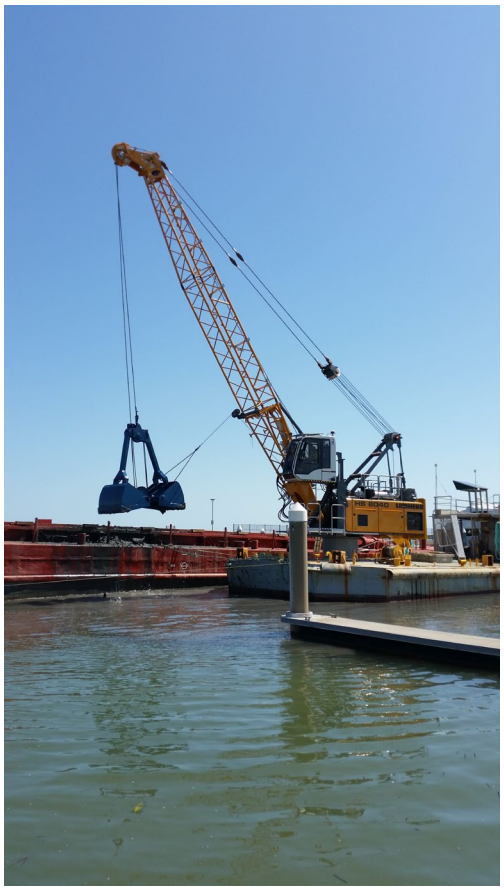


Ports North

Dredging

Environmental Management Plan

For dredge vessel "*Willunga*"

Port of Cairns

2021

Contents

Version Control	Details	Date
1	Updated annual details	July 2006
2	Updated annual details	June 2007
3	Name change to Cairns Ports Limited throughout, Updated Section 4-annual details Updated references	7 July 2008
4	Name change to reflect Far North Queensland Ports Corporation (FNQPC) Updated annual details Updated references – NODGM to NAGD	August 2009
5	Name change to reflect Ports North	1 March 2010
6	Edited to meet linkage as a subordinate document of the Cairns LTMP 2010-2020	5 May 2010
7	Edited to reflect third party permit audit, December 2011 OFI's and idientifed wordproofing edits	August –September 2011
8	Environmental Clearance Certificate no. 145-2011. Included as addendum	19 September 2011
9	Updated for 2012 Campaign details; Agencies updated; updated for PN Organisation Structure	31 July 2012
10	Updated for 2013 campaign details. Section 2.1 updated	3 September 2013
11	Updated for 2014 campaign	22 July 2014
12	Updated for 2015 Navy campaign, agency and position titles updated	24 July 2015
13	Updated for 2016 Navy campaign	25 August 2016
14	Updated for 2017 Navy Base campaign	27 September 2017
15	Updated for 2019 Navy Base and Inner Port	3 Jan 2019
16	Updated for 2019 Navy Base and Inner Port, Marina works and new Crane details	1 March 2019
17	Updated for 2020 Navy Base campaign, and status of Permits	14 August 2020
18	Updated for 2021 campaigns	11 June 2021

1. PURPOSE AND BACKGROUND

The purpose of this Dredging Environmental Management Plan (EMP) is to provide a comprehensive framework for best-practice environmental management of all of maintenance dredging and sea dumping activities conducted by Ports North using its own dredge equipment. This plan encompasses management of activities by Ports North staff utilising our dredging plant (*Willunga*, Punt No.1) or any ancillary equipment. A separate EMP is to be implemented by contractors engaged by Ports North for the annual entrance channel maintenance dredging activities. This work has typically been by the Port of Brisbane Pty Ltd owned trailing suction hopper dredge, the "*Brisbane"*.

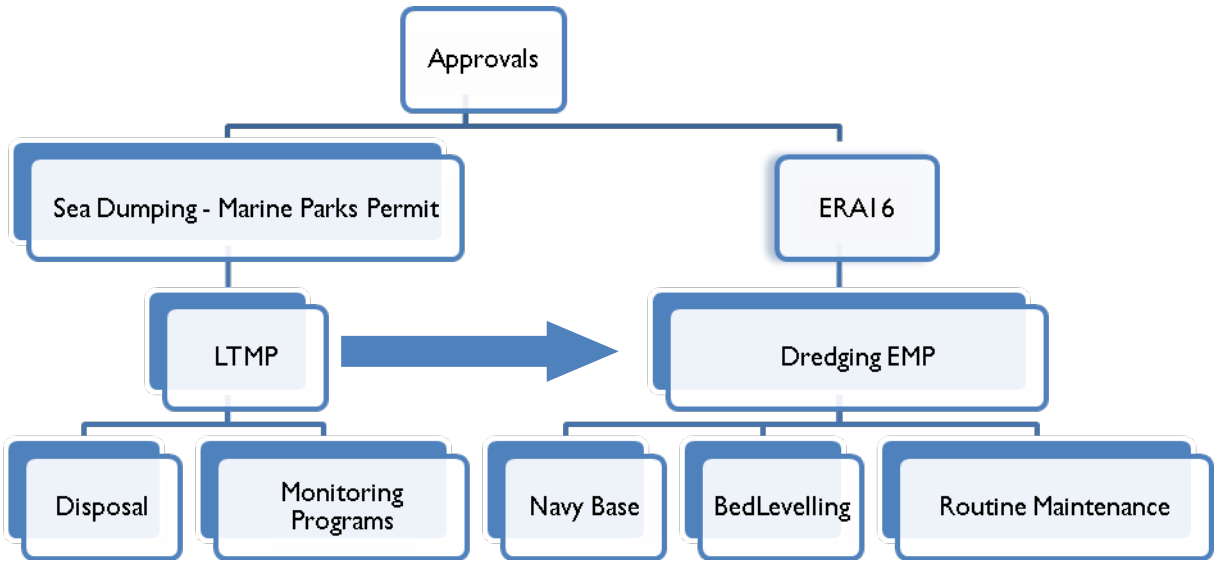
Ultimate objective of the plan is to minimise the risk of environmental harm as a result of those activities and enable Ports North to meet its commitments outlined in the Environment Policy (**Appendix A**).

The General Objectives of the EMP are to:

- Provide the Plan for implementation of the operational control set out in the Long Term Management Plan approved for dredging activity at Port of Cairns;
- Describe organisational structure, management responsibilities and procedures relevant to the works.
- Facilitate compliance with legislation and approvals.

For the purposes of this document, the following definitions apply:

- "*inner port*": from the Department of Transport and Main Roads –Harbour Masters offices in Smiths Creek north to and including the Marlin Marina and from Coconut Slipway in the eastern arm of the Inlet north to the same location
- "*entrance channel*": from the northern extent of the Marlin Marina north to the end of the shipping channel
- "*operational port area*": all of the above. The operational port area is that which is excluded from the Fish Habitat and Marine Park Areas and defined in *Transport Infrastructure Act* (see **Appendix B.**).



2. ENVIRONMENTAL APPROVALS

Approvals for the conduct of dredging activity by Ports North consist of two main approvals, being;

- Environmental Authority for conduct of an Environmentally Relevant Activity approval issued by the State, Department of Environment and Science (DES);
- Sea Dumping Permit and Marine Parks Permit issued by the Commonwealth via the Great Barrier Reef Marine Park Authority (GBRMPA).

These are described further below and copies of most recent approval attached as an Appendix C.

2.1. ENVIRONMENTAL AUTHORITY

Works completed by Ports North staff on its port facilities, Navy facilities, or on behalf of lessees require an environmental authority under the *Environmental Protection Act 1994*.

Until 2010, dredging associated with the major annual maintenance dredging program was considered a Port management activity where no royalty was paid to Ports North, and therefore it was considered an excluded activity in respect to the *Environmental Protection Act 1994* and known as a deemed activity by a Port Authority under the *Transport Infrastructure Act 1994*.

From 2010, all Queensland Port Authorities were required to hold an ERA 16 Extractive and Screening Activities –Dredging, approval for the maintenance dredging actions previously completed under the *Transport Infrastructure Act 1994*. Ports North held a Development Approval (5010000065 and SPCE00127910) and a Registration Certificate (ENRE00472206) for Environmentally Relevant Activities (ERA) 16.

For a period, PoBPL held a Registration Certificate for their activity in the channel and Ports North held a Registration Certificate for the *Willunga* operations, however these were amalgamated to the one Environmental Authority, and PoBPL acts as a Suitable Operator, engaged by Ports North.

From 31 March 2013, changes to the *Environmental Protection Regulation 2008* due to the *Green Tape Reduction Regulation 2013*, led to a transition to a single Environmental Authority **EPPR00395813** for the conduct of ERA16-1(c)Dredging>100,000-1million t/yr for Port of Cairns with an anniversary date in September.

Ports North maintains an Environmental Management System to address general environmental management of the organization, inclusive of requirements of the former IEMS and present SBMP requirements. A monitoring plan is set out in the Port of Cairns LTDSDMP approved by the GBRMPA and Cairns Technical Advisory Consultative Committee (TACC). This Plan encompasses the content required for the "management plan" condition of the EA, and is also inclusive of the monitoring program to address the conditions of the ERA 16 approval.

The EA was amended on 1 April 2020 to reflect a new set of drawings which encompasses the outcome of the Cairns Shipping Development Project capital dredging works completed in 2019. Balance of the conditions remain unchanged, and the drawings reflect the depths and widths requiring ongoing maintenance.

2.2. MARINE PARKS AND SEA DUMPING PERMITS

Ports North maintains a Sea Dumping Permit issued by the Great Barrier Reef Marine Park Authority pursuant to the *Environment Protection (Sea Dumping) Act 1981*, the *Great Barrier Reef Marine Park Act 1975*

(Commonwealth) and *the Marine Parks Act 2004* (Queensland) to load and dump spoil arising from maintenance dredging, at a designated spoil disposal site;

- **Marine Park Permit G10/33155.1**
- **Sea Dumping Permit SD10/03**

Approval Period; 17 June 2010 to 1 June 2020.

This approval was varied in 2014, to correct the annual volume from wet cu.m to equivalent dry tonnes, and then in 2016 a further variation to correct the permit total from wet cu.m to dry tonnes, enabling sufficient volume capability through to 2020.

The Sea Dumping Permit was varied in early 2020, to extend the term of the approval through to June 2022 to enable utilization of the full initially approved volume, whilst an application for the next Marine Park Permit is lodged and assessed. On 19 May 2020, the application for a new Marine Park Permit was lodged, and that process results in the existing permit conditions continuing to have effect till such time as the Permit is decided. Prior to that an updated LMDMP is to be negotiated with stakeholders and assessed by GBRMPA and as that process nears conclusion, an application for the next Sea Dumping permit is to be lodged, and enable the two approvals to have a complementary term, anticipated to be a 10 year approval through to 2031.

This permit is a long term approval granted after development of a Long Term Management Plan for dredging and disposal, and formation of the Cairns Port Technical Advisory Consultative Committee (TACC) which includes various port users and Commonwealth and State agency representatives. Copy of permit provided in **Appendix C**.

A copy of the LTDSDMP for Dredging and Disposal-Port of Cairns is accessible on Ports North's website www.portsnorth.com.au.

The disposal site is located in a circular area of one nautical mile in diameter, centered on Latitude $16^{0}47'24"$S and Longitude $145^{0}48'48"$E. The area is located within Port Limits and also within the General Use zone of the GBRMP. Unconfined disposal is currently practised. The permit also allows contingency loading and dumping in response to a rapid loss of navigable depth resulting from a catastrophic event such as a cyclone or flood. The area covered by the permit and the location of the spoil ground is shown in **Appendix D**.

2.3. MARINE PLANT AND FISH HABITAT AREA

A Development Approval for the Disturbance of Marine Plants within the channel, spoil ground and inner port areas was granted by DAF (formerly DPI&F).

The Permit and Permit Areas are outlined in **Appendix E**.

- **2006CA0478** Marine Plant Disturbance

These above mentioned permits extend to all contractors employed by Ports North for the purposes related to the permit, including maintenance dredging conducted by contractors.

3. LOCATION OF DREDGING

Maintenance dredging activity is conducted in areas as identified in **Appendix I** these areas are within port limits, within the Port Area and subject to Port Operations as defined under the definitions of the *Transport Infrastructure Act 1994*. This is the approved maintenance dredging area permitted under the State ERA16 approval as set out in the Schedule to the EA.

Maintenance dredging of these areas aims to ensure that the original approved design profile (depth, batter slope, insurance depth etc.) is retained so that the Port Authority and Regional Harbour Master are able to permit use of the areas by certain size vessels.

The majority of maintenance dredging is completed in the Entrance Channel, Inner Port Wharves 1 to 12, Navy Base, Marlin Marina, and Commercial Fisherman's Bases 1 & 2.

Appendix I includes the maintenance dredging area in which activities by the "*Willunga"* are completed.

4. TYPES OF DREDGING AND DEMAND

In preparation for each of the respective types of dredging activity proposed for Ports North, investigation of the approvals and information needs is made. This includes evaluation of the status of sediment at the proposed site. For routine maintenance dredging areas, a recurrent annual program of sampling is completed in the first quarter of the year, post wet season, to inform the dredging schedule.

There are three main types of dredging activity conduct at Port of Cairns which are described further in the following section and are conducted in order to ensure that channels, berths and construction areas are maintained at their design dimensions.

Ports North undertakes such dredging works using its grab dredge *"Willunga"* (see Section 4.0) in association with the hopper barges GHT 22 and AD501 and Punt Number 1 (also referred to as the Pile Frame). Dredge material is loaded onto the bottom dump hopper barges for transportation to the approved offshore dredge spoil disposal site. The combination of grab dredge and barges can relocate approximately 300 m^3 of material per trip. Bed leveling operations are undertaken using a drag bar attached to Punt Number 1, to level areas from which bucket dredging by the *"Willunga"* has left an uneven sea floor. The use of a larger bed-levelling vessel, the *Pacific Conquest* is also engaged for use in some inner port areas where a slightly larger vessel is more productive. Such vessel operations are managed under the EMP developed by that contractor, reviewed by Ports North so as to ensure that they meet or exceed the requirements outlined in this document and the LTDSDMP.

4.1. ROUTINE PORT MAINTENANCE

A minor portion of the overall maintenance program is accomplished by the *"Willunga"* while the majority of channel, swing basin and some berth dredging, is currently undertaken by a larger trailing suction hopper dredge ("*Brisbane*") in a single campaign conducted once per year by a dredging contractor such as the Port of Brisbane Pty Ltd or equivalent. This contractor must develop an EMP to satisfy Ports North's requirements (and those of relevant permits) prior to commencement of works.

4.1.1. INTRODUCTION

Works will be conducted within the operational port area by Ports North using dredging plant such as the *Willunga* and Punt No.1 throughout the year.

These activities are conducted along the main wharves 1-12, as well as periodic dredging and bed leveling for Marlin Marina, Commercial Fisherman's Base 1 and 2.

4.1.2. EQUIPMENT

Ports North makes use of the grab dredge "*Willunga"*, (see **Appendix J**) in association with the hopper barges GHT 22 and AD501 and Punt Number 1. Dredge material is loaded onto the bottom dump hopper barges for transportation to the approved dredge spoil disposal site.

Table 2 Specifications of the "*Willunga"*

Barge length	24.80 metres
Breadth	8.96 metres
Depth	1.30 to 2.58 metres
GRT	125.69 tonnes
Year of construction	1963
Registration number	4202 QE
Make	Liebherr HS 8040 clamshell dredge crane manufactured in 2018
Grabs	Verstegen (Silt,sand,mud) 2.5m^3 clamshell bucket with spare

Minimum specification for these activities will be;

- Use of Hydrographic Survey Plans and GPS unit to ensure works are conducted within the footprint of the permitted structure (Berth, channel, marina, batter slope etc.)
- Equipment will be maintained in structurally sound and well maintained condition to ensure potential for spillage, equipment failure or unexpected discharges are minimized.
- Wash down of plant and equipment to remove accumulated spoil will be conducted within the worksite or at the disposal site to ensure turbid plume is minimized to within the vicinity of the worksite, rather than en-route to disposal site.

