PORT of BRISBANE
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PORT OF BRISBANE
Dredging Environmental Management Plan
WEIPA

MAY 2025

CONTENTS

1 Introduction

The Port of Brisbane Pty Ltd (PBPL) has been contracted by North Queensland Bulk Ports (NQBP) to undertake maintenance dredging at the Port of Weipa. The dredging works will be conducted by the PBPL's dredger, the *TSHD Brisbane*. Works are scheduled for approximately 33 dredging days starting on or around 8 May to 10 June 2025 (including a 3-day work program at Amrun port).

To optimise the dredger's efficiency during the dredging project, a sweep bar will conduct the final 'levelling' of the sea floor. The sweep bar will work in conjunction with the *TSHD Brisbane* to provide a uniform minimum water depth within the dredge area. The sweep bar does not function as a dredge but is a material moving device.

NQBP has developed the Port of Weipa Long Term Maintenance Dredging Management Plan (LMDMP) for Maintenance Dredging and offshore placement activities over a 10 year period (Appendix B). The NQBP LMDMP provides a framework for maintenance dredging within the Port of Weipa and includes operational, planning and monitoring arrangements. This Environmental Management Plan (EMP) has been prepared in accordance with the commitments set out in Section 8.1 of the LMDMP.

PBPL has developed this EMP to provide greater level of detail on the implementation of environmental mitigations measures to meet the intent of the LMDMP specific to the *TSHD Brisbane*'s dredging operations. These additional details on mitigation measures are generally included in the PBPL's dredging EMP's and therefore it is appropriate that they are documented for completeness. Where necessary, referencing of sections of the NQBP LMDMP has been provided to ensure integration of the two documents and ease of interpretation by the vessel crew.

A separate Safety Management Plan, which also addresses environmental management issues, has been prepared by the sweep bar subcontractor.

This EMP also forms part of the PBPL Environmental Management System to ensure the environmental management practices on the *TSHD Brisbane* are consistent with the PBPL's ISO 14001 accreditation. As such, consideration has also been given to the Environmental Aspects and Impacts (as defined under the PBPL Environmental Management Program), to ensure all impacting processes are addressed through clearly defined performance indicators.

The dredging schedule for the *TSHD Brisbane's* operations at all of the Queensland ports has been developed in accordance with PBPL and NQBP's contractual requirements; DTMR's *Maintenance Dredging Strategy for Great Barrier Reef World Heritage Area Ports* (November 2016); and the QPA *Procedure for scheduling and reporting the annual state-wide maintenance dredging program by TSHD Brisbane* (2016). It should be noted that although the Port of Weipa is not a GBR port, the requirements of the DTMR strategy have been applied and implemented as a matter of best practice.

2 Description of Dredging Plant

2.1 TSHD Brisbane

The *TSHD Brisbane* is a twin-arm Trailer Suction Hopper Dredge (TSHD) commissioned in November 2000. The vessel is 84m long with a displacement tonnage of approximately 3,500 tonnes. During operations, it has a crew of 13, operating in two shifts, 24 hours per day.

Dredging activity is determined by comparison of required or design depths of a site with pre-dredging hydrographic survey. Specialised vessels independent of the dredge undertake all survey work.

The hydrographic survey information is digitally uploaded to the *TSHD Brisbane*'s on-board computer system allowing the dredge master to display the depth information for a site with dredge target areas clearly highlighted.

The vessel can operate in either automatic, where onboard computers control vessel dredge systems, or manual mode for dredging operations. Further, the onboard computers assist the positioning of the vessel by displaying a differentially corrected GPS position of the vessel track against intended dredge areas. A Dredge Pipe Operator and Dredging Master are present on the bridge during all operations regardless of dredging mode, and all vessel movements are directed by the Dredging Manager.

The vessel extracts material by lowering two suction heads (one on either side of the vessel) to the seafloor whilst steaming slowly (1-3 knots) ahead. Large pumps onboard then draw water through the heads entraining sediments from the seafloor

in a similar fashion to a household vacuum cleaner, depositing a mixture of water and sediments into the vessel's central hopper.

