. The proponent has entered into specific Port Protection Agreements with the Townsville Port Authority.

The EIS will consider the impact of the construction and operation of the facility on the existing infrastructure and on the proposed residential development. The EIS will propose suitable acceptable noise levels and screening measures as required to ensure noise levels are maintained to acceptable levels. This will include baseline monitoring to establish the current noise levels around the project site.

Noise impacts at the material extraction site(s) will be temporary as the site will be unaffected after construction. Dredging and material extraction activities have the potential to affect shorebirds and terrestrial fauna. These temporary impacts will be investigated in the EIS with critical areas of concern and proposed mitigation measures presented.

5.9 Waste Management

Modern cruise ships have state of the art waste facilities on board and are required to comply with the International Convention for the Prevention of Pollution from Ships (MARPOL) requirements. This sets requirements for the storage, treatment and removal of pollution from ships.

"Best Practice" standards will apply to the removal and treatment of waste from cruise ships and there should be no impacts from the removal of waste material from ships on water quality in the area. There may be some impacts from the on-site storage and road transport of waste material if this option is chosen.

Water quality within the future development area will be modelled to ensure that adequate flushing of canal water occurs and stagnation is prevented.

The EIS will consider the capacity of waste management facilities within the existing marina including appropriate sullage facilities to ensure that water quality within the marina basin and residential canals is maintained within acceptable levels.

There may be some air quality impacts due to exhaust gasses and waste materials. This will be affected by emitted pollutants and regional and local meteorological conditions.

The EIS will consider these impacts and will include local and regional air quality conditions to provide suitable pollutant levels and monitoring requirements. This will include current air quality monitoring to establish the current environmental conditions.

5.10 Ballast Water Management

The Australian Quarantine and Inspection Service (AQIS) has developed and implemented new ballast water management requirements. These are aimed at reducing the risk of introducing foreign marine pests into Australian waters. Compliance with these ballast water requirements should result in minimal risk of translocation of pest species through ballast water. This will be examined in the EIS.

5.11 Existing and Proposed Navigation Considerations

The cruise ship dedicated TOT Berth is proposed as an indent into the existing Port Breakwater. This breakwater forms the western boundary of the Platypus Channel which is the main access point for Townsville Port. It is vital that cruise ships can effectively access the berth and ensure that navigation within the existing channel in not adversely affected by cruise ships while docked in the berth.

The current proposal for the berth is shown as sketches C005 and C006. This layout maintains a 46m clearance to the centre line of the Platypus Channel as previously agreed with Townsville Port Authority.

The final configuration of this berth will be confirmed following engineering studies to define:

- Turning circles and swing basins for proposed shipping;
- Dredging and depth requirements;
- Tidal impact on ship manoeuvring;
- Wharf and hardstanding requirements;
- Berthing requirements for proposed shipping including dolphin/bollard design; and
- Navigation equipment adjustments including navigation lighting, signage and radar/electronic requirements.

Minimum requirements for the above elements are defined in Schedule 2 of the Development Agreement. These include:

- Dredging and depth requirements and ship manoeuvring (Section 2.2.4);
- Wharf and hardstanding requirements (Section 2.3.1, 2.3.12);
- Berthing requirements for proposed shipping including dolphin/bollard design (Sections 2.3.3, 2.3.4 and 2.3.5); and
- Navigation equipment adjustments including navigation lighting, signage and radar/electronic requirements (Section 2.3.9).

These requirements will be defined and agreed with the Queensland Government and Townsville Port Authority.

The design of the Breakwater Cove Precinct will ensure that current and future marina and private berth traffic can be accommodated. This will include modelling of the access channel orientation to ensure acceptable navigation characteristics and maintenance of adequate water depth throughout the facility.

These issues will be reported on as part of the EIS process.

5.12 Air Quality

Air quality within the Project Site will be affected by:

- Dust generation during construction;
- Air pollutants emitted during operation of the facility; and
- Prevailing meteorological conditions.

The EIS will consider these impacts and will include local and regional air quality conditions to provide suitable pollutant levels and monitoring requirements. This will include current air quality monitoring to establish the current environmental conditions.

Measures to limit dust generation and control emitted gasses will be presented as part of the EIS.

5.13 Cultural Heritage

The Aboriginal Cultural Heritage Act 2003 (ACHA) states that a notified Cultural Heritage Management Plan (CHMP) is required if an EIS is undertaken. The ACHA also provides information on the nature and content of a CHMP, which is a document registered by the Minister for Natural Resources and Mines. It is proposed to undertake a CHMP as part of this EIS process.

5.14 Land Tenure and Use

There are various stages of land tenure dependant upon staging of the TOT Project pursuant to the Development Agreement with the State and the *Breakwater Island Casino Agreement Amendment Act 2006*.