4.1.3. DESCRIPTION OF DREDGING AND DISPOSAL

Approximately 30,000 dry tonnes (approx 60,000 wet cu metres) is removed annually from the routine inner port maintenance areas of the port. This activity occurs in the areas defined in **Appendix I** during the year. Work is mainly along the main wharf berth pockets, and at each of the marinas. There is periodic, but

irregular maintenance of the inner port channel and two swing basins as these areas are naturally self-cleaning due to high tidal induced currents. Dredging occurs on a regular schedule, modified to suit shipping and berth allocation schedules. Dredging and relocation of material will generally take place from 0600hrs to 1800hrs Monday to Friday and 0600hrs to 1800hrs on Saturdays.

The dredged material is disposed at the approved ocean disposal site.

4.2. NAVY BASE - SPECIFIC INFORMATION

4.2.1. INTRODUCTION

HMAS Cairns Navy Base is located on Commonwealth Land, at the eastern perimeter of the industrial suburb of Portsmith, on the western shore of Trinity Inlet with road access from Draper St Cairns. The base accommodates about 13 minor war vessels and 2 hydrographic survey vessels. HMAS Cairns is responsible for all Naval activity in North Queensland including the logistic requirements associated with port visits by all RAN and foreign warships. Natural siltation at the naval base necessitates annual dredging of the berth pockets on an alternating program of inner berth/outer berth.

Ports North has been contracted by HMAS Cairns via their service provider to conduct maintenance dredging of the facility inner and outer berths. The works area is shown in the plan included for **Appendix I.** The purpose of dredging is to provide for continued vessel access to the wharf, allowing ongoing naval operations.

4.2.2. EQUIPMENT

Ports North uses the grab dredge "*Willunga"*, (see **Appendix J**) in association with the hopper barges GHT 22 and AD501 and Punt Number 1. Dredge material is loaded onto the bottom dump hopper barges for transportation to the approved Ports North dredge spoil disposal site.

4.2.3. DESCRIPTION OF DREDGING AND DISPOSAL

Approximately 25,000 wet m^3 (inner berths) and 12,500 wet m^3 (outer berths) of material will be dredged from the site in a program estimated to take eight to ten weeks in duration. Dredging occurs on an alternating basis between inner and outer berths. Dredging and relocation of material will generally take place from 0600hrs to 1800hrs Monday to Friday and 0600hrs to 1800hrs on Saturdays.

4.3. BED LEVELING - SPECIFIC INFORMATION

The use of drag baring or bed leveling as a sediment management option can occur as a specific campaign alone, or at completion of maintenance dredging activity. It aims to smooth out any irregularities created by the clam shell or dredge heads. Drag baring is an efficient method for moving minor volumes of sediment and targeting localized accumulations. Ports North conducts drag barring with Punt No.1 at various locations within the maintenance dredging area, and at various times throughout the year. The services of a specialist contractor, such as East Coast Maritime Pty ltd, and a vessel like the *Pacific Conquest* may be utilized in addition to Ports North's equipment in parallel with dredging works or as a standalone activity. The activity results in localized short term mobilization of sediment and associated chemical composition which has

temporary presence within the water column dependent on tidal state and prevailing flood, tide and wind conditions. Monitoring of past drag barring activity and observation of events indicates that levels of turbidity are not dissimilar to that which occurs during routine dredging or disturbance of the sea floor by vessel manoeuvring.

Minimum specific management actions for drag baring include ensuring staff are aware of onboard waste, incident, spill and wildlife management sections of this EMP. Works to be conducted within permitted design footprint of structure (berth, channel etc)

4.3.1. EQUIPMENT

Ports North use Punt No. 1 (see **Appendix J**) in association with small powerful workboats to maneuver the barge within the dredge area. The large drag bar is controlled by the length and scope of chain to ensure target depth is set and maintained during towing operations.

4.4. MAINTENANCE OF TENANT FACILITIES

From time to time, various tenants on strategic port land with water front infrastructure may require dredging services to maintain access or upgrade their facility. As the port operator, with suitable dredging equipment, Ports North may conduct this work as a contractor. Implementation of this EMP will occur in those situations, with any required amendments made to ensure compliance during the works with any specific approvals issued by the determining authority to the tenant, or for spoil disposal. Review of the Aspect and Impacts, and any subsequent Risks identified in that process will then be addressed as additional Management Measures in Section 6 below.

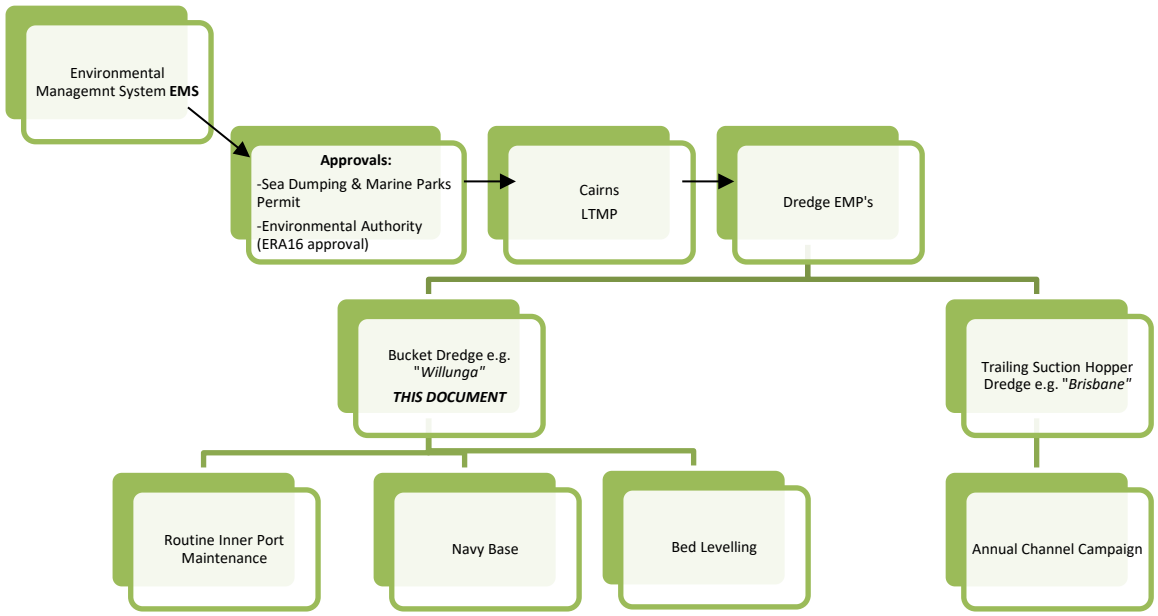
This type of work is typically of minor volumes approximately 10,000 wet m^3.

Prior to works, investigation of sediment quality will be required to meet NAGD requirements, and a site specific Sediment Analysis Plan developed and submitted to the determining authority for approval. If the spoil is intended for disposal at the Ports North ocean disposal site, then a specific approval is sought from the determining authority.

4.5. CAPITAL DREDGING

Capital works permit applications are submitted on an as-needed basis and separately from the maintenance dredging application process. Capital works dredging is any such works that disturb previously un-dredged areas. This may include works to enlarge or deepen existing channels and port areas or to create new ones; to create trenches for pipes, cables, to remove material suitable for foundations or to remove overburden for aggregate extraction etc. The size of the operation is not relevant to the classification as maintenance or capital works. Specific pre-design Environmental Impact Assessment and Study (EIA or EIS) stages may be required in the event of a capital dredging proposal and subsequent project specific EMP and monitoring programs implemented. An EMP based on this document could form the basis of the project EMP, subject to amendment to reflect the aspects/impacts and risk assessment arising from the EIS process, and then the subsequent EMP submitted to the Determining Authorities as a component of the project approval.

5. MANAGEMENT ACTIVITIES



5.1. MANAGEMENT – SYSTEMS

Ports North manages Port of Cairns and nine regional ports on Cape York and the southern Gulf of Carpentaria. To ensure environmental management of these operations and the port environment are appropriately managed, an Environmental Management System consistent with ISO:14001 is implemented. This EMS applies to the actions of Ports North Staff, contractors engaged by them, and also to the management of the environmental component of the leases held by tenants, operators or uses of port facilities on port land or within the port limits. The EMS has several key components which apply to management of dredging;

- Permits and Licenses – an organized system to ensure compliance
- Incidents and Near Miss Management System – respond, record, report system for environmental events
- Environmental Assurance Program – facility, asset, and lease inspection regime – Site Based Management Plans
- Development and Maintenance Projects – specific Construction or Maintenance EMP's, work methods, audits & inspections. Includes dredge management process
- Port Ecological Health Monitoring Program – routine evaluation of the operational port catchment for the assessment of trends in catchment condition for correlation with potential impacts from port activities (including dredging) and measurement of management action effectiveness.

A selection of these are discussed below, or more detailed is contained within Ports North's EMS Manual.

5.2. MANAGEMENT – TENANT ENVIRONMENTAL MANAGEMENT PROGRAM

Bulk loading and unloading of three commodities occurs at the Port of Cairns – fuel, sugar and fertiliser. Mineral concentrates in bulk or other potential liquid or particulate contaminants are generally not handled across the wharves. Ports North, as the port operator is responsible for overall environmental management of leases, tenants and common users on strategic port land. Conditions within each lease or agreement outline specific environmental clauses, including a requirement to hold and maintain all relevant environmental approvals from respective state and local government administering agencies.

Operators on port land may conduct activities that meet the criteria of Environmentally Relevant Activities listed under Schedule 2 of the *Environmental Protection Regulation 2008*. Management of those activities is the responsibility of the Department of Environment and Science (DES), or for certain devolved activities, the local Cairns Regional Council (CRC). The most prevalent ERA's are for Boat Maintaining Repair Facilities, Abrasive Blasting, Surface Coating, Motor Repair Workshops and Fuel Storage. Bulk handling and Load-Unload ERA approvals are held by operators for the sugar, fuel and fertiliser activities.

Ports North does not conduct any of the loading/unloading activities, nor ERA activities likely to contribute contaminants or waste to the port environment.

A key component of the Environmental Management System maintained by Ports North, to ensure actions by others on port land, not under direct operational control is suitably managed via the Tenant Environmental Management Program. This focuses on a series of actions including engagement with applicable regulatory agency, regular reporting and verification to ensure operators maintain and improve site based management. The main requirement on long term or established operators at leased sites is development and implementation of a site based operational environmental management plan, including a detailed storm water management plan.

Ports North therefore has a landlord role in managing the relationship between lessee, tenants and common users, and the administering authorities. These other agencies hold responsibility for management of operator's compliance with licence and approval conditions, including those that cause or have potential to cause discharge of contaminants or waste to Trinity Inlet and ultimately to proposed dredge spoil.

Several tenants have Transitional Environmental Management Programs in place for capital expenditure on site improvements, remedial actions or implementation of environmental improvement initiatives.

Significant loads of contaminants and waste arise from urban storm water and sewage treatment plants in the Cairns area, distant to and outside the control of the Ports North. These urban storm water inputs are subject to the environmental controls in place by the Cairns Regional Council. Initiatives, which are predicted to improve the quality of waters and sediments within Trinity Inlet, include the completion of Clean Seas initiative upgrades from secondary to tertiary sewage treatment, and roll out of the Barron Trinity Inlet Water Quality Improvement Plan as part of the State "Reef Rescue Plan" initiatives.

As outlined above, Ports North's day to day staff operations consequently has minor potential to contribute to contaminant / waste concentrations in proposed dredge spoil, but the areas of the port seafloor maintained by Ports North ultimately bears the outcome of the actions by numerous other stakeholders on strategic port land and within the catchment.

The TEMP in conjunction with Ports North business systems aim to control or reduce contamination levels in sediments that will be dredged and include:

- Storm water management plans for strategic port land under its control,
- A commitment to maintaining a program of verification of Port and lessee operations through implementation of the TEMP,
- Direct liaison with port operators to raise awareness of tenants with respect to the potential to contaminate sediments.
- Specific clauses relating to environmental management in all property leases.

5.3. MANAGEMENT - PRE DREDGE ASSESSMENT

As the Port of Cairns is located in a high accretion tropical embayment, there has been a requirement for scheduled maintenance dredging throughout the history of the port. Consequently a regular hydrographic survey program is in place to gauge the need to dredge, and measure the result of each campaign. The process of pre and post surveys is managed by the Assets and Maintenance, Operations and Surveying sections. In support of this dredging schedule, the Environment section maintains a regular process for the pre-dredge assessment of the proposed dredging areas in respect of sediment quality and marine pests via implementation of the Sediment Analysis Plan (SAP). The design of the ongoing Sediment Analysis Plan or Sediment Quality Monitoring Program is in accordance with the requirements of the National Assessment Guidelines for Dredged Material (2009), conditions of the Sea Dumping Permit and LTMP. Samples are collected from the proposed routine dredging areas and sampling repeated at six locations at the spoil disposal area to gauge trends in sediment chemistry as a measure of effectiveness of past pre-dredge SAP implementations.

The SAP is amended over time to account for trends (long term non-detects) and any changes to land use that may give rise to the need to investigate new contaminants. A re-assessment of these "contaminants of concern" was made during the formulation of the 2010-2020 LTDSDMP, and has been reviewed in 2019-2020 to inform the draft LTDSDMP.

Implementation of the SAP typically occurs in the first half of the year, post wet season, to allow for any deposition from the preceding wet, and to allow database trend comparison of results across years.

An Extract of the SAP Report is provided to the client where applicable, e.g. for the Navy Base area once SAP Report is approved by GBRMPA.

5.4. ECOLOGICAL HEALTH MONITORING PROGRAM

As the Port Operator, Ports North and its predecessors have fostered and extensive environmental stewardship program through numerous studies, monitoring and industry fostered collaborations to ensure that the potential impacts of dredging activities under its operational control can be effectively managed. Ports North maintains a general long term ecological health monitoring program for port dredging and sea dumping, as well as implements specific monitoring where required. These programs include:

- Sediment Analysis Plan - implementation for dredging and disposal of spoil to the approved ocean disposal site.
- Trinity Inlet Water Quality Monitoring Program - conducted to support Ports North Environmental Management System (EMS).
- Marine Pest Monitoring Program - to detect presence of new larval marine pests.
- Long Term Cairns Harbour and Trinity Inlet Seagrass Monitoring Program - supported by Ports North and completed by TropWater- James Cook University (JCU),
- Long Term Management Plan (LTMP) - monitoring programs for the management of dredge spoil and disposal. In 2018 a LMDMP was developed to address the TMR Guidelines and obligations under the QLD Maintenance dredging Strategy (MDS), and incorporated during 2020 into the draft 2021-2031 LMDMP.

These programs assist to provide a long term measure of the status of the ecological health of the port catchment, and to measure the effectiveness of the various management initiatives implemented to control activities that the Port operator can influence to reduce the risk of potential impacts to environment in and around the Port.