The dredge heads are not fitted with any mechanical agitation equipment and rely solely on the suction head provided by the onboard pumps. Whilst the vessel has the ability to pump high-pressure water to the dredge head to agitate sediments, this is generally not required unless operating in compacted sands.

The concentration of sediments delivered to the hopper is dependent on a number of factors, such as sediment type and dredging conditions, but is generally in the order of 10-30% solids. That is, 70-90% of the material pumped to the hopper is water and must be discharged to achieve effective loading.

The *TSHD Brisbane* has been constructed with a central column weir to control water discharge. This weir consists of six rings stacked vertically. The position of the rings and hence the depth to which water in the hopper must be before overflowing to discharge, is controlled automatically by the draft of the vessel. This controls the residence time of the water in the hopper, providing maximum time for suspended material to settle and reducing discharge suspended sediment concentration.

Discharge from the weir is through the bottom of the vessel's hull below the keel on the centreline. As such, discharge of waters during dredging is 4-6m below the water's surface, depositing sediments near the bed and reducing settlement time.

The effective capacity of the hopper is dependent upon the type of material being dredged. While the volume of the hopper is 3000m^3, effective capacities range from 2100 m^3 for sands, to 2700 m^3 for fine silts.

This variation in effective hopper capacity is due to both the maximum load carrying capacity of the vessel and the differences in settling time for the material dredged. Material with a high silt content (<0.075mm) takes a relatively long time to settle from suspension in the water. As the hopper residence time is reduced, insufficient material settles in the hopper per cubic metre dredged to make the works economically viable.

Once the hopper has reached optimum capacity for the type of material being dredged, the vessel steams to the relocation site. The material may be bottom dumped (as is generally undertaken for placement at sea) by opening large valves in the floor of the hopper to allow the material to fall out through the hull.

Alternately, the material can be pumped out via a bow discharge pipe (generally used for onshore placement). A floating pipeline is connected to the bow coupling and material within the hopper agitated with high-pressure water jets to achieve the correct consistency for pumping. Material is then delivered via the pipeline to detention basins onshore. No onshore placement will occur in this campaign.

In order to increase efficiency of the campaign the TSHD Brisbane will work in conjunction with a sweep bar (commonly known as a bed leveller). The Bed leveller and activities will be managed by separate stand-alone environmental documentation which is also provided to the client for review.

3 Location of Operations

Located on the north west coast of Cape York Peninsula within Albatross Bay (Figure 1), the Port of Weipa is principally involved in the export of bauxite (aluminium ore) from the nearby Rio Tinto Aluminium mine. The Port also handles fuel, cattle and general cargo.

Other port facilities include general purpose and fuel wharves, and tugs operated by Weipa Tug Services Pty Ltd. NQBP provides a key service in the Port by maintaining a shipping channel through a regular maintenance dredging program.

This EMP covers routine maintenance works which will be undertaken in May and June 2025. These works are within the designated maintenance dredging areas within the Port of Weipa (**Figure 2**)