In simple form, once the EIS process has been approved by the State, the Department of Natural Resources & Mines will grant the State a Perpetual Lease/ Term Lease over TOT Project Area. This Head Lease will then be sub-leased to the proponent for the TOT Precinct and the Breakwater Cove Precinct.

Upon completion of the TOT Precinct, the State will surrender the TOT Precinct sub-lease to the operating entity and provide the proponent with tenure to the Breakwater Cove Precinct. Upon and upon finalisation of reclamation, the sub-lease of the Breakwater Cove Precinct will become freehold land available for on-sale.

All tenure will be subject to reasonable and relevant conditions, pursuant to the State Development Agreement and other applicable legislation.

5.15 Social Considerations

The TOT Project and the residential development of the FDA is a considerable development which may impact upon local communities.

The EIS will identify and assess the social impacts (real, perceived, short term, long term and cumulative) of the TOT Project upon both the local and regional community and identify measures to mitigate negative impacts and enhance positive impacts.

The EIS process formally requires public notification processes.

5.16 Health and Safety

The construction and operation of the cruise ship terminal and the Breakwater Cove Precinct area will introduce a number of activities and uses to this area which will create interfaces between users and present health and safety issues. These include:

- Construction safety procedures;
- Interfaces between the general public and construction activities;
- Increases in traffic to and from the terminal and the residential development and interfaces between road, cyclist and pedestrian traffic;
- Incident management issues including fire, traffic incidents and terrorist attack etc.;
- Provision of a safe environment through effective lighting, visibility etc. (CPTED issues);
- Waste removal and possible spillages.

The EIS will consider these issues and present measures to be adopted along with quantitive monitoring levels and assessment criteria.

5.17 Economic Considerations

The TOT project will provide both initial and ongoing economic benefits to the Townsville region. To examine this economic impact, the two elements of the project can be examined separately.

The Cruise Terminal

In addition to the initial construction investment which is estimated to be worth $50 Million there will be ongoing economic benefits to the region through the visits by cruise ships and military vessels.

The cruise ship industry in Australia is expected to record double digit growth over the next 12 months.[1] This figure is supported by new facilities in Brisbane, Darwin and the TOT.

The AEC Group estimate that total expenditure in 2005/2006 will be in the order of $437,000,000 of which $279,000,000 is direct expenditure, a 91.9% increase over the previous year. Queensland will account for 18.2% of this expenditure with 83.1% of that activity focused on Brisbane. Townsville currently experiences a modest level of expenditure being less than $0.5million.

This project will greatly enhance Townsville's reputation as a cruise ship destination and a substantial increase on the current 1,000 to 2,000 passengers per year to be expected. The AEC Group note that up to 40,000 passengers could be

[1] AEC Group Economic Impact of the Cruise Shipping Industry in Australia, 2005-06 – "Cruise Down Under"

expected each year. Such an increase would result in a local expenditure in the order of $20,000,000 per year.

Military Vessel Visits

Townsville's role as a host city for visiting military vessels, particularly the US Navy is well known. More visit can be accommodated and the duration of these visits could be extended if wharf facilities are available.

At present, visiting military vessels compete with industrial shipping for berth space. Organisations like Townsville Enterprise estimate that visiting military vessels spend $1,000,000 a day while in Port, with an estimated 50 visit days a year. This trade is worth $50,000,000 per year.

The Integrated Rresidential/Tourism Development

The Residential/Tourism development adjacent to the cruise/military terminal will be a boost for the local tourism industry by providing waterside tourism facilities like those already available in the more prominent tourist cities such as Cairns and Port Douglas. Such facilities are not currently available in Townsville and they will therefore enhance Townsville's reputation as a tourist destination and supplement the existing hospitality and tourist retail and accommodation facilities.

5.18 Hazard and Risk

The TOT Project will present potential environmental and health and safety risks and rate risks in terms of likelihood of occurring and potential impacts.

The EIS will describe the design features of the project and emergency services arrangements to manage accidents/incidents, including all fire and life safety provisions in the design and incident management procedures proposed. This will consider the needs of disabled persons.

The EIS will also consider risks to the current operations of Townsville Port and the risks which the port operation could generate for the project.

6 Environmental Management

The EIS will include draft Environmental Management Plans (EMP) for both the project site and the material extraction site(s). These plans will outline the strategies to be adopted to address impacts identified in the EIS studies.

The purpose of these EMP's will be to set out the project commitment to environmental management and will include the following sections:

- Introduction and project description;
- The project's legislative requirements;
- Mitigation measures to be included in the detailed design of the project and the development of the construction documentation;
- Mitigation strategies for the construction phase;
- Mitigation strategies for the operational/maintenance phase of the project;
- Monitoring, auditing and reporting strategies for the construction and operational aspects of the project;
- Responsibilities assigned to relevant persons/organisations; and
- Procedures and reporting mechanisms including a complaints mechanism for identified non-conformances and the implementation of corrective action.