6. OBJECTIVES OF THE EMP

The objectives of this EMP are to ensure:

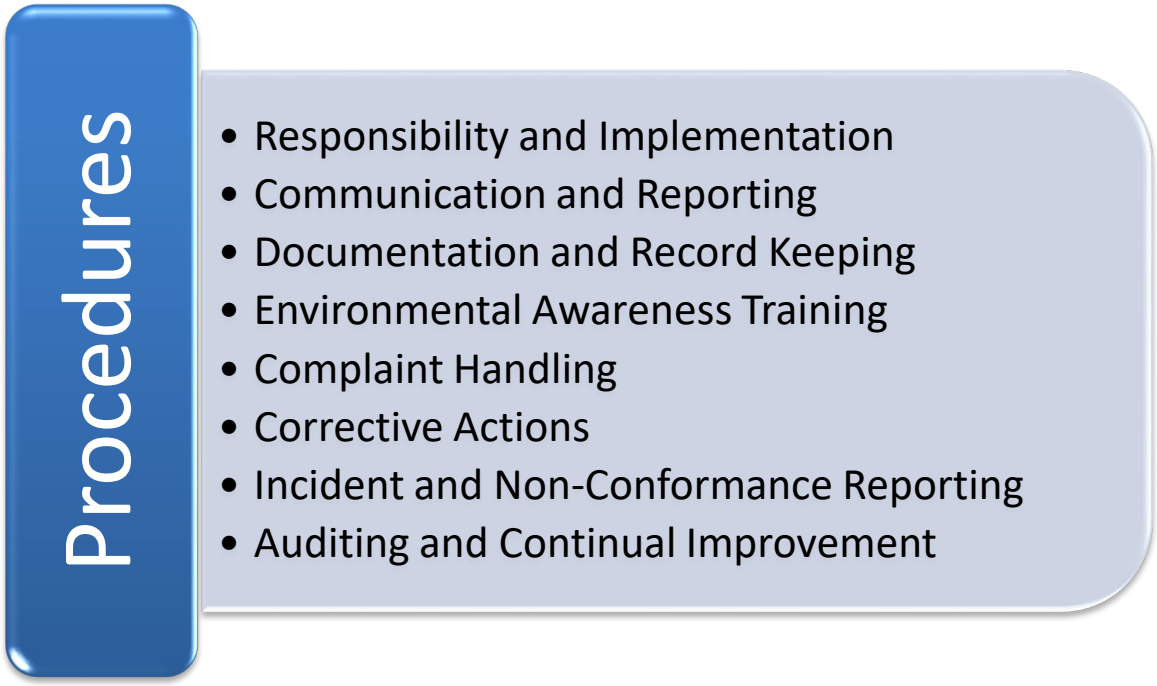
- responsibility and authority of personnel in relation to this EMP is understood;
- works comply with relevant environmental legislation, standards and LTMP;
- that a documented EMP is implemented, and maintained.
- Internal and external communications and reporting responsibilities are clear
- Information and requests related to dredging issues received from external parties are documented and responded to in a timely manner.
- All personnel performing activities related to environmental management of dredging are trained, qualified and competent.
- a representative of Ports North is available to receive queries from the public throughout dredging activities;
- all complaints are documented and addressed in a systematic manner.
- Environmental incidents and non-conformances with the EMP are identified, investigated and action is taken to mitigate any adverse impacts caused;
- corrective and preventative actions are initiated and completed;
- there is a clear reporting requirement for non-conformance and incidents; and
- non-conformances are used to reassess the integrity of the EMP;
- adequate records are maintained to demonstrate compliance with the EMP and that these records are available;
- Current versions of the EMP and contractors EMP's are in use at all times.
- EMP remains relevant and effective and provides appropriate safeguards; and
- Implementation of the EMP is verified by regular auditing, and is being effectively maintained and improved.

7. PERFORMANCE INDICATORS

Conformance with the Objectives for implementation of the EMP will also be assessed against the following Performance Indicators;

- Compliance with permit conditions;
- Objectives and deliverables of the Long Term Management Plan are met;
- Dredging contracts reflect this EMP;
- Dredging occurs when and where it is approved;
- No non-conformances with Permit conditions or objectives of the EMP
- This EMP is accessible to staff involved with operation of dredging equipment, and is up to date; EMP procedures are implemented, and up to date;
- Records of all environmental documentation are available and up to date;
- Verified non-vexatious complaints or incidents are recorded and responded to in line with Ports North procedures in a timely manner
- Audits and EMP reviews have been completed, recorded and are available.

8. PROCEDURES



6.1 INTRODUCTION

This component of the EMP establishes the procedures for implementation of environmental protection measures under the following component headings:

- Responsibility and Implementation;
- Communication and Reporting;
- Documentation and Record Keeping;
- Environmental Awareness Training;
- Complaint Handling;
- Incident and Non-conformance Reporting;
- Auditing and Continual Improvement;
- Corrective Actions

6.2 RESPONSIBILITY AND IMPLEMENTATION

Procedure

- The EMP will be adjusted where necessary depending on specific circumstances of the proposed works;
- Project-specific information is contained in Section 4, or a works specific addendum;
- Ports North will adjust the document as necessary for permit application and will supply a copy of the permit and conditions to any contractors to whom it is relevant.
- Where the works are to be conducted by Ports North under contract to a lessee or other party, Ports North will be responsible for update and implementation.
- In the case where a contractor performs dredging works on behalf of Ports North, the contractor shall, at Ports North's discretion via contract, be responsible for adjustment, update and implementation of the EMP.
- The contractor will be responsible for ensuring satisfaction with the EMP and of all conditions contained in all permits that relate to the works.
- The contractor will be responsible for carrying out their activities in an environmentally responsible manner, in accordance with the principles of sound environmental stewardship;
- Prime responsibility for control of this document within Ports North rests with the Environment Manager and General Manager Planning and Infrastructure.

Other responsibilities of Ports North with respect to dredging include:

- Conduct of sediment sampling and analysis programs in accordance with the LTMMP and National Ocean Disposal Guidelines for any areas of proposed maintenance or capital works dredging
- Submission of permit applications and Annual Return to DES to maintain the renewal of Certificate of Registration;
- Maintaining sea disposal approvals from GBRMPA;
- Ensuring compliance with the conditions of those permits as applicable
- Ensuring contractors are aware of their obligations under the permits;
- Including in dredging contracts the need for the contractor to show proof of satisfaction of permit conditions and implementation of the applicable EMP. This would include proof of vessel maintenance;
- Reducing the initial need for dredging via design of facilities where possible or through use of the sweep bar where applicable;
- Minimising over-dredging via providing accurate initial estimates of the need to dredge and monitoring of the dredged volume;
- Clearly delineating of the area and volume which requires dredging;
- Selecting the most efficient dredging apparatus in the circumstances;
- Only allow overflow dredging in conjunction with release of the supernatant below the water surface (as is now the case with the *Brisbane*);
- Conduct of hydrographic surveys of the spoil ground before and after each maintenance dredging program; Allowing extended working hours where practical and feasible;
- Ensuring procedures for emergency response (Port Counter Disaster Plan) are implemented & training provided to staff & contractors.

Other responsibilities of contractors include:

- Satisfaction of permit conditions;
- In the case of larger scale operations such as channel dredging, breaking the work into discrete areal segments to minimise broad scale disturbance;
- Use of fauna exclusion devices on the dredge heads if a TSHD is used, unless otherwise approved;
- Maintain dredging plant in good working order;
- Use extended working hours where practical and feasible;
- Not overloading hoppers;
- Vessels should take the shortest route possible to the spoil ground and avoid spillage by not overloading and not operating in extreme weather conditions;
- Accurately position fixing methods are to be used at all times;
- Vessel master to maintain watch for whales/dugong/turtles during dredging, transit and disposal and take necessary action where a collision risk is identified;
- Maintain a trace of vessel position;
- Spread the material evenly over the dump ground;
- Washing the hoppers while over the site, not while in transit;
- The following roles within these works and specific responsibilities are noted as follows;

Environment Manager	EMP implementation Inspection and auditing Incident recording and reporting
Plant and Maintenance Manager	Supervision Contract Management-tenant and Navy Base works
General Manager Planning and Infrastructure	Customer and stakeholder liaison Contract Management – Channel Dredging

6.3 COMMUNICATION AND REPORTING

Procedure

- Procedures for effective communication (internal and external) will be established via PN's internal procedures or by contract as may be applicable. Within Ports North the key staff with respect to communications, are the Environment Manager, General Manager Planning and Infrastructure, Plant and Maintenance Manager, and vessel masters.
- The Environment Manager (or dredging contractor if applicable) should maintain a list of names, affiliations, phone numbers (including after-hours numbers where necessary), fax numbers and email addresses of the people representing the interests of Ports North, DES, MSQ, wildlife care groups and others as appropriate to the task. Refer to **Appendix L**.
- The master of any vessel involved in a dredging operation will communicate as required by Ports North, the Queensland Department of Transport, Commonwealth Department of Transport and Communications, and the Australian Maritime Safety Authority.

- All project staff will heed any lawful direction of any duly Authorised Officer of the State or Commonwealth, such as the DES, DAF, etc.
- Notification of environmental incidents will be documented in accordance with procedures for Incident and Non-conformance Reporting procedures (**Section 2.7**).
- Handling complaints from the public regarding environmental matters in relation to dredging will be documented in accordance with Complaint Handling Procedures (**Section 6.6**).
- Communication and Reporting will be a component of Environmental Awareness Training (**Section 6.5**).
- Significant communications, including all reports, incident forms and complaints, will be documented and kept up to date to meet procedures for Documentation and Record Keeping (**Section 6.4**).
- Minutes will be kept by the dredging contractor or Ports North as applicable, of any meetings with or inspections by DES, DAF, or other permitting authority.
- With respect to environmental permit applications and reporting procedures associated with a dredging operation, all communications must be directed through the Ports North Environment Manager or General Manager Planning and Infrastructure.

6.4 DOCUMENTATION AND RECORD KEEPING

Procedure

- Prime responsibility for control of this document within Ports North rests with the Environment Manager and General Manager Planning and Infrastructure.
- Any adjustments to this document, proposed by contractors, must be approved by Ports North prior to submission to any third party.
- The Environment Manager is responsible for ensuring that the following documents are readily accessible to personnel carrying out activities associated with dredging:
    - a copy of this EMP;
    - copies of any environmental checklists and forms required by this EMP;
    - copies of relevant work instructions for the specific project (if undertaken by Ports North);
    - copies of permits required under the relevant environmental legislation
- The Environment Manager and contractor as applicable are responsible for ensuring that records are maintained with respect to:
    - ❑ non-conformance and incidents;
    - ❑ environmental training;
    - ❑ complaints;
    - ❑ permit applications;
    - ❑ permit approvals;
    - ❑ monitoring results (if applicable);
    - ❑ results of any audits or reviews;
    - ❑ reports, and
    - ❑ project-specific EMPs or work instructions

In the case of contracted works, records of the above will be maintained by the Contractor and forwarded to the Environment Manager.

- The Environment Manager and contractor as applicable are responsible for establishing and maintaining a document control system, which ensures all documentation in use on the project, is current.
- Contractors are responsible for ensuring that all relevant documentation is forwarded to the Environment Manager in accordance with the contract. This includes final EMPs, systems developed under the EMP (Document Control and Communication for example), specific work instructions developed in order to satisfy the EMP and records of training, complaints, non-compliance and EMP review.
- Plant maintenance records are kept used to program repairs and vessel/plant maintenance as required. Plant and Maintenance Manager is responsible for records related to plant maintenance.

6.5 ENVIRONMENTAL AWARENESS TRAINING

Procedure

- The Environment Manager and Contractor as appropriate will ensure that all project personnel receive appropriate environmental training prior to commencing works. Procedures will be in place for environmental induction and on-going training, to ensure staff and contractors are aware of:
  - the importance of conformance with the requirements of the EMP and relevant permits;
  - the potential consequences of departure from specified operating procedures;
  - the significant environmental impacts, actual or potential, of their work activities and the environmental benefits of improved performance;
  - their roles and responsibilities in achieving conformance with the EMP;
  - due diligence, environmental stewardship, liability;
  - specific areas of environmental risk (refer to Sections 1.4 and 1.5 of this document); and
  - emergency response procedures.
- The Environment Manager and Contractor as appropriate are responsible for maintaining records of training received by staff using a **Record of Training Checklist** (**Appendix F**).

6.6 COMPLAINT HANDLING

Procedure

- The Environment Manager or in the case of contracted works the Contractors senior representative will act as the point of contact with respect to complaints.
- Personnel involved in the works will be provided with a contact numbers for the Environment Manager and or Contractors representative and will refer callers to that number.
- All staff and sub-contractors are responsible for ensuring that records of complaints received are forwarded immediately to the appropriate person for action i.e. Environment Manager or Contractors senior representative.
- Upon receipt of a complaint or question, the all relevant details will be obtained and documented on the Complaints/Queries Report Form (**Appendix G**).
- All complaints will be investigated immediately by appropriate staff or contractors and all questions will be responded to as soon as practical.
- Contractors will forward details of Complaints/Queries to the Environment Manager and General Manager Planning and Infrastructure as soon as practical.
- All reasonable efforts will be made to resolve the issue.

6.7 CORRECTIVE ACTIONS

Procedure

Failure to meet the Performance Indicators shall be recorded as a non-conformance and be dealt with in accordance with Incident and Non-Conformance Reporting procedures, and where applicable the following actions taken;

- Ports North or the contractor shall correct the breach or where appropriate liaise with the Environment Manager, and appropriate administering authority to amend the EMP if necessary;
- Completion of satisfactory documentation;
- Amendments to works procedures will be considered where it is necessary to aid resolution of a justified complaint;
- The Environment Manager must be notified of any such corrections;
- In the event of continuing non-conformance with the EMP, the Ports North Environment Manager is empowered to halt dredging works until the situation has been rectified.

6.8 INCIDENT AND NON-CONFORMANCE REPORTING

Procedure

- Corrective Actions under this EMP have a requirement that failure to meet the specified performance indicators shall be recorded as a non-conformance and dealt with in accordance with the following Incident and Non-conformance Reporting procedures.
- In the event of an incident-related non-conformance (including harm to protected marine flora or fauna), the supervising staff member or Contractor as appropriate shall immediately act to:
    - secure safe conditions for staff, contractors and the public;
    - prevent further environmental harm; and
    - notify the Environment Manager & General Manager Planning and Infrastructure of the nature of the incident and any response actions and, should the scale of the non-conformance warrant (a spill for instance), any relevant Government Authority.
- In the event of an environmental incident related to the works, such as a fuel, lubricant or chemical spill, or spill of dredged material, details of the incident shall be recorded on the Environmental Incident / Non-conformance Report Form (**Appendix H**).
- Cases of non-conformance with the EMP will be recorded on the Environmental Incident / Non-conformance Report Form (**Appendix H**).

A copy of the completed Report Form shall be forwarded to the relevant Government Authority, if necessary, by the Environment Manager or Contractor responsible for the works. Note that under the *Environmental Protection Act 1994*, it is an offence to fail to notify the state Environment Agency of incidents of unauthorised serious or material environmental harm.

- A register of records of all incidents will be maintained;.
- The contractor must forward all Incident Report Forms to the Environment Manager at the time of the incident for all major incidents, or within three working days for all other incidents.
- If non-conformance with a Procedure or Mitigation Strategy contained within this EMP occurs, then the Environment Manager, relevant staff and the contractor, if applicable, shall review whether the requirement is practical and lawful. Appropriate corrective action will be implemented as soon as possible, which may include revising parts of the EMP in accordance with **Section 6.9**.

6.9 AUDITING AND CONTINUAL IMPROVEMENT

Procedure

- Contractors will review and adjust the EMP, only if approved by Ports North and in accordance with contract specifications.
- The Environment Manager will adjust the EMP as necessary for specific projects prior to the commencement of works.
- The Environment Manager will determine if a review of the EMP is required prior to the commencement of major works i.e. major maintenance dredging campaigns.
- The EMP will be reviewed annually.
- The Environment Manager will formally audit implementation of the EMP at inception, completion and at any time throughout the project. The audits shall address the following as applicable:
    - environmental objectives;
    - implementation of procedures;
    - achievement of performance indicators;
    - monitoring results as applicable;
    - non-compliance and corrective actions;
    - adequacy of environmental training;
    - treatment of complaints; and
    - suggestions for improvement of the EMP.
- Contractors must undertake their own audits of compliance with the EMP and report the results to Ports North.
- EMP revisions must be clearly identified within the document control system.

7. MANAGEMENT ELEMENTS – ASPECTS AND IMPACTS

Overall environmental risk is the sum of all components of impact, being:

- Duration
- area, and
- intensity of impact,

plus ameliorating measures, being:

- resilience of the environment, and
- effectiveness of mitigation strategies.

Mitigation strategies aim to reduce the duration, area or intensity of impact by targeting the cause and mechanisms of impact. The cause in this case is the act of dredging and the mechanisms are physical removal, smothering, generation of turbidity or water quality effects. The effort put into mitigation strategies should be relative to the value of environmental attribute under threat and the degree of risk in the absence of mitigation strategies.