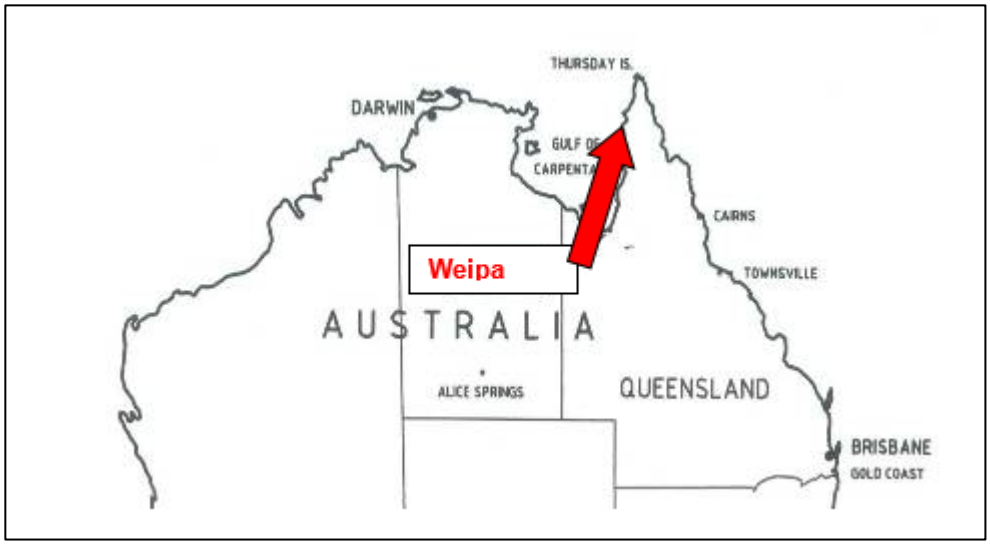


Figure 1: Port of Weipa

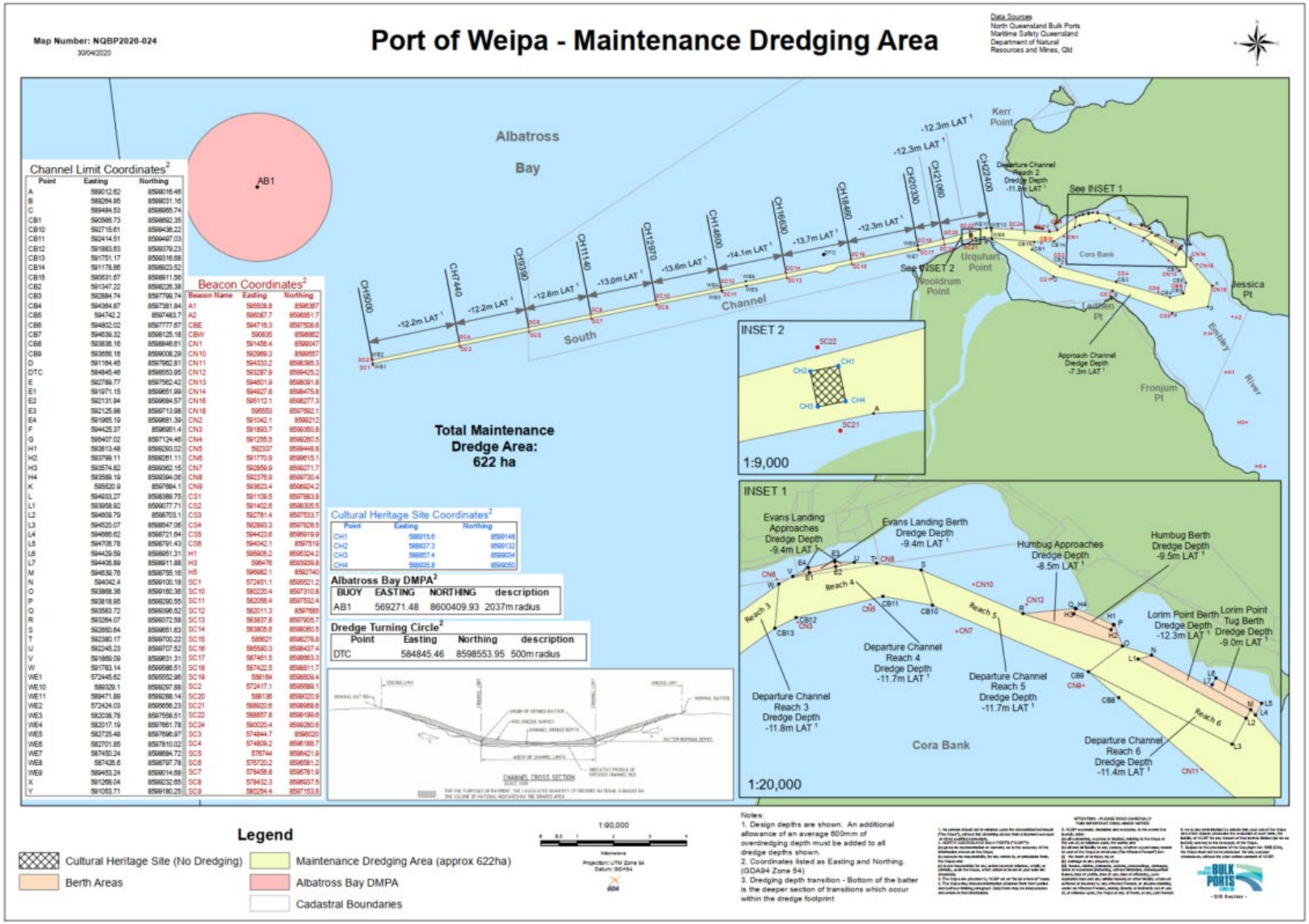


Figure 2: Approved Maintenance Dredge Area Footprint and Albatross Bay Dredge Material Placement Area (DMPA)