7 Conclusions

It is proposed that the State determine the TOT Project to be declared a significant Project and following that gazettal, a draft Terms of Reference (ToR) for the preparation of an Environmental Impact Statement can be prepared. The draft ToR requirements would be based on the assessment of issues and impacts presented in this IAS and the matters of national environmental significance now determined as

applicable under the EPBC Act. The draft ToR can then be presented for public and agency comment.

The final ToR for the EIS will then be prepared and issued by the Coordinator General, based on agency and public comments.

The EIS process will then be commenced with all potential beneficial and adverse impacts assessed during the EIS process. Mitigation measures to minimise identified impacts will then be incorporated into the final design of the project through the Environmental Management Plan.

The EIS will then be made available for public and agency comment and any concerns addressed in a supplementary EIS if required.

Appendix A

SKETCHES

REV	DESCRIPTION		
A	ORIGINAL ISSUE	K.M.R.	17.08.06

SURVEYOR

SCALE (AT ORIGINAL SHEET SIZE)

ORIGINAL SHEET SIZE: A1

CLIENT: CITY PACIFIC LIMITED

ARCHITECT: BUCHAN GROUP

PROJECT: PROPOSED CRUISE SHIP TERMINAL, TOWNSVILLE

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TITLE: TOWNSVILLE OCEAN TERMINAL PROJECT SITE LOCATION PLAN

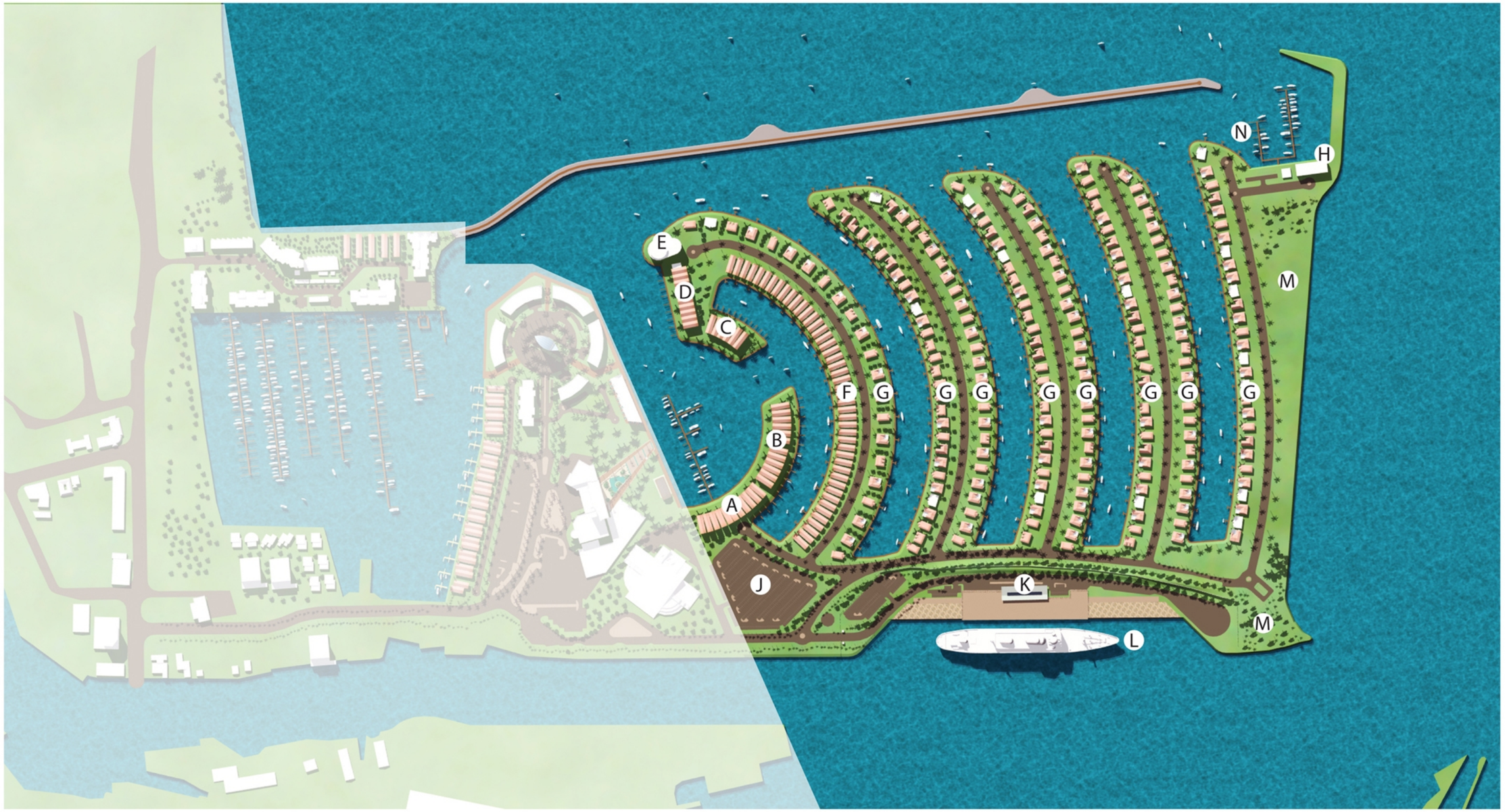
REVIEWED

APPROVED

R.P.E.Q. No. .....