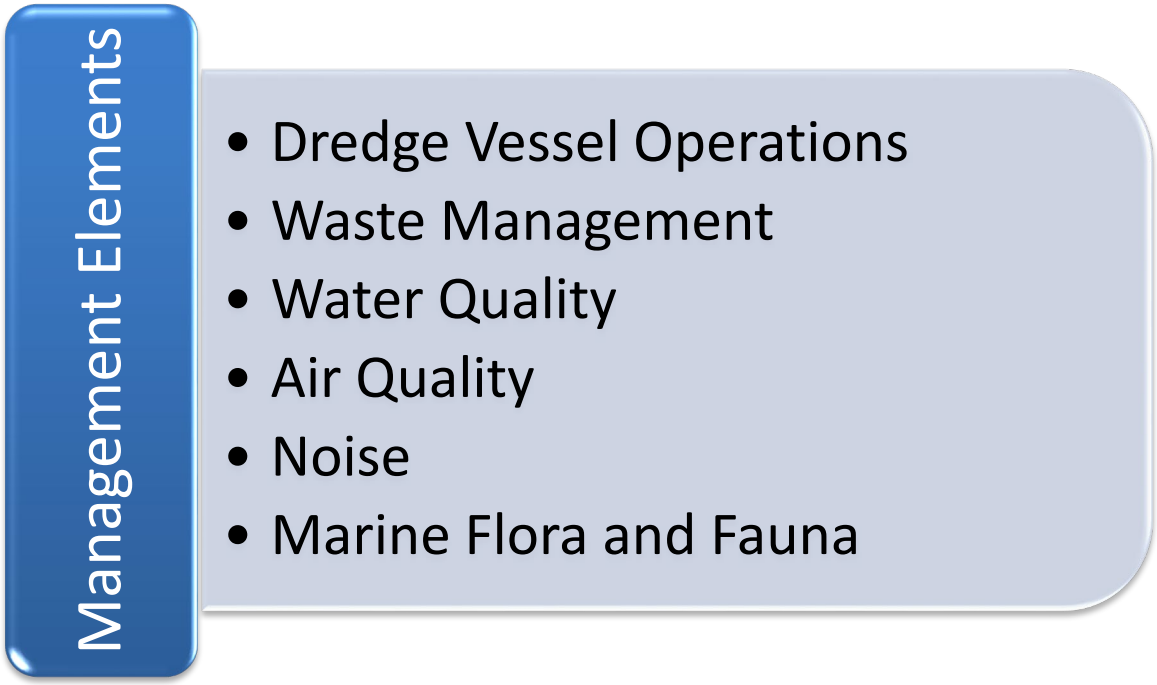
Specific mitigation strategies for dredging operations conducted within the Port of Cairns are included in this document.

This section provides principles, controls and management strategies for the different aspects of the project, which must be adhered to at all times by all persons involved in the project to reduce the potential impacts identified.

Under conditions of general operations, with all management actions, mitigation measures in place, the following qualitative risk profile is considered to prevail.

Standard Environmental **Aspects**	Potential **Impacts**	Consequence	Likelihood	Risk
Noise	Impacts to sensitive receptors and subsequent complaints	L	L	L
Air/Odour Emission	Impacts to sensitive receptors and subsequent complaints	L	L	L
Water Quality	Influence on quality of receiving waters from works, aesthetics, and subsequent impacts to flora and fauna	M	H	H
Contaminated Sediments	Mobilisation of contaminants in to water column and subsequent water quality impacts	M	H	H
Marine Fauna	Damage to large marine fauna, marine animal strikes	H	L	M
Cultural Heritage	Damage to artefacts or sites	M	L	M
Natural Disaster	Surge, wind, flooding	L	L	L
Waste (Solid & Liquid)	Pollutant release, complaints	M	L	M
Community Engagement	Impacts to un informed sensitive receptors and subsequent complaints	M	L	M

Detail on theses Aspects and Impacts, along with detail of typical environmental management plan content is explored in the following sections in the context of a typical dredging operation;



This component of the EMP outlines strategies for the protection of specific environmental values that may be affected by dredging within the operational port. Individual mitigation strategies have been prepared for:

- Dredge Vessel Operation
- Waste Management
- Spill and Emergency Response
- Water Quality;
- Air and Noise, and
- Marine Flora and Fauna

Strategies for each management element may be revised and updated based on experience. It is intended that specific work instructions be prepared for staff and contractors as the details of dredging methods and conditions of approval for each project are finalised.

7.1. DREDGE VESSEL OPERATION

Operation of dredge vessels is to be managed to ensure efficiency and accuracy to ensure scope of dredging is within permitted limits, and to ensure risks identified in this EMP and subsequent procedures are implemented.

Aspect	**Dredge Vessel Operation**
Impact	Non-compliance with permit conditions including dredging outside permitted site or timing may result in impacts to environment greater than those assessed in the LTMP and lead to environmental harm.
Objective/Target	• ensure dredging occurs within the specified design of the target dredge area and that spoil is disposed in an environmentally sound manner to the target spoil disposal site. • ensure that a systematic process is established to address unplanned situations that may pose a risk of environmental harm; • manage all hazardous materials properly; • prevent spills from occurring; and • contain and clean up any spills that do occur.
Impact	Non-compliance with permit conditions including dredging outside permitted sites or timing may result in impacts to environment greater than those assessed in the LTMP and lead to environmental harm.
Mitigation Measures and Management Actions	A risk minimization approach includes the following strategies: • Equipment maintained in good working order • Accurate positioning of the vessel while dredging and disposing • Not overloading hoppers • Spreading the material evenly over the site • Washing the hoppers while over the site, not while in transit. • Refueling will be conducted by licensed fuel suppliers in accordance with their Standard Operating Procedures. • Re-fuelling will occur at available wharves suited to tanker access. • In the event that it is necessary for Ports North to refuel vessels or plant in the works area, operations will be in accordance with the Standard Operating Procedures for Refueling. • Implement Counter Disaster Plan (includes Cairns Marine Pollution Contingency Plan). • Emergency Response Procedures will be confirmed by contractors and, via training, prior to the commencement of any works. • An Emergency Contact List will be maintained with an up to date copy retained by the contractor, vessel masters, Plant and Maintenance Manager and Environment Manager. • Storage of fuel, lubricants and oil in discrete containers on board vessels will be minimised. • Vessel crew are to regularly check equipment for evidence of leaks and fitness of hydraulic hoses and seals, and conduct maintenance or repairs as necessary to prevent drips, leaks or likely equipment failures. • All fuel, lubricant and hydraulic fluid spills including drips cleaned up immediately. • Fuel, lubricant, hydraulic fluid and hazardous materials storage and dispensing areas will be made secure and protected from vandalism.

Aspect	Dredge Vessel Operation
	Fuel, lubricant or hydraulic fluid loss will be treated as an "incident" and handled in accordance with Section 6.8. Chemicals used in vessel maintenance should be biodegradable wherever possible. Appropriate spill control materials including booms and absorbent materials will be maintained on vessels for use in the event a substance is spilled either on deck or to waters. A register of Materials Safety Data Sheets (MSDS) relating to all hazardous substances on board will be accessible. •
Performance Indicators	• Dredging occurs when and where it is approved and design specification of dredge area is maintained. • All vessels carry response equipment appropriate to the level of risk. The kits are restocked and accessible. • Staff has been trained in the use of the kits and in emergency response. • Ports North Standard Operating Procedures for Refueling available & implemented. • Any spills that do occur are effectively contained and cleaned up. • Incident reports accurately describe any spills & response actions. • Each chemical is used according to MSDS recommendations, and a MSDS is accessible for each chemical used on site.
Monitoring	• System for routine checking of dredge logs, dump location records and survey design depths is in place by respective Sections of Ports North. • Process for recording dredge volumes against permit total is completed by Operations/Survey Sections of Ports North on a regular basis. • The Environment Manager or contractor as appropriate will undertake audits which include: o ensuring that emergency response plans and equipment and materials are available, working and unobstructed; o emergency response contacts list is available, o checking hazardous materials are appropriately stored and MSDS are appropriate to the material stored • Equipment that uses fuel, lubricants, and/or hydraulic fluid, will be inspected during scheduled maintenance for the condition of hoses, valves, seals and reservoirs.
Reporting	• Post dredging survey plans are provided to relevant Agencies (e.g. RAN, Regional Harbour Master etc) at required frequency. If emergency response procedures are initiated for any spills of hazardous materials occur, the action will be reported as described in **Section 6.8**.
Corrective Action	• In the event of a non-conformance with permit conditions, notification is to be provided to Determining Authority in a timely manner outlining event details and proposed corrective actions to be implemented. • Review EMP, documentation and amend if required. • In the event of a spill, the spill source will be immediately isolated, stopped and contained and the procedures of the Counter Disaster Plan will be followed. In the case of small spills arising from containers on additional spill will be prevented by for example, closing valves, inverting damaged containers so that the hole is at the top or placing the leaking container into a larger one to catch the spill.
Term	Duration of maintenance dredging campaigns and relevant approval.
Responsibility	Ports North and dredging contractor staff

7.2. WASTE MANAGEMENT

Waste on board each dredge vessel is to be managed to ensure sufficient waste bins for the collection of on-board wastes until such time as appropriate on shore refuse disposal can be enacted, discharge overboard does not occur and waste hierarchy is implemented.

Aspect	**Waste Management**
Impact	Un-controlled release of waste from dredge vessels as litter may impact nearby environment and present a visual amenity impact. Inappropriate disposal of waste that does not follow the waste management hierarchy of reduce, reuse, recycle dispose impacts on resource efficiency.
Objective/Target	Minimise the production of waste, and maximise recycling; To ensure that general refuse produced on-board the vessels is collected, retained and transferred to appropriate facility in a lawful manner, without unintentional loss.
Management Actions and Mitigation Measures	• Areas will be allocated on vessels for solid and liquid waste storage. • Waste shall be separated for recycling/reuse where practical. • If wastes listed as 'Trackable Prescribed Wastes' are handled or transferred, documentation in accordance with Environmental Protection Policy (Waste) will apply (refer EPP Waste). • Ports North's vessels will dispose of waste by transfer to land-based facilities such as those at the workshop. These are then disposed of via a licensed contractor. • Contractor vessels will transfer waste as required to licensed land-based contractors. • Housekeeping procedures, including spillage control, will be implemented to minimise the generation of waste. All waste awaiting disposal will be stored appropriately. During at-sea operations: • Supply of appropriate collection bins. • Transfer of waste as required to on-deck bins. • All on-deck bins secured in position to prevent movement whilst at sea. • Material placed in bin to be as compacted as possible to reduce space requirements. • Where facilities exist to recycle material, appropriate separation of refuse. • These are to be fitted with secured lids to prevent material being blown overboard during either storage or handling. • Visual check to ensure that on-deck bins have sufficient capacity to retain general waste until next scheduled on-shore transfer. During transfer: • An approved contractor is to be arranged for disposal of Traceable Prescribed Waste. • Licensed collector to be used to collect general refuse. General • Minimise waste generation. Adopt the waste minimisation practices of - reduce, reuse and recycle. • Ensure there is no contamination of surrounding environments in compliance with the General Environmental Duty of the *Environmental Protection Act 1994*.
Performance Indicators	• Appropriate receptacles are on board and being used All waste is disposed of lawfully. No loss of general refuse over-board during vessel operations, collection, storage or transfer.

Aspect	Waste Management
Monitoring	Regular visual assessment of collection points and on-deck bins. Complete Daily EMP Checklist – refer Appendix E
Reporting	• A record/manifest will be maintained for "Trackable Prescribed Waste transfer and disposal. • The manifest shall record the type of waste, and the point and date of disposal. This may be the waste receptacles at the workshop for Ports North's vessels or the details of waste collection and disposal contractors on the part of dredging contractors. Reporting of material loss over-board to Vessel Master – and Complete Incident Form –Appendix B
Corrective Action	• Failure to meet the performance criteria shall be recorded as a non-conformance incident and be dealt with in accordance Procedure**.** • If practicable, retrieve material that was lost overboard. • Review procedure causing material loss and rectify immediately.
Term	During all operations
Responsibility	Crew and then Vessel Master
Term	During all operations

7.3. WATER QUALITY INCLUDING TURBIDITY

After consideration of possible contaminants within the material proposed for dredging has been assessed and material considered suitable for dredging and disposal, the primary consideration then relates to sedimentation and turbidity. Secondary water quality effects such as changes to dissolved oxygen, sulphides, pH and conductivity are typically of very minor risk due to the material remaining wet and in a similar regime of oxygenation to that in which it formerly resided on the seafloor, Ports North will ensure that dredging and bed leveling operations minimises turbidity production to reduce impacts to adjacent marine resources, such as seagrasses wherever practical through use of best practice equipment, mitigation measures and effective management of the campaign. Monitoring component for water quality impacts of dredging and bed levelling works will be implemented in accordance with LTMMP monitoring plan which has been prepared following assessment of past data and risk, to address approval requirements.

Ports North has historically included a works-specific water quality-monitoring program within the EMP contingent on outcomes of the sediment quality results. Specific water quality monitoring may be conducted when bioavailability assessment indicates levels of contaminants that may cause water quality impacts when disturbed.

A specific water quality monitoring program may be implemented during routine dredging works within Maintenance Dredging Area if triggered by one of the following:

From the aspect of Turbidity:

- Any substantial change to the type of plant and equipment (i.e. from a Clam shell dredge to an open excavator dredge etc.), or,
- duration (i.e. more intense round the clock operation), or,
- location (outside the defined routine maintenance dredging areas outlined in Appendix I or as a tenant/or capital dredging project).

And or, from a Sediment Contaminant aspect:

- if any sediment quality parameter is determined by the pre dredge Sediment Analysis Plan (SAP) process to have potential to generate water column effects during dredging and disposal disturbance through;
    - exceedence of the NAGD Screening Levels or,
    - exceedence of ANZECC Water Quality Guideline levels for 95% Ecosystem Protection Level, or
    - material being assessed as eco-toxic.

Dredging of contaminated material that may trigger one of the above may include works where the dredge is used to extract material from a site for on-shore disposal in the case where contaminant levels exclude placement at sea.

Aspect	Water Quality - Turbidity
Impact	The primary environmental impacts associated with dredging and bed leveling is re-suspension of sediment into the water column and the creation of suspended particle plumes which may affect adjacent areas (e.g. flora) by sedimentation or reduction of light penetration through the water. Natural turbidity levels in the coastal embayment's of northern Queensland typically can be very high, dependent on wind, tidal and catchment runoff conditions. Therefore short term dredging works are generally well within natural tolerances of most marine flora and fauna.
Objective/Target	To ensure turbid plumes generated by the operation of dredging vessels and bed leveling equipment is minimised and are monitored to meet the LTMP and State ERA 16 approval conditions;. • to provide protection to the biological integrity and visual amenity of Trinity Inlet: • any project specific EMP Water Quality monitoring program component is implemented where a need is triggered arising from the SAP process.
Management Actions and Mitigation Measures	• Within the practicalities of the vessel, minimise the generation of plumes by control of vessel operations. • Ensure dredging and material relocation is undertaken within the approved areas only by reference to electronic navigation aids and visual marks as required. • Observe all site-specific requirements, which may influence work times (e.g. tides, wind direction and velocity etc.). • As required under the approval conditions, Ports North is to implement a water quality and turbidity monitoring program if required by LTMMP or Permit. • Ongoing implementation of Trinity Inlet Water Quality Monitoring Program to detect changes in parameters attributable to port activities including dredging.
Performance Indicators	• The requirements of Approvals and Permits have been satisfied. • • Establishment of a monitoring program if required by this EMP or by a responsible authority. • Applicable Water Quality Guidelines and NAGD (2009) are satisfied • Turbidity levels as a result of dredging works to be to be maintained within the limits stipulated, and managed so as not to exceed pre-determined monitoring criteria. • Completion of an approved SAP process with GBRMPA and DES/QPWS to determine likely water quality effects. •
Monitoring	• The need for monitoring programs will be determined through assessment of the proximity of works to sensitive environmental areas, the scale of works and levels of contaminants identified during the SAP. • Monitoring programs specific to the item of concern with respect to both the environmental attribute and the potential source of impact. • The results of monitoring programs will be reported to the Environment Manager and to regulatory agencies in compliance with permit requirements. • Review of vessel dredging and placement tracks against approved area boundaries. • Ports North to monitor turbidity levels in accordance with approval requirements and LTMMP initiatives.