4 Description of Site

The Port of Weipa consists of a main shipping channel within Albatross Bay (known as the South Channel) and an Inner Harbour. The Inner Harbour consists of four shipping berths (Lorim Point East, Lorim Point West, Humbug Wharf and Evans Landing). Refer to Section 2 of the NQBP LMDMP (Appendix B) for a further detailed description of the Site.

5 Description of Activity

The aim of the maintenance dredging works is to remove accumulated sediments from within the South Channel and Inner Harbour for NQBP. Material from the inner harbour is typically unconsolidated fines, whereas the material from the channel typically contains a higher percentage of sand and gravel.

All maintenance dredging activities (including bed levelling) will only occur within the maintenance dredging area footprint set out in Figure 2. All dredged material will be deposited at the Albatross Bay Dredged Material Placement Area (DMPA), which is located NW of the South Channel and defined by a circle of 1.1 nautical miles radius, centred on a position (WGS84) -12.659671°S 141.637922°E, as defined in the attached Sea Dumping Permit SD2020/3996 and Figure 2. It is important to note that dredged material must be evenly distributed across the DMPA with each load placed in a new location (see example in Figure 20 of LMDMP).

The works are scheduled to commence on or around 2 May and conclude approximately 40 days later on 10 June 2025 (including a 2-day visit to Amrun). It is proposed that the *TSHD Brisbane* will operate 24 hours per day, during the contract period, unless regulatory restrictions or operational constraints are imposed.

To optimise the dredger's efficiency during the dredging project, the Sweep Bar will conduct the final 'levelling' of the sea floor. The Sweep Bar will work in conjunction with the *TSHD Brisbane* to provide a uniform minimum water depth within the south channel and inner harbour channels. The Sweep Bar does not function as a dredge but is a material moving device. The Sweep Bar will only operate within the approved dredge area (Figure 2) and will not sweep material into or near the material relocation site. The sweeper bar will be operated by East Coast Marine.

Table 1 provides a summary of the estimated volumes to be dredged in 2025 from the South Channel and Inner Harbour. The estimates are intended to be indicative and more accurate estimations will be calculated in the pre dredge survey. Actual volume removed will not be determined until the completion of the post dredge hydrographic survey. Estimated volume for the maintenance dredging is up to 500,000 m^3.

Table 1: Type, Estimated Quantity and Destination of Dredged Material for the 2025 Weipa Maintenance Dredging Project

Material Type	Source	Estimated Volume (m^3)	% Relocated Off-Shore	% Relocated On-Shore
Accumulated maintenance sediments	South Channel	**Up to 500,000**	**100**	**0**
	Inner Harbour		**100**	**0**
Total		**500,000**	**100**	**0**

6 Environmental Legislation and Approvals

The primary environmental legislation relevant to this dredging project is briefly discussed below. Should specific legislative matters arise during the project these should be addressed to the PBPL Environment Manager, who will provide advice. If applicable, this advice will be developed in consultation with the NQBP Principal Environment Advisor.

6.1 Maintenance Dredging Strategy for Great Barrier Reef World Heritage Area Ports

The aim of the DTMR Maintenance Dredging Strategy for Great Barrier Reef World Heritage Area (GBRWHA) Ports (2016) is to provide a framework for sustainable management of maintenance dredging at ports in the Great Barrier Reef World Heritage Area. Whilst the Port of Weipa is not a GBRWHA port, NQBP have applied the principles of the Strategy to dredging management at that location and as such completed a risk assessment to determine the most appropriate dredging windows for this year's campaign. This risk assessment, along with those completed by all other major Queensland ports, has been used to determine the dredging schedule for all works carried out by the *TSHD Brisbane* in 2025.