DESIGNED	L.D.
DRAWN	K.M.R.
DATE	AUGUST 06

DRAWING No.	PROJECT No.	ISSUE
C001	QL6039	A



(i) Home Sites		
		APT NO.
F	SMALL SITES (DETACHED)	47
G	LARGE SITES	219

(ii) Apartment Blocks (including some retail components)	
BLOCK	NO. OF STOREYS
A	5
B	5
C	5
D	5
E	9
H	4

(iii) General	
J	CAR PARK
K	OCEAN TERMINAL BUILDING
L	BERTH POCKET
M	PUBLIC PARK
N	CLUB/ADMIN FACILITY

REV	DESCRIPTION
B	LAYOUT AMENDED
A	ORIGINAL ISSUE

SURVEYOR: BRAZIER MOTTI

CLIENT: CITY PACIFIC LIMITED

SCALE (AT ORIGINAL SHEET SIZE):

ORIGINAL SHEET SIZE: A1

ARCHITECT: BUCHAN GROUP

PROJECT: PROPOSED CRUISE SHIP TERMINAL, TOWNSVILLE

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TITLE: TOWNSVILLE OCEAN TERMINAL
PROPOSED PROJECT LAYOUT

REVIEWED:

APPROVED:

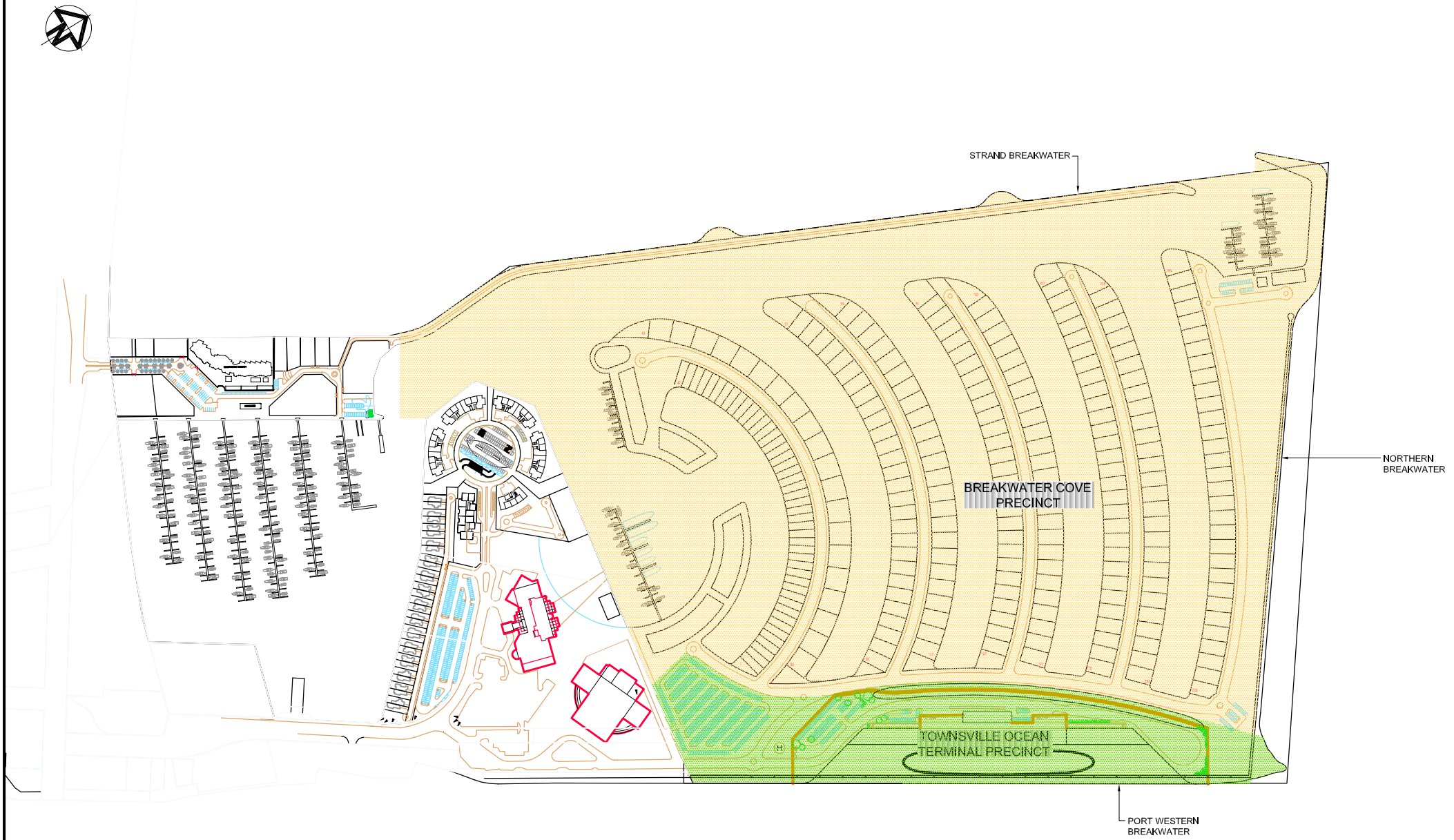
R.P.E.Q. No.