Aspect	Water Quality - Turbidity
Reporting	Outcomes of any campaign specific water quality monitoring programs to be included in close out report, Any non-conformances or complaints in regard to water quality to be recorded via applicable Incident or Complaint Form.
	•
Corrective Action	• Any suspicion of anomalies in water quality associated with the dredging activities should be brought to the immediate attention of the Environment Manager and contractor as applicable. • Works will cease in the event of a non –conformance with specified performance criteria related to water quality – as outlined in the applicable water quality-monitoring plan. • Additional management measures may include: ▪ Limiting dredging activities to times when tidal velocities or forcing are low. ▪ Modify timing or equipment operating methods, undertake maintenance, or modify equipment, in order to meet performance criteria. ▪ Temporarily halt or mitigate works that are generating unacceptable levels of turbidity / water quality disturbance (in accordance with the applicable water quality monitoring plan & performance criteria). • In the event of a substance spill, Cairns Port Counter Disaster Plan (Marine Pollution Contingency Plan) is relevant. The plan should be used to guide spill response, reporting and clean up.
Term	During all operations
Responsibility	Management and operation of on-board systems is by the Vessel Master Ports North is responsible for determining if turbidity levels at the work site are exceeding approval limits and determining if corrective action is required.

7.4. MARINE FLORA AND FAUNA

Operation of vessels, including bed levelling plant and equipment in coastal environments has a risk of harming large marine fauna including turtles, dugongs and cetaceans; however this risk is typically very low due to the mobile nature of most species and slow movement of bed levelling equipment, and low probability of interaction.

Aspect	Marine Fauna
Impact	Local flora and fauna may be disturbed as a result of the dredging and bed works due to – • translocation of marine pests, • Increased sedimentation which may impact nearby seagrass, • Direct contact impacts of vessel with marine fauna such as crocodiles, dugong and turtles.
Objective/Target	• To ensure that there are no adverse impacts on endangered, rare or threatened species as defined in the *Nature Conservation Act 1992,* or marine plant species as defined in the *Fisheries Act 1994*, beyond those for which the necessary approvals have been obtained; and • To minimise direct and indirect disturbance to marine flora and fauna other than within the immediate works area. • To ensure turbid plumes from the works do not exceed turbidity criteria designed to protect the ecological character and integrity of the adjacent Fish Habitat Area. • ensure potential marine pests are not translocated from the dredging site to sensitive areas. • Minimise capture of, or harm to, protected marine fauna.
Management Actions and Mitigation Measures	• Vessel master to maintain watch for whales/dugong/turtles during dredging, transit and disposal and take necessary action where a collision risk is identified. Inner port area considered low risk due to less abundance of preferred habitat for large marina fauna and high vessel traffic, Channel area medium risk for presence of turtles and dugong due to deeper water and adjacent seagrass meadows, Spoil ground higher probability of presence of whales and turtles. • Dredging activities may only be commenced if no individuals of large marine fauna have been observed in the area adjacent to the vessel, and where there is a low likelihood of a collision occurring. • Where any of the large marine fauna are sighted within the area adjacent to the works, activities are to be halted until the last individual has been observed to leave the vicinity of the vessel. Vessel Master to maintain watch for marine fauna in high risk areas and take necessary action where risk of a collision may exist. • If the death of a listed species is suspected to have occurred in or near the works area, adopt procedures outlined in **Section 6.8**. • If the death of a listed species is suspected to have occurred in or near the works the Contractor or Environment Manager must immediately notify Queensland Parks and Wildlife Service via Hotline and GBRMPA. • Implement regular vessel maintenance and inspection to minimize potential for marine bio-fouling and pests on dredging plant and equipment to meet National Bio-fouling Management Guidelines for Non-Trading Vessels. Complete Daily EMP Checklist – refer Appendix E
Performance Indicators	• No capture of, or harm to, protected marine fauna.

Aspect	Marine Fauna
	• Physical disturbance does not extend beyond the footprint of the dredging area shown on permit applications or the immediate area of the spoil disposal site. • Marine plants, other than those in areas prescribed in the *Fisheries Act, 1994* Marine Plant Permit, are not affected by the dredging. • No marine fauna incidents. • Sightings of rare, endangered and threatened animals likely to be impacted by the works are reported to Environment Manager & QPWS. • Appropriate vessel maintenance is enacted to minimize risk of marine pest translocation.
Monitoring	• Review of vessel log book, checklist for events where fauna was encountered. • Visual monitoring of area adjacent to operations, in accordance with Sea Dumping Permit conditions. • All sightings of rare, endangered and threatened animals including marine mammals, turtles and crocodiles, which could possibly have been impacted by the works, will be recorded and reported to the Environment Manager, who will forward details to QPWS.
Reporting	• Reporting of exceptions to Vessel Master and Environmental staff (including time, nature of incident, species involved. • Reporting requirement is irrespective of whether fauna is dead or alive. • Ports North to be urgently advised by Vessel Master, of any incidents to allow them to notify the Determining Authority of the incident, within timeframe specified in accordance with conditions of Permits. • Complete Incident Form –Appendix B
Corrective Action	• Any incident that directly impacts on a rare, endangered or threatened animal should be reported immediately to the Environment Manager. The contractor and Ports North may be obliged to accept lawful direction from State or Commonwealth Departmental Officers relating to such incidents. • If disturbance to flora beyond that described in a *Fisheries Act (Qld) 1994* permit (to be obtained by Ports North as necessary) occurs as a result of dredging operations, the Environment Manager will inform DAFF immediately and the he contractor or Ports North, as applicable will immediately implement procedures to prevent further disturbance. • If risks to larger marine fauna are identified and deemed significant in a particular circumstance, then other means to prevent/ minimise impacts on marine fauna should also be investigated. • Vessel Master to investigate exception, and take appropriate action. • In the event of a sick or injured animal, the Contractor shall notify the Superintendent or Port Supervisor who will follow up with Environment staff and or QPWS-DES.
Term	During all operations.
Responsibility	Management and operation of on-board systems is by the Vessel Master, with input from Environment staff as required.

7.5. AIR QUALITY

Generation of emissions with potential to impact on air quality during vessel operation and potential impacts on sensitive receptors forms the basis of this section. Issues of workplace air quality are to be controlled and managed under existing occupational health and safety protocols within the respective vessel safety management system.

Aspect	**Air Quality - Emissions**
Impact	Dredge vessel operation has potential to generate visible and invisible exhaust emissions which may cause nuisance impacts to nearby sensitive receptors. Ambient air quality within the Port of Cairns is generally in excellent natural condition with minimal influence of transiting vessel traffic from Port facilities or industrial land use. Minimal impact is normally expected on nearby sensitive receptors from standard dredge vessel operations.
Objective/Target	• Reasonable and practical measures are implemented to protect the amenity of adjacent sensitive premises in the vicinity of works; • Activities that may cause complaints regarding air quality are received and managed promptly in accordance with **Section 6.6**. • ensure air quality emissions generated by operation of the dredging and bed leveling vessels, plant and equipment does not unduly impact adjacent areas.
Mitigation Measures and Management Actions	• All vessels are to be suitably maintained as per manufacturers specifications or standards and fit for the work to be undertaken. • If air quality is deemed to be an issue, all nearby businesses and residences will be notified of the work hours related to project specific works, and a point of contact for any questions or problems. • Emissions from activities must not exceed the applicable air quality objectives specified in the *Environmental Protection (Air) Policy 2008*. • Vessels and equipment will be turned off when not in use. • All air quality complaints shall be recorded and reported to the Superintendent as soon as practical and addressed via Complaint Procedure **Section 6.6**. Complete Daily EMP Checklist – refer **Appendix E**
Performance Indicators	• Complaints are responded to as per procedure • Machinery is operating in a fit-for-purpose manner.
Monitoring	• complaints recorded in appropriate system and forwarded to Vessel Master and Environment staff. • If necessary air quality may be monitored to determine the level of impact. • Annual review of all complaints received and follow-up action undertaken.
Reporting	• In the event of a complaint regarding alleged air quality nuisance, the Environment Manager will arrange to investigate the complaint and initially discuss the dredging program with the complainant. In the event that measurements are necessary, these will be carried out in accordance with the requirements of the Environmental Protection Policies for Air. All complaints will be recorded on the **Complaints/Query Report Form** (**Appendix G**).

Aspect	Air Quality - Emissions
Corrective Action	• All complaints received will be investigated immediately, taking note of prevailing wind conditions and noting any evidence that relates to the complaint. • Defective vessels are to be repaired prior to continuing work. • Changes to hours of work or dredging procedures should be considered; • Vessel Master to investigate source of complaint. If this relates to inappropriate work practices, inform crew of necessary changes and ensure these are undertaken. If complaints relates to plant, investigate effectiveness of emission reduction equipment and review/replace as required. • Contractor to visually monitor emission levels on a regular basis • Should additional complaints be received following implementation of the above measures, then additional Mitigation Measures will be developed as required.
Term	• During all operations.
Responsibility	• Management and operation of on-board systems is by the Vessel Master, with input from Environment staff as required.

7.6. NOISE

Vessels and equipment should be fitted with well-maintained noise reduction devices to limit the noise generated during works as much as possible. Further, the nature of the works and port locations is such that the potential for disruptive noise to sensitive places (e.g. residential areas) is limited.

Aspect	**Noise Management**
Impact	Noise generated from vessels plant or equipment has potential to disturb the amenity of surrounding areas, including noise sensitive areas such as residential areas. Infrequent or high volume noise is typically a cause for complaint, especially outside normal working hours. Ambient noise levels within the Port of Cairns are generally at a low background level with some influence of transiting vessel traffic from Port facilities. Minimal impact is normally expected on nearby sensitive receptors.
Objective/Target	• Dredges should be allowed to operate 24 hr per day unless complaints necessitate a change in procedures. • all reasonable and practical measures are implemented to protect the acoustic amenity of adjacent sensitive premises in the vicinity of works; • the activities cause minimal complaints regarding noise or vibration and any complaints that are received are managed promptly in accordance with **Section 6.6**.
Mitigation Measures and Management Actions	• All vessels are to be suitably maintained, operated and fit for the work to be undertaken. • If noise is deemed to be an issue, all nearby businesses and residences will be notified of the work hours related to project specific works, and a point of contact for any questions or problems. • All noise reduction equipment to be maintained as per manufactures' specifications. • Where the vessel is operating in an especially noise sensitive environment (e.g. close proximity to residential areas), crew are to be informed to minimise noise where possible. • All noise from activities must not exceed the acoustic quality objectives specified in the *Environmental Protection Noise Policy 2008*. Noise levels for selected receptors identified in the *Environmental Protection Noise Policy*. . Prior approval is required from Ports North if works are expected to occur outside these hours: • 6:00am – 6:00pm (Monday – Sunday). • All equipment is to be maintained and operated in accordance with the applicable Australian Standard. • Plant and equipment will be turned off when not in use. • All noise complaints shall be recorded and reported to the Superintendent as soon as practical. Complete Daily EMP Checklist – refer Appendix E
Performance Indicators	• Response to all complaints completed as per procedure and initiated within 24 hours of receipt. • Machinery is operating in a fit-for-purpose manner. • No noise based complaints regarding the operation of the vessel.

Aspect	Noise Management
Monitoring	• All complaints recorded in appropriate system and forwarded to Vessel Master and Environment staff. If necessary noise shall be monitored to determine the level of impact.
Reporting	• In the event of a complaint regarding alleged noise nuisance, the Environment Manager will arrange to investigate the complaint and initially discuss the dredging program with the complainant. In the event that measurements are necessary, these will be carried out in accordance with the requirements of the Environmental Protection Policies for Noise. • All complaints will be recorded on the **Complaints/Query Report Form** (**Appendix G**). • Annual review of all complaints received and follow-up action undertaken.
Corrective Action	• Failure to meet the performance indicators shall be recorded as a non-conformance and will be dealt with in **Section 6.8**. • All complaints received will be investigated immediately, taking note of prevailing wind conditions and noting any evidence that relates to the complaint. • Defective vessels are to be repaired prior to continuing work. • Changes to hours of work or dredging procedures should be considered if potentially beneficial. • Vessel Master to investigate source of complaint. If this relates to inappropriate work practices, inform crew of necessary changes and ensure these are undertaken. If complaints relates to plant, investigate effectiveness of noise reduction equipment and review/replace as required. • Should additional complaints be received following implementation of the above measures, then additional Mitigation Measures will be developed as required.
Term	• During all operations.
Responsibility	• Management and operation of on-board systems is by the Vessel Master, with input from Environment staff as required.

9. REFERENCES

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APPENDIX A ENVIRONMENT POLICY

Ports North

Environment Policy

Ports North is responsible for nine Port locations including trading Ports of Cairns, Mourilyan, Cape Flattery, Karumba and Skardon River), community Ports (Thursday Island and Quintell Beach) and non-trading Ports (Cooktown and Burketown).

Ports North strives to operate a viable business that considers financial, environmental, and social impacts by identifying and implementing initiatives that promote excellence in environmental management at these Ports.

To demonstrate environmental leadership, Ports North will:

- Implement and maintain an environmental management system to meet the standard set by AS/NZS ISO14001:2015, as a tool for continual improvement in environmental performance;
- Comply with relevant environmental laws, regulations, policies, procedures, and standards;
- Identify, assess and minimise risk and potential impacts of Port activities;
- Integrate environmental considerations and principles of sustainable development into management processes and decision making;
- Maintain emergency, fire protection, security systems and infrastructure to protect the environment;
- Strive to use resources efficiently, minimise waste and prevent pollution;
- Apply sufficient and appropriate people and resources to achieve this Environmental Policy;
- Define, measure and report regularly against objectives and targets to review the effectiveness of performance; and
- Communicate this Policy to staff and stakeholders to build collaborative relationships to promote superior environmental outcomes.

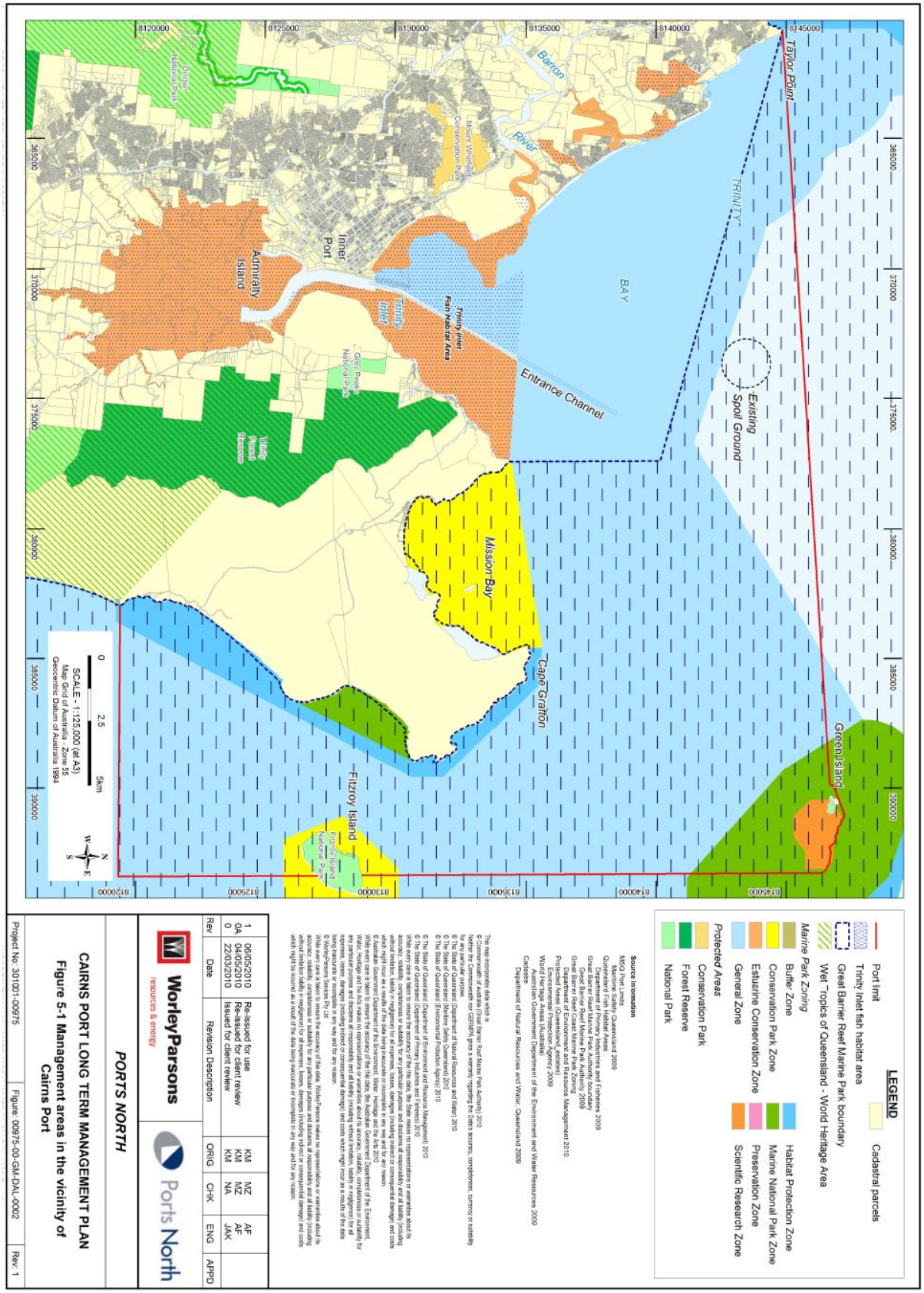
The Chief Executive Officer and Senior Management are responsible for providing the leadership to support effective implementation of this Policy and for ensuring all Ports North's staff, contractors and those engaged by the organisation are required to comply with this Policy.