DESIGNED:

DRAWN:

DATE:

DRAWING No.	PROJECT No.	ISSUE
C002	QL6039	B



REV	DESCRIPTION		
B	LAYOUT AMENDED	ABG	17.10.06
A	ORIGINAL ISSUE	K.M.R.	17.08.06

SURVEYOR
BRAZIER MOTTI

SCALE (AT ORIGINAL SHEET SIZE)
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1 : 25000

ORIGINAL SHEET SIZE
A1

CLIENT
CITY PACIFIC LIMITED

ARCHITECT
BUCHAN GROUP

PROJECT
PROPOSED CRUISE SHIP TERMINAL, TOWNSVILLE

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TITLE
TOWNSVILLE OCEAN TERMINAL
PROJECT COMPONENTS

REVIEWED		APPROVED	
		R.P.E.Q. No.	
DESIGNED	L.D.	DRAWING No.	PROJECT No. — ISSUE
DRAWN	K.M.R.	C003	QL6039 — B
DATE	AUGUST 06		

A	ORIGINAL ISSUE	K.M.R.	17.08.06
REV	DESCRIPTION		

SURVEYOR

SCALE (AT ORIGINAL SHEET SIZE): NOT TO SCALE

ORIGINAL SHEET SIZE: A1

CLIENT: CITY PACIFIC LIMITED

ARCHITECT: BUCHAN GROUP

PROJECT: PROPOSED CRUISE SHIP TERMINAL, TOWNSVILLE

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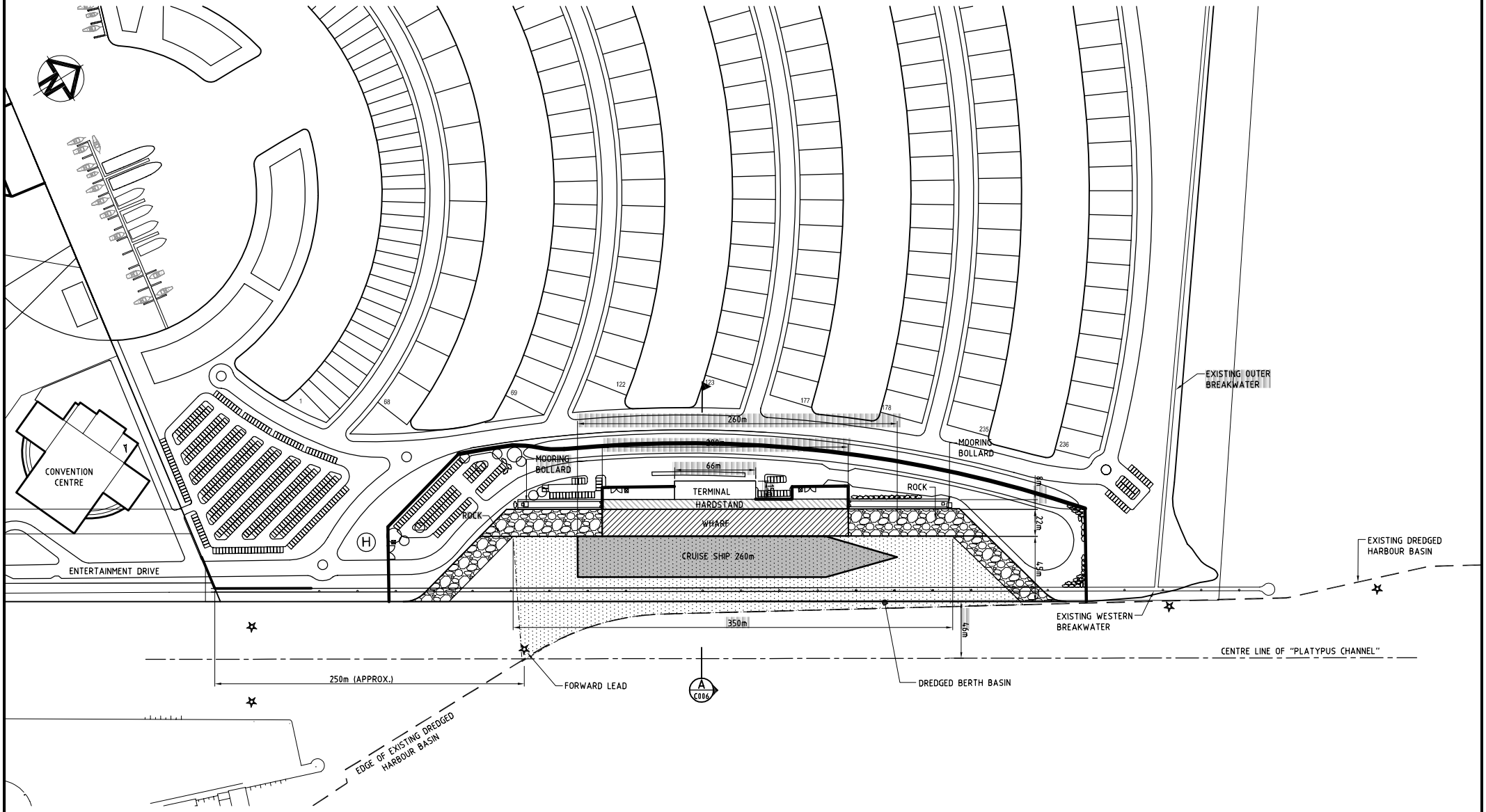
TITLE: TOWNSVILLE OCEAN TERMINAL POTENTIAL MATERIAL SOURCE SITES