This Policy will be regularly reviewed following legislative or organisational changes, or at a minimum of every three years, to ensure it reflects the nature and potential impacts of Port activities and services.

Chris Boland
Chief Executive Officer
July 2019

Port of Cairns | Cape Flattery | Karumba | Mourilyan | Skardon River | Quintell Beach | Thursday Island | Burketown | Cooktown

APPENDIX B ENVIRONMENTAL ZONES



Rev	Date	Revision Description	ORIG	CHK	ENG	APPD
1	06/05/2010	Re-issued for use	KM	MZ	AF	
0A	04/05/2010	Re-issued for client review	KM	MZ	AF	
0	22/03/2010	Issued for client review	KM	NA	JAK	

WorleyParsons resources & energy

Ports North

PORTS NORTH

CAIRNS PORT LONG TERM MANAGEMENT PLAN

Figure 5-1 Management areas in the vicinity of Cairns Port

Project No: 301001-00975	Figure: 00975-00-GM-DAL-0002	Rev: 1

APPENDIX C PERMITS

Sea Dumping Permit SD2010/03 and Marine Parks Permit G10/33155.1

Marine Parks

Australian Government
Great Barrier Reef Marine Park Authority

Queensland Government

PERMIT

RE-ISSUE

G10/33155.1

Great Barrier Reef Marine Park Regulations 1983 (Commonwealth)
Marine Parks Regulation 2006 (Queensland)

These permissions remain in force, unless sooner surrendered or revoked, for the following period:

16 AUG 2016 TO 01-JUN-2020

Permission is granted to:

PERMITTEE: **FAR NORTH QUEENSLAND PORTS CORPORATION LIMITED (ACN 131 836 014) T/A Ports North**

ADDRESS: **PO Box 594 CAIRNS QLD 4870**

for use of and entry to zones in the **Amalgamated Great Barrier Reef Marine Park Section** (as established by the *Great Barrier Reef Marine Park Act 1975* (Cth)) and the **Great Barrier Reef Coast Marine Park** (as established by the *Marine Parks Act 2004* (Qld)) in accordance with the details set out herein.

Delegate of the Great Barrier Reef Marine Park Authority — Date 15/08/2016

Delegate of the Chief Executive of the Department of National Parks, Sport and Racing — Date 16/8/16.

The purpose/s of use and entry may only be undertaken in the zone/s and location/s described below.

Zone/s and location/s to which the permission applies:

GENERAL USE ZONE – a circular area of one (1) nautical mile diameter centred on:

Latitude 16° 47' 24" South,
Longitude 145° 48' 48" East.

Purpose/s of use and entry authorised by the permission:

CARRYING OUT WORKS - being the dumping of up to a maximum of 4,200,000 dry tonnes of dredge spoil material within the spoil ground associated with maintenance dredging at the Port of Cairns; and
OPERATING AND MAINTAINING A FACILITY – being an existing spoil disposal ground.

G10/33155.1 - Page 1 of 4 Re-issue Version 2

ENVIRONMENT PROTECTION (SEA DUMPING) ACT 1981

VARIATION NO. 3 TO SEA DUMPING PERMIT NO. 10/03

for

FAR NORTH QUEENSLAND PORTS CORPORATION LIMITED

I, Rhona MacPherson, a delegate of the Minister for the Environment, acting under Sections 21 and 23 of the *Environment Protection (Sea Dumping) Act 1981*, hereby vary the sea dumping permit granted on 11 June 2010 to FAR NORTH QUEENSLAND PORTS CORPORATION LIMITED (ACN 131 836 014), 1B Lake Street, Cairns, Queensland 4870, to load for the purposes of dumping and to dump up to a maximum of 4,200,000 dry tonnes of dredge spoil material associated with maintenance dredging at the Port of Cairns, Queensland, Australia, to a disposal ground defined by condition 16 of Appendix 1, commencing on 11 June 2010 and extending until 1 June 2022, subject to conditions which are specified in Appendices 1, 2 and 3.

DATE.....26th.....day of.....March.....2020

.....

Rhona MacPherson
Delegate of the Minister

This permit comprises 10 pages, including Appendices 1, 2 and 3.

1

Environmentally Authority - EPPR00395813 for conduct of Relevant Activity ERA16

Permit

Environmental Protection Act 1994

Environmental authority EPPR00395813

This environmental authority is issued by the administering authority under Chapter 5 of the Environmental Protection Act 1994.

Environmental authority number: EPPR00395813

Environmental authority takes effect on the 1 April 2020.

Environmental authority holder(s)

Name	Registered address
Far North Queensland Ports Corporation Limited	Cnr Grafton & Hartley Street CAIRNS QLD 4870

Environmentally relevant activity and location details

Environmentally relevant activity	Location
ERA 16(1c) Dredging >100,000t but <1,000,000t yr	**Port of Cairns** Lot 773 Plan SP218291, Lot 808 Plan SP122861, Lot 16 Plan SP199206, Lot 15 Plan SP214821, Lot 807 Plan SP199206, Lot 40 Plan SP113657, Lot 41 Plan SP113657 and Lot 771 Plan SP113657 and adjoining water within the Port of Cairns Strategic Port Land Tidal Area, As described under the *Transport Infrastructure Act 1994*

Additional information for applicants

Environmentally relevant activities

The description of any environmentally relevant activity (ERA) for which an environmental authority (EA) is issued is a restatement of the ERA as defined by legislation at the time the approval is issued. Where there is any inconsistency between that description of an ERA and the conditions stated by an EA as to the scale, intensity or manner of carrying out an ERA, the conditions prevail to the extent of the inconsistency.

An EA authorises the carrying out of an ERA and does not authorise any environmental harm unless a condition stated by the EA specifically authorises environmental harm.

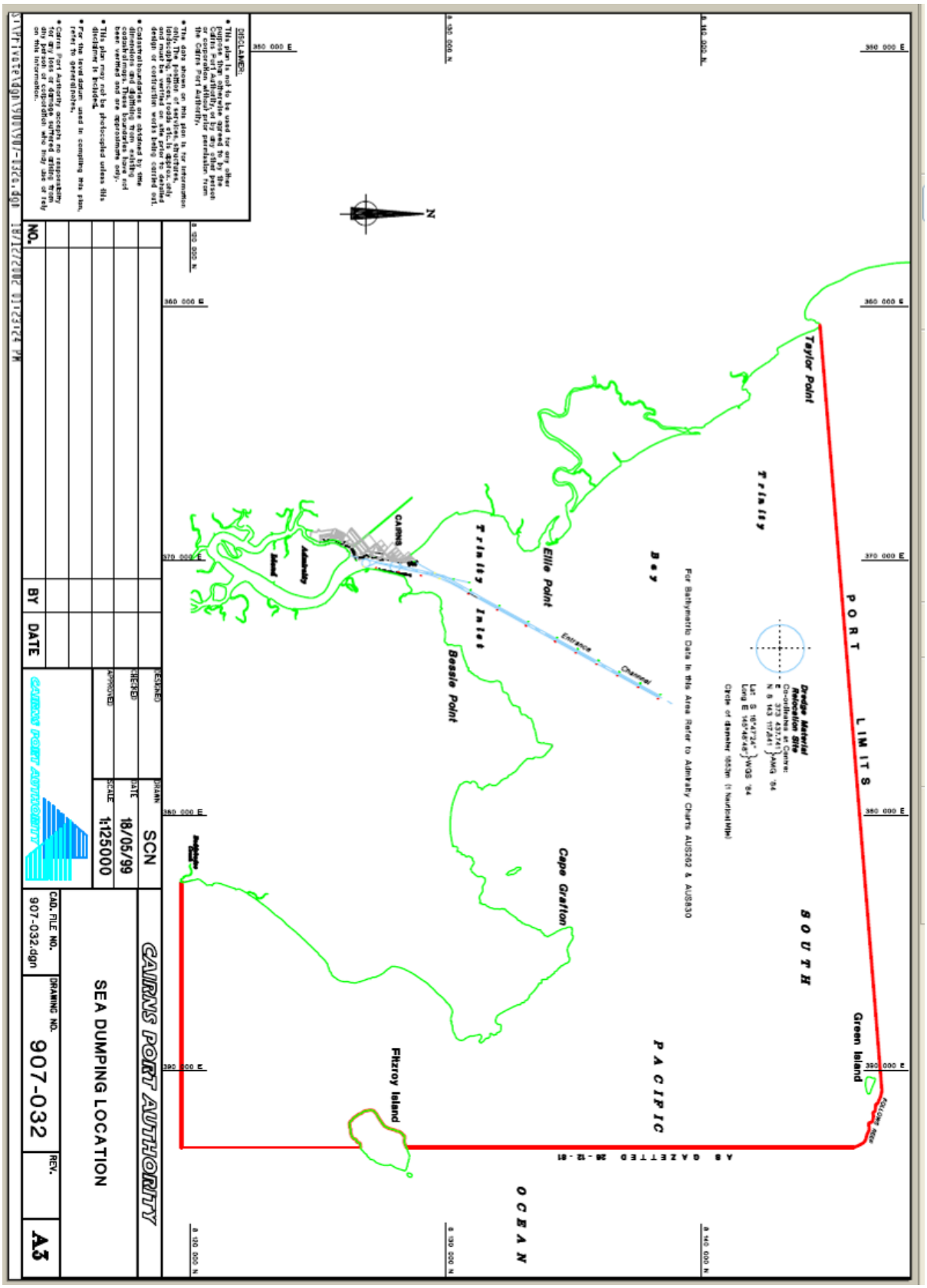
A person carrying out an ERA must also be a registered suitable operator under the *Environmental Protection Act 1994* (EP Act).

Contaminated land

It is a requirement of the EP Act that an owner or occupier of contaminated land give written notice to the administering authority if they become aware of the following:

Queensland Government

APPENDIX D DUMP GROUND LOCATION PLAN



APPENDIX E MARINE PLANT PERMIT AND PLAN

APPROVAL NOTICE

This notice is issued by the Department of Primary Industries and Fisheries pursuant to section 3.5.15 of the *Integrated Planning Act 1997*.

Development Application details:

Applicant's name:	Chief Executive Officer, Cairns Port Authority
Applicant's address:	Cnr Grafton and Hartley St, Cairns Qld 4870
Proposed development:	Operational works to remove, damage or destroy marine plants associated with Cairns Port maintenance
Description of the land:	Cairns Port Operations Area described as: Shoreline from the Pier Pt to 75 metres south of the Queensland Transport Operations Centre, Portsmith The Main shipping channel in Trinity Inlet and the Dredge spoil location site
DPI&F ID:	03NOCA1775
DPI&F file number:	NFC/140/000(811)

The Department of Primary Industries and Fisheries, acting as assessment manager under the *Integrated Planning Act 1997*, has issued your development permit as required under Section 241 of the *Fisheries Act 1994*.

Approval Number: 2006CA0478

1. Details of the approval:

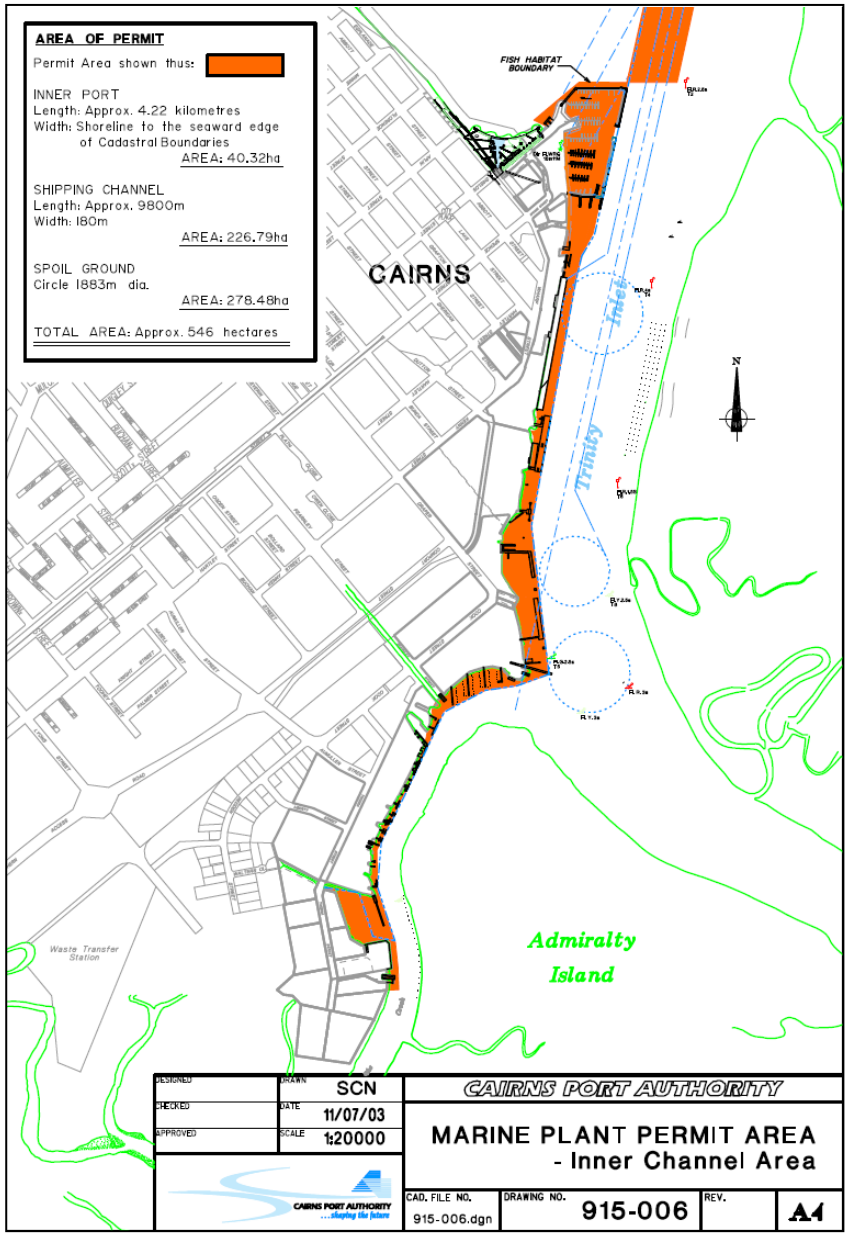
The following type of approval has been issued:

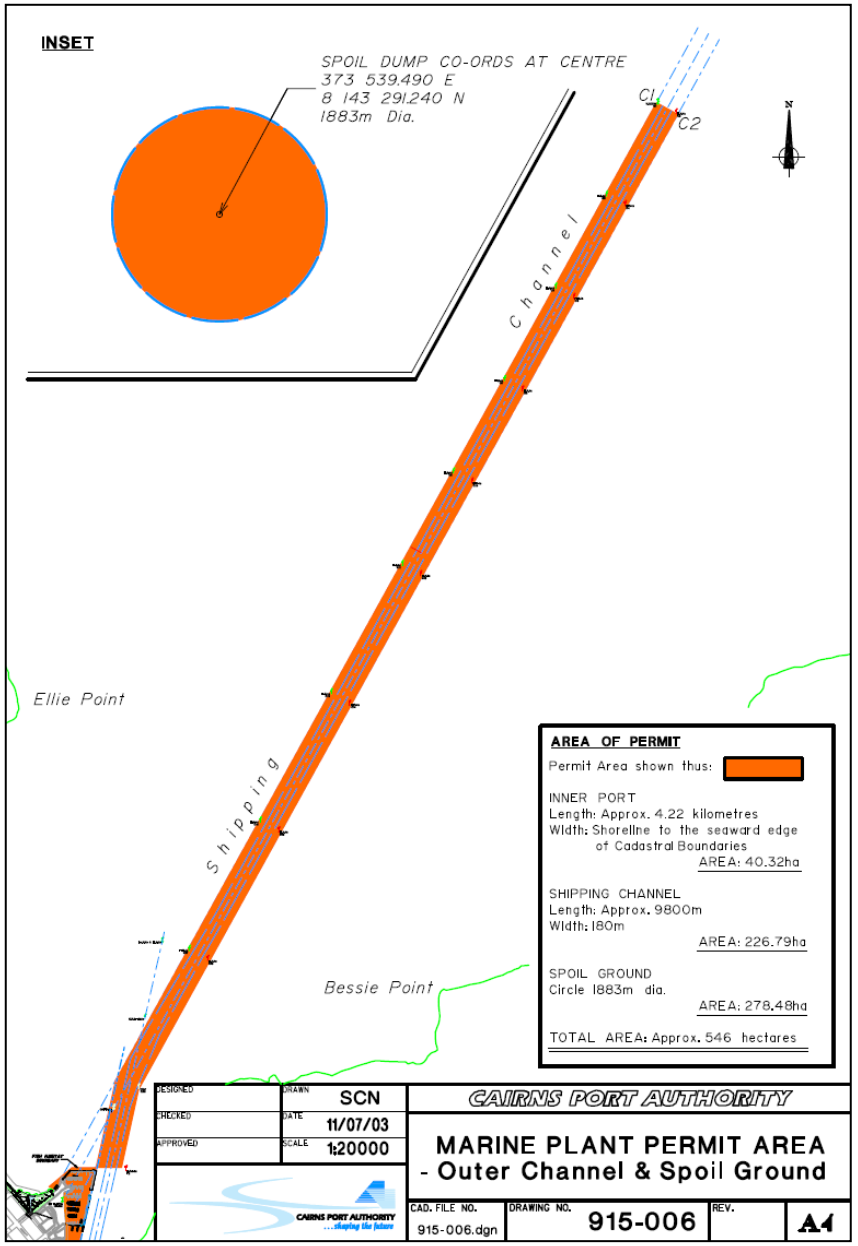
Type of development	Development Permit	Preliminary Approval
• *Operational works to remove damage or destroy marine plants*	✓	

Delegate of the Chief Executive

Date: 7/9/06

Department of Primary Industries and Fisheries Page 1 of 3


AREA OF PERMIT
Permit Area shown thus:
INNER PORT
Length: Approx. 4.22 kilometres
Width: Shoreline to the seaward edge of Cadastral Boundaries
AREA: 40.32ha
SHIPPING CHANNEL
Length: Approx. 9800m
Width: 180m
AREA: 226.79ha
SPOIL GROUND
Circle 1883m dia.
AREA: 278.48ha
TOTAL AREA: Approx. 546 hectares
FISH HABITAT BOUNDARY
CAIRNS
Inlet
Trinity
Admiralty Island
Waste Transfer Station
DESIGNED
DRAWN
SCN
CHECKED
DATE
11/07/03
APPROVED
SCALE
1:20000
CAIRNS PORT AUTHORITY
MARINE PLANT PERMIT AREA
- Inner Channel Area
CAD. FILE NO.
915-006.dgn
DRAWING NO.
915-006
REV.
A1


INSET
SPOIL DUMP CO-ORDS AT CENTRE
373 539.490 E
8 143 291.240 N
1883m Dia.
C1
C2
Channel
Shipping
Ellie Point
Bessie Point
AREA OF PERMIT
Permit Area shown thus:
INNER PORT
Length: Approx. 4.22 kilometres
Width: Shoreline to the seaward edge of Cadastral Boundaries
AREA: 40.32ha
SHIPPING CHANNEL
Length: Approx. 9800m
Width: 180m
AREA: 226.79ha
SPOIL GROUND
Circle 1883m dia.
AREA: 278.48ha
TOTAL AREA: Approx. 546 hectares
DESIGNED
DRAWN
SCN
CHECKED
DATE
11/07/03
APPROVED
SCALE
1:20000
CAIRNS PORT AUTHORITY
MARINE PLANT PERMIT AREA
- Outer Channel & Spoil Ground
CAD. FILE NO.
915-006.dgn
DRAWING NO.
915-006
REV.
A1

APPENDIX F STAFF TRAINING CHECKLIST

TRAINING RECORD					
Description of Training:					
Training conducted by:				Signed and Dated by Trainer:	
Date	**Name of Trainee**	**Employer**	**Date commenced work on site**	**Expected completion date (for contractor)**	**Signed by Recipient**

APPENDIX G COMPLAINTS RECORD FORM

COMPLAINT REGISTER FORM

Ports North

Date: ____ / ____ / ____ Time: _____am / pm

Name: ..... Phone / Fax: .....

Address: ..... Not given: ☐

.....

Type of Complaint: Noise ☐ Waste ☐ Dust ☐ Odour ☐ Pollution Event ☐

Other (please specify) .....

Location: ..... Time: _____am / pm

Details of Complaint: .....

.....

.....

.....

CPA's Response: .....

.....

.....

.....

Further Action Taken: ..... Date completed: ____ / ____ / ____

CPA Employee Responsible: .....

Add to mailing list? Yes ☐ No ☐

Comments: .....

.....

.....

Date / Details

Complaint Made	Acknowledgement letter sent	Issue Resolved	Entered on Database	Further Action?

Please forward this form to the Manager Marketing & Public Relations

Environmental Management System EF 4.1

MAFM0402r0 – This is a controlled document – refer to electronic file for latest version

APPENDIX H INCIDENT REPORT FORM

PORTS NORTH
ENVIRONMENTAL INCIDENT REPORT FORM

Ports North

This form is to be completed for any environmental accident or incident.
Please note: *this form is to be filled in after the event at the time of the incident please call either;*

- Port Supervisor
- Operations Office Cairns – (07) 40512558 or 0419 657 350
- Environment Manager – (07) 40523820 or 0439 723 008

Once completed, please forward to
Environment Manager, Ports North, PO Box 594, Cairns Q, 4870. Ph: 4052 3820, Fax: 4052 3853

Event Details

Please Circle

	Incident (release or harm to environment occurred)		Near Miss (no release to environment or harm)		
When:		Date _ _/_ _/_ _	Time		am/pm
Reported BY:		Date _ _/_ _/_ _	Time		am/pm
Reported TO:		Date _ _/_ _/_ _	Time		am/pm
Location details:					

Description

Describe clearly the circumstances leading to the accident/incident, and the accident/incident itself. As far as possible verify the facts recorded, and identify witnesses.	
Type	**If Spill – Approx Quantity**
Cause/Circumstance *Drawing?*	
Name	**Position**
Organisation	**Telephone**
Signature	**Date**

PortsNorth Environmental Incident Report Form.doc

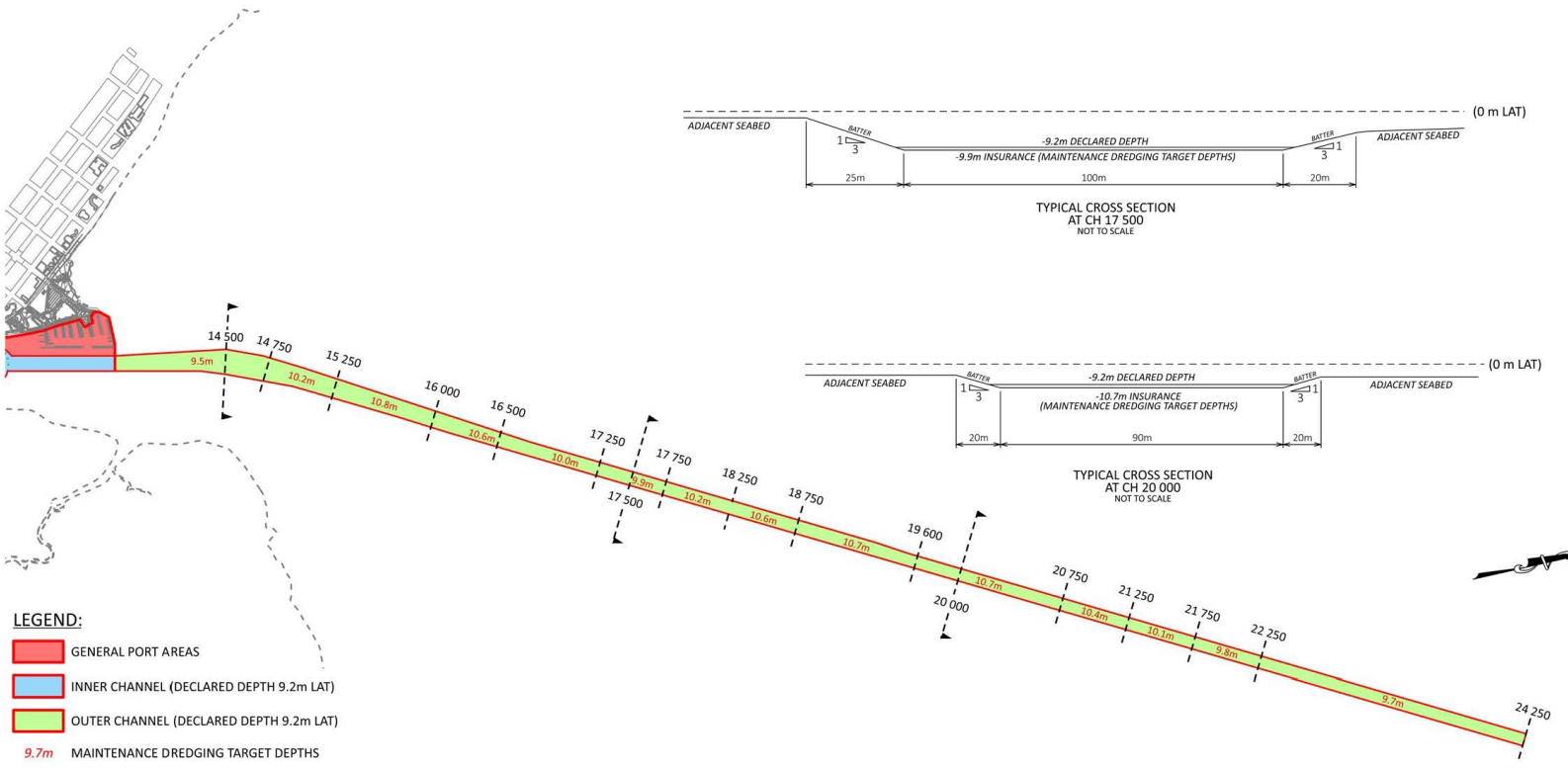
Page 1 of 2

Prevention: *To be completed by Manager/Supervisor*		
Method of Cleanup;		
Equipment Used		
Method and Location of Waste Disposal		
Existing Measures in Place to prevent or Minimise this type of event;		
Follow Up:		
Measures to be implemented to prevent this occurring again?		
Name		Signature
Position	Date	Organisation

Close Out: *To be completed by Environment section*
Recorded in Register?
Follow Up Letter Sent to Company
Feedback provided to Reporter?

APPENDIX I DREDGING AREA – SITE PLAN

Insert Site Plan relevant to proposed works – or refer to **DWG 900-183 -Sheets 1 to 6** (as updated/approved 1 April 2020 by DES)



DISCLAIMER:

- This plan is not to be used for any other purpose than otherwise agreed to by Ports North, or by any other person or corporation without prior permission from Ports North.
- The data shown on this plan is for information only. The position of services, structures, landscaping, fences, roads etc. is approx. only and must be verified on site prior to detailed design or construction works being carried out.
- This plan does not necessarily show all of the services that exist on site.
- Cadastral boundaries are obtained by title dimensions and digitising from existing cadastral maps. These boundaries have not been verified and are approximate only.
- This plan may not be photocopied unless this disclaimer is included.
- For the level datum used in compiling this plan, refer to general notes.
- Ports North accepts no responsibility for any loss or damage suffered arising from any person or corporation who may use or rely on this information.

REV	AMENDMENT	BY	DATE
B	DRAWING UPDATED	N.R	02/03/20
A	DRAWING UPDATED	N.R	03/10/19
O	ORIGINAL ISSUE		

DRAWN	DATE	SCALE
N.R	21/12/09	1:30 000
DESIGNED	CHECKED	APPROVED
	A.F	A.F

Ports North
t 61 7 4052 3888 | f 61 7 4052 3853
Cnr Grafton and Hartley Streets
PO Box 594 Cairns Queensland 4870 Australia
Email enquiries@portsnorth.com.au
Web www.portsnorth.com.au