REVIEWED		APPROVED		
		R.P.E.Q. No.		
DESIGNED	L.D.	DRAWING No.	PROJECT No.	ISSUE
DRAWN	K.M.R.	C004	QL6039	A
DATE	AUGUST 06			



NOTE:
SUBJECT TO EIS ASSESSMENT AND FINAL DESIGN

REV	DESCRIPTION		
C	LAYOUT AMENDED	ABG	17.10.06
B	WHARF SIZE AMENDED	K.M.R.	04.09.06
A	ORIGINAL ISSUE	K.M.R.	17.08.06

SURVEYOR: BRAZIER MOTTI

SCALE (AT ORIGINAL SHEET SIZE): 0 30 60 90 120 150m — 1 : 1500

ORIGINAL SHEET SIZE: A1

CLIENT: CITY PACIFIC LIMITED

ARCHITECT: BUCHAN GROUP

PROJECT: PROPOSED CRUISE SHIP TERMINAL, TOWNSVILLE

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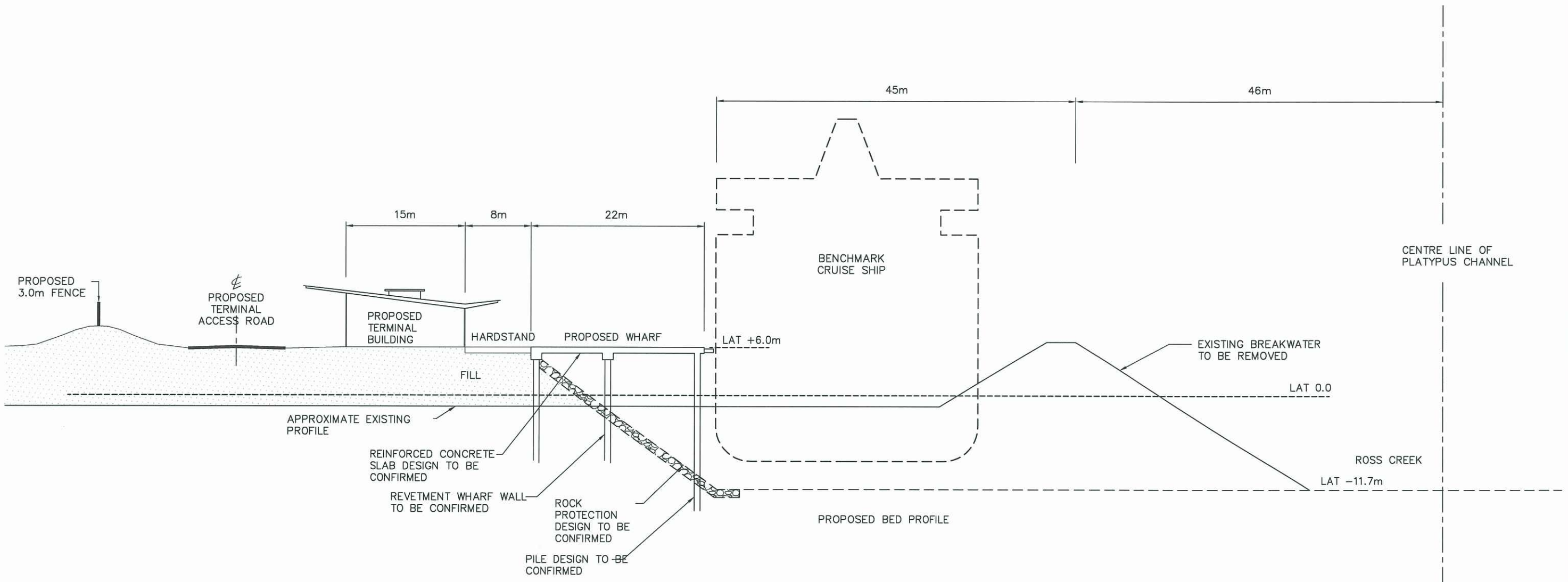
TITLE: TOWNSVILLE OCEAN TERMINAL WHARF AND DREDGING PLAN

REVIEWED		APPROVED	
		R.P.E.Q. No.	
DESIGNED	L.D.	DRAWING No.	PROJECT No. — ISSUE
DRAWN	K.M.R.	C005	QL6039 — C
DATE	AUGUST 06		



SECTION A
SCALE 1:20 C005

NOTE:
SUBJECT TO EIS ASSESSMENT
AND FINAL DESIGN

REV	DESCRIPTION		
A	ORIGINAL ISSUE	K.M.R.	17.08.06

SURVEYOR

SCALE (AT ORIGINAL SHEET SIZE)
0 5 10 15 20 25m
1:250

ORIGINAL SHEET SIZE
A1

CLIENT
CITY PACIFIC LIMITED

ARCHITECT
BUCHAN GROUP

PROJECT
PROPOSED CRUISE SHIP
TERMINAL, TOWNSVILLE

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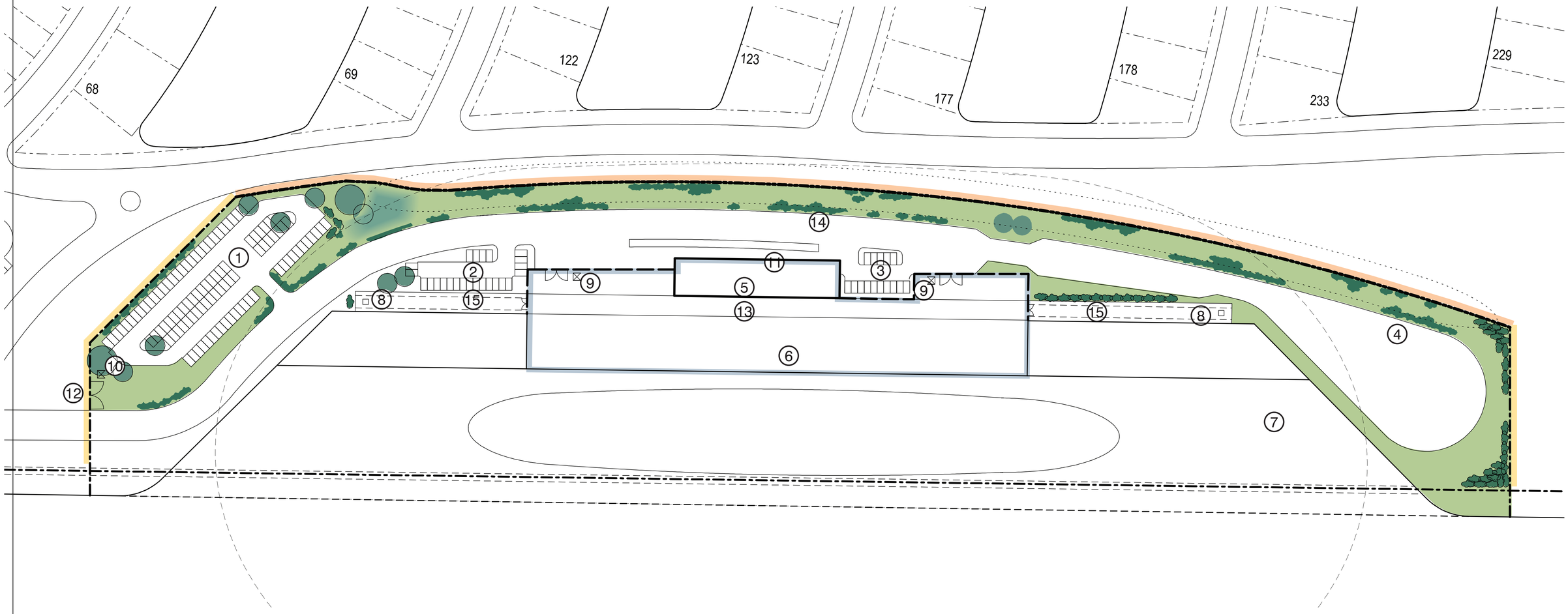
TITLE
TOWNSVILLE OCEAN TERMINAL
PROPOSED WHARF SECTION