Port of Cairns

ERA 16
MAINTENANCE DREDGING
PORT AREA

CAD FILE NO.	DRAWING No.	REV.	SHT.	
900-183-B.dgn	900-183-06	B	6 of 6	A3

900-183-B.dgn 02/03/2020 16:45:18

TOE OF REVETMENT
CITYPORT SOUTH/
REEF FLEET TERMINAL
CRYSTAL
SWING BASIN
9.2m
8.5m
MARLIN MARINA
TRINITY INLET
2.5m
3.5m
4.5m
5.0m
7.5m
9.2m
LEGEND:
GENERAL PORT AREAS
INNER CHANNEL
OUTER CHANNEL
9.2m DECLARED DEPTH
DISCLAIMER:
• This plan is not to be used for any other purpose, nor copied or loaned to by Ports North, or by any other person or corporation without prior permission from Ports North.
• Information on this plan is for information only. The position of services, structures, features etc. shown on this plan are approximate only and must be verified on site prior to detailed design or construction works being carried out.
• This plan may not be photocopied unless this disclaimer is included.
• For further information used in compiling this plan, refer to general notes.
• Ports North accepts no responsibility for any loss or damage suffered arising from any person's application who may use or rely on this information.
• Cadastral boundaries are obtained by title dimensions from various cadastral maps. These boundaries have not been verified and are approximate only.
• This plan does not necessarily show all of the services that exist on site.
Port of Cairns
ERA 16
MAINTENANCE DREDGING
PORT AREA
CAD FILE NO. 900-183-B.dgn
DRAWING No. 900-183-05
REV. B
SHT. 5 of 6
A3
DRAWN N.R
DESIGNED
DATE 21/12/09
CHECKED A.F
SCALE 1:2500
APPROVED A.F
REV AMENDMENT BY DATE
B DRAWING UPDATED N.R 02/03/20
A DRAWING UPDATED N.R 03/10/19
0 ORIGINAL ISSUE
Ports North
t 61 7 4052 3888 | f 61 7 4052 3853
Cnr Grafton and Hartley Streets
PO Box 594 Cairns Queensland 4870 Australia
Email enquiries@portsnorth.com.au
Web www.portsnorth.com.au
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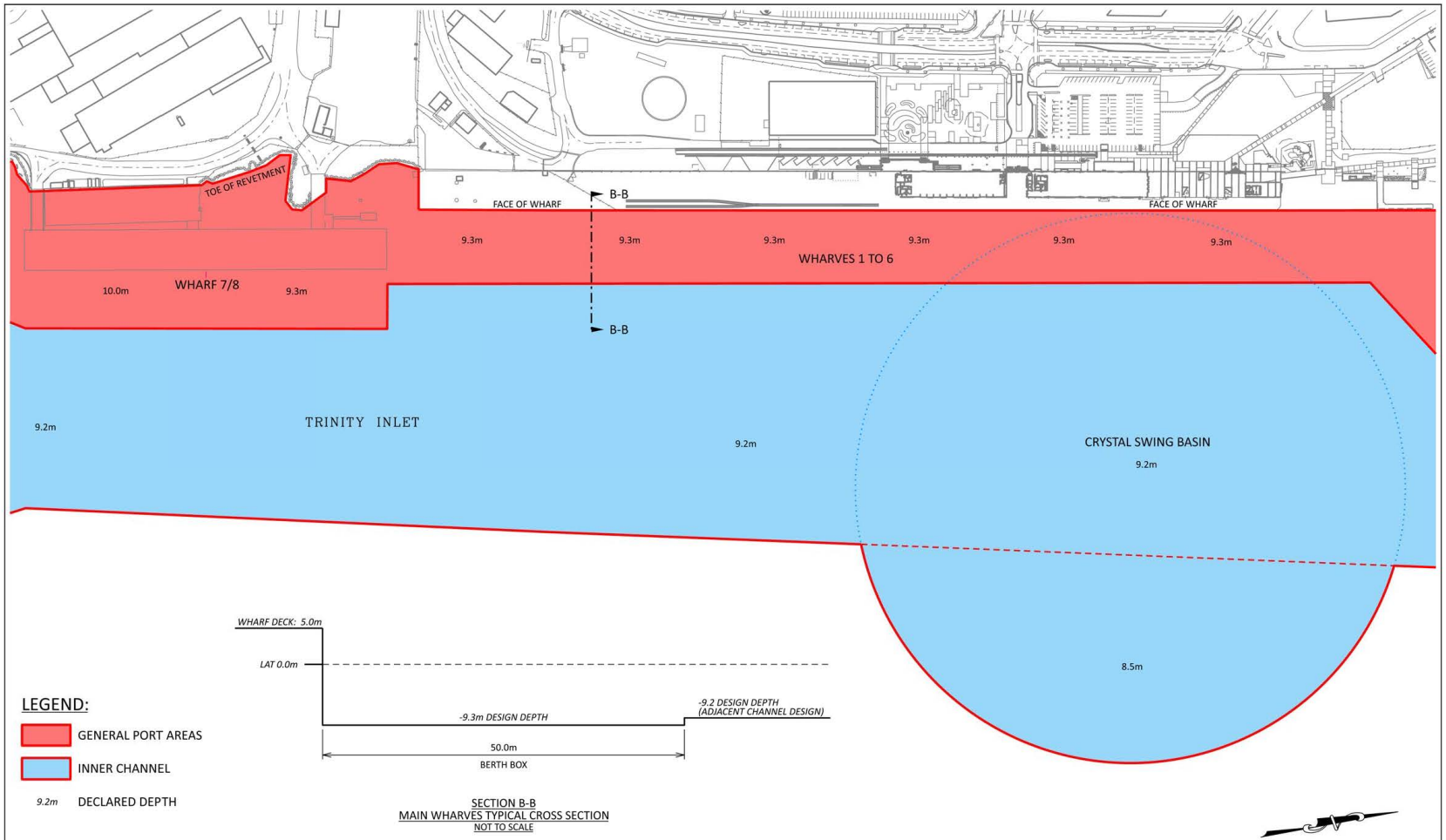

SECTION B-B
MAIN WHARVES TYPICAL CROSS SECTION
NOT TO SCALE

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- This plan does not necessarily show all of the services that exist on site.
- Cadastral boundaries are obtained by title dimensions and digitising from existing cadastral maps. These boundaries have not been verified and are approximate only.
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O	ORIGINAL ISSUE		

DRAWN	DATE	SCALE
N.R	21/12/09	1:2500
DESIGNED	CHECKED	APPROVED
	A.F	A.F

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Port of Cairns

ERA 16
MAINTENANCE DREDGING
PORT AREA

CAD FILE NO.	DRAWING No.	REV.	SHT.	
900-183-B.dgn	900-183-04	B	4 of 6	A3

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B	DRAWING UPDATED	N.R	02/03/20
A	DRAWING UPDATED	N.R	03/10/19
0	ORIGINAL ISSUE		

DRAWN N.R | DATE 21/12/09 | SCALE 1:3000
DESIGNED | CHECKED A.F | APPROVED A.F

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ERA 16 MAINTENANCE DREDGING PORT AREA

CAD FILE NO.	DRAWING No.	REV.	SHT.
900-183-B.dgn	900-183-03	B	3 of 6

A3

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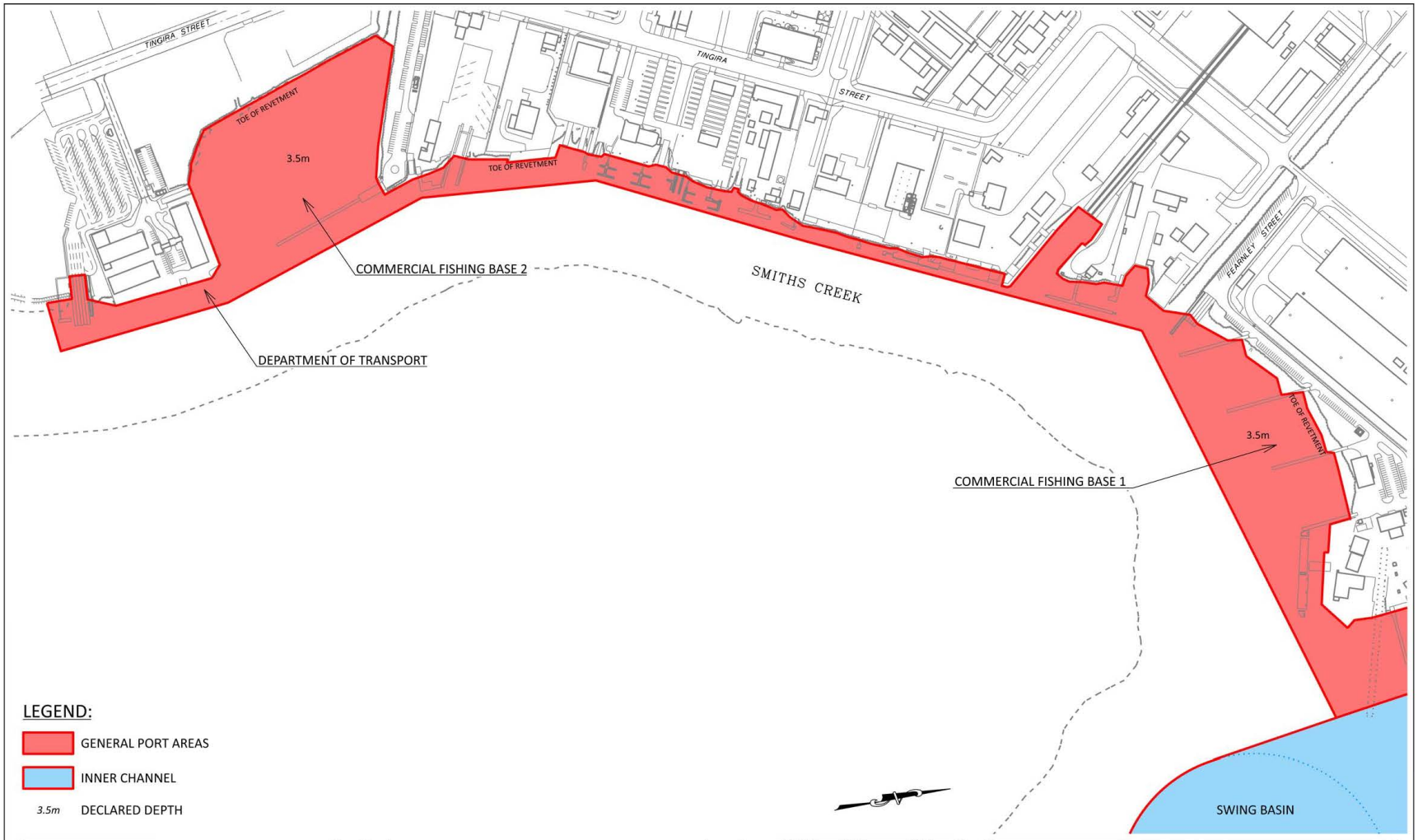

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DRAWN	DATE	SCALE
N.R	21/12/09	1:4000
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ERA 16 MAINTENANCE DREDGING PORT AREA

CAD FILE NO.	DRAWING No.	REV.	SHT.	
900-183-B.dgn	900-183-02	B	2 of 6	A3

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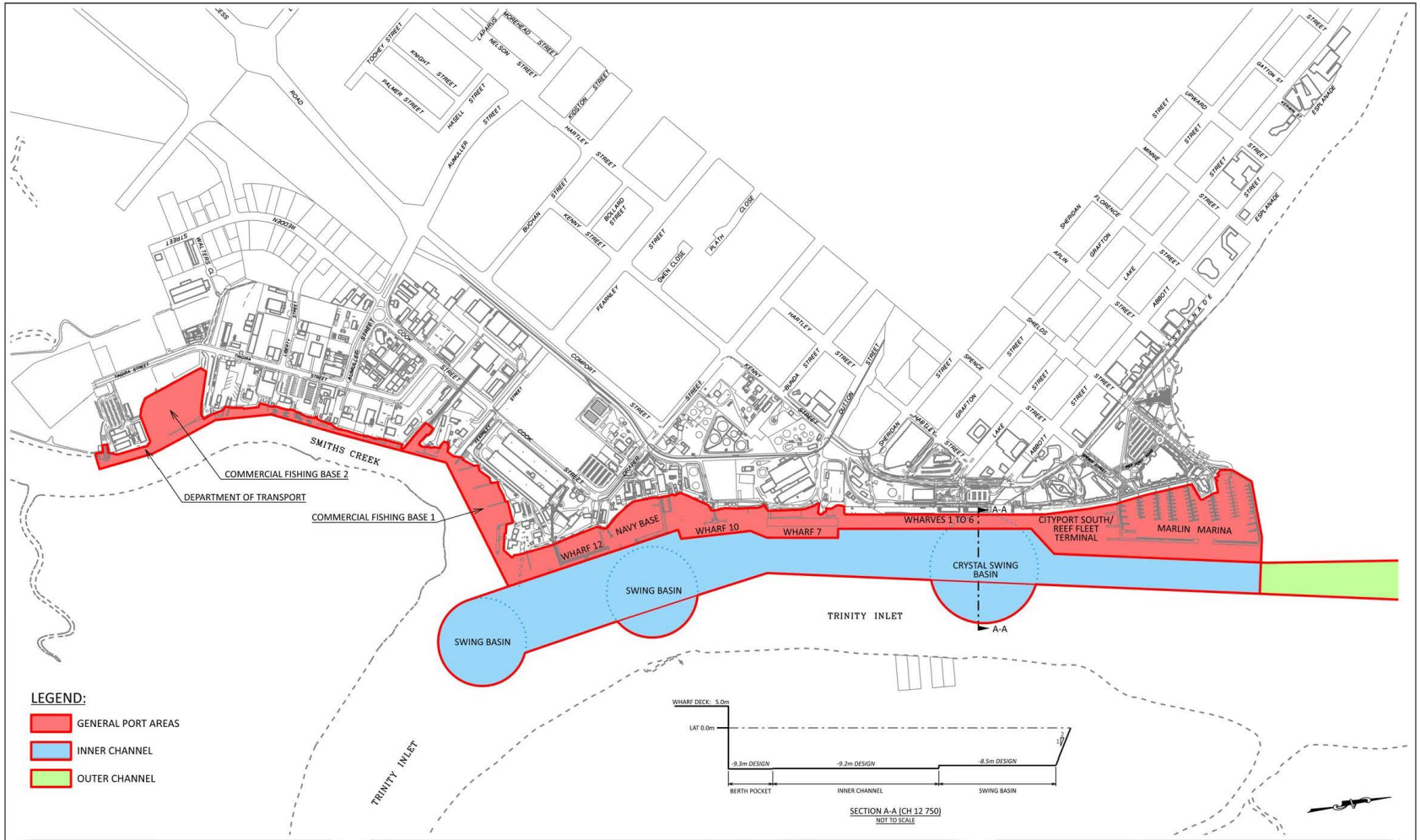

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DRAWN	DATE	SCALE
N.R	21/12/09	1:12,500
DESIGNED	CHECKED	APPROVED
	A.F	A.F

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Port of Cairns

ERA 16
MAINTENANCE DREDGING
PORT AREA

CAD FILE NO.	DRAWING No.	REV.	SHT.	
900-183-B.dgn	900-183-01	B	1 of 6	A3

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APPENDIX J PUNT NO. I AND WILLUNGA

Punt No. I

Dredge "Willunga"

APPENDIX K DAILY EMP CHECK SHEET

Ports North

MAINTENANCE OR DREDGING ENVIRONMENTAL MANAGEMENT PLAN
- IMPLEMENTATION CHECKLIST

Job: _____

Start Date_ _ _ _ _ _ **Week Number** □1 □ 2 □ 3 □ 4 □ 5 □ 6 □ 7 □ 8 □ 9 □ 10

Complete the following section prior to commencing works	**Tick or circle**					
1) Are the Environment Manager or Officers contact numbers available to all staff?	Yes / No					
2) Are staff induction records up to date?	Yes / No					
3) Is the QPWS Marine Animal Hotline number easily available to all staff? Ph:1300 130 372	Yes / No					
4) Are copies of the Incident Report Form accessible?	Yes / No					
5) Does the Works Supervisor hold all relevant emergency contacts and understand the correct reporting procedures for major environmental incidents?	Yes / No					
6) Is the Complaint Register available?	Yes / No					
7) Copies of the EMP are available to all staff?	Yes / No					
Complete the following section during the works (daily inspection)	**Day**					
	1	**2**	**3**	**4**	**5**	**6**
1) Are all waste containment structures functioning correctly?						
2) Are all waste bins of suitable capacity to contain all wastes (food wastes, etc.)?						
3) Has equipment been checked to ensure it is in good working condition and not leaking oils, lubricants or fuel?						
4) Are emergency spill kits available to staff at all times?						
5) Are the Spill Response procedures available and up to date, and all staff adequately trained?						
6) Records of vessel maintenance are accurate and up to date?						
7) All complaints have been recorded and details forwarded where required?						
8) Have all trackable wastes been stored and disposed of appropriately?						
9) Register of all MSDS documents is up to date for all chemicals on board?						
10) All records of marine wildlife that could possibly have been impacted by the works have been reported to the contract supervisor and QPWS?						
11) Record of working hours is complete – and within the permitted timeframe?						
12) All operating plant have been inspected for excess noise?						
13) Are there any incidents requiring reporting today?						
Add brief Incident details here:						
Compete this section upon conclusion of works						
1) Have all appropriate authorities been notified that works have been completed (MSQ, GBRMPA, other Agencies) ?						
2) Have the Incident and Complaint Registers been forwarded to Environment Manager?						

Works Supervisor……..**Date**……../……../…….

Notes:

Maintenance or Dredging EMP- Supervisors Checklist.doc

APPENDIX L CONTACTS LIST

Company	Business Phone	Fax	Mobile	E-mail
Far North Queensland Wildlife Rescue	(07) 4053-4467			
Ports North After Hours	(07) 4051-2558	(07) 4052-3859	(04) 1965-7350	enquires@portsnorth.com.au
MSQ - VTS Hotline	1300 551 899 (07) 4052 7400	(07)4052 7427	Ch 16	rhmcairns@msq.qld.gov.au
Fisheries Queensland Hotline	(18) 0001-7116			callweb@daf.qld.gov.au
AMSA - 24hr Hotline	(18) 0064-1792			info@amsa.gov.au
GBRMPA Hotline	(07) 3830-4919	(07) 4750-0700		info@gbrmpa.gov.au
Wildlife Hotline (DES)	(13) 0013-0372			info@des.qld.gov.au
EPA Pollution Hotline	1300 130 372			pollution@des.qld.gov.au
Ports North Environment Manager	07-4052 3820		0439723008	Adam.fletcher@portsnorth.com.au

APPENDIX M SSDS ENVIRONMENTAL CLEARANCE CERTIFICATE

As issued