REVIEWED		APPROVED		
		R.P.E.Q. No.		
DESIGNED	L.D.	DRAWING No.	PROJECT No.	ISSUE
DRAWN	K.M.R.	C006	QL6039	A
DATE	AUGUST 06			



1. PUBLIC CARPARK (100 CARS)
2. VIP/HIRE VEHICLE PARKING (20 CARS)
3. OFFICIAL VEHICLE PARKING (12 CARS)
4. BUS/TRUCK PARKING (12 BUSES)
5. TERMINAL BUILDING
6. WHARF DECK
7. BERTH
8. MOORING BOLLARD
9. GUARDHOUSE
10. SECURITY CHECK POINT
11. SET DOWN AREA
12. MAIN ENTRY GATE
13. HARD STAND
14. TAXI
15. FOOTPATH

- TREE
- GRASS
- SHRUBS
- INNER SECURITY ZONE
- ACOUSTIC BARRIER
- CHAIN WIRE FENCE
- CRASH BARRIER & CHAIN WIRE FENCE

REV	DESCRIPTION
B	WHARF SIZE AMENDED
A	ORIGINAL ISSUE

SURVEYOR

SCALE (AT ORIGINAL SHEET SIZE)

ORIGINAL SHEET SIZE A1

CLIENT
CITY PACIFIC LIMITED

ARCHITECT
BUCHAN GROUP

PROJECT
PROPOSED CRUISE SHIP TERMINAL, TOWNSVILLE

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TITLE
TOWNSVILLE OCEAN TERMINAL
WHARF MASTERPLAN

REVIEWED

APPROVED

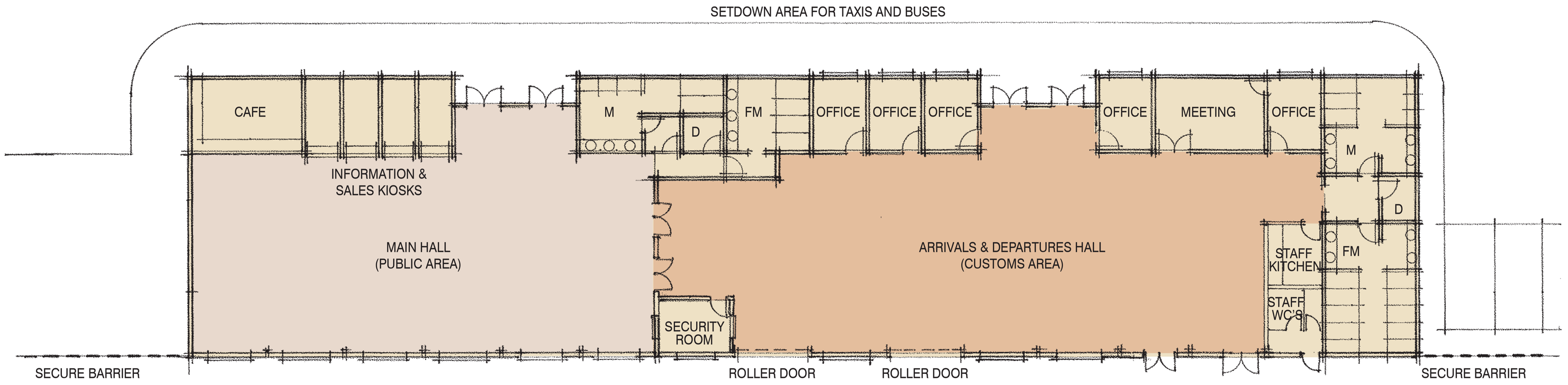
R.P.E.Q. No. .....

DESIGNED

DRAWN

DATE

DRAWING No. C007 — PROJECT No. QL6039 — ISSUE B



REV	DESCRIPTION		
A	ORIGINAL ISSUE		

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SCALE (AT ORIGINAL SHEET SIZE)

ORIGINAL SHEET SIZE: A1

CLIENT: CITY PACIFIC LIMITED

ARCHITECT: BUCHAN GROUP

PROJECT: PROPOSED CRUISE SHIP TERMINAL, TOWNSVILLE

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TITLE: TOWNSVILLE OCEAN TERMINAL
TERMINAL BUILDING CONCEPT PLAN

REVIEWED		APPROVED		
		R.P.E.Q. No.		
DESIGNED		DRAWING No.	PROJECT No.	ISSUE
DRAWN		C008	QL6039	A
DATE				