6.2 State Legislation

6.2.1 Environmental Protection Act 1994

The objective of the *Environmental Protection Act 1994* is to protect Queensland's environment while allowing for development that improves the total quality of life, both now and in the future, in a way that maintains the ecological processes on which life depends consistent with "ecologically sustainable development".

The protection of Queensland's environment is to be achieved by an integrated management program that is consistent with ecologically sustainable development.

The program is cyclical and involves the following phases –

- Establishing the state of the environment and defining environmental objectives;
- Developing effective environmental strategies;
- Implementing environmental strategies and integrating them into efficient resource management; and
- Ensuring accountability of environmental strategies.

Under the provisions of the *Environmental Protection Act 1994* Dredging (extractive and screening activities) is classified as an Environmentally Relevant Activity (ERA 16) and an Environmental Authority (EA) is required to undertake this ERA. Specifically, the Act states:

"Extractive and screening activities (the relevant activity) consists of any of the following-

a) dredging of a total of 1000t or more of material from the bed of naturally occurring surface waters, in a year;

b) *extracting, other than by dredging, a total of 5000t or more of material, in a year, from an area;*

c) *screening 5000t or more of material in a year.*

NQBP holds an Environmental Authority (EPPR00477713) for ERA 16(1)(d) to undertake maintenance dredging within the Port of Weipa (Appendix C).

NQBP and PBPL have a general environmental duty under the Act to ensure that no environmental harm (serious or material) or environmental nuisance occurs as a result of the activities. This EMP has been prepared to encompass the components of the works to be undertaken by PBPL, to the extent to which it has control, and will be enacted by the PBPL staff as the working document.

PBPL is a Suitable Operator (No. 647472) registered by the Department of Environment, Tourism, Science and Innovation (DETSI) as being suitable to carry out the environmentally relevant activity (ERA). This is required under the *Environmental Protection Act 1994*.

6.2.2 Coastal Protection and Management Act 1995 and Planning Act 2016

The objective of the *Coastal Protection and Management Act 1995* (CPM Act) is to:

(a) provide for the protection, conservation, rehabilitation and management of the coast, including its resources and biological diversity; and

(b) have regard to the goal, core objectives and guiding principles of the National Strategy for Ecologically Sustainable Development in the use of the coastal zone; and

(c) ensure decisions about land use and development safeguard life and property from the threat of coastal hazards; and

(d) encourage the enhancement of knowledge of coastal resources and the effect of human activities on the coastal zone.

Tidal works is defined in the CPM Act and includes work in, on or above land under tidal water, or land that will or may be under tidal water because of development on or near the land. A tidal works approval essentially approves the engineering design and location of structures (e.g. channels, swing basins, wharves etc).

Tidal work or works within a coastal management district (declared under the CPM Act) requires a development approval now regulated under the *Planning Act 2016*.

NQBP holds development approvals for Tidal Work or works within a coastal management district associated with existing navigational infrastructure within the Port of Weipa (PL/06/02/00015) and for the Disposal of Dredged Material in Tidal Waters associated with placement of maintenance dredge material to the Albatross Bay DMPA (2012-20027 SDA). See Appendix C.

6.3 Federal Legislation

6.3.1 Environment Protection (Sea Dumping) Act 1981

The *Environment Protection (Sea Dumping) Act 1981* is Commonwealth legislation providing for the protection of the environment by regulating dumping into the sea, incineration at sea and artificial reef placements, and for related purposes.

NQBP hold Sea Dumping permit SD2020-3996 (Appendix C) for placement of maintenance dredge material to the Albatross Bay Dredge Material Placement Area (DMPA).

6.4 Approvals Summary

NQBP hold the following approvals for the 2025 maintenance dredging works:

- Environmental Authority for ERA 16(1)(d) EPPR00477713.
- Sea Dumping Permit SD2020-3996.
- Operational Works Approval for Disposal of Dredged Material in Tidal Waters (Albatross Bay DMPA) 2012-20027 SDA.
- Operational Works Approval for Tidal Work associated with the Port of Weipa maintenance dredging areas PL/06/02/00015.

Copies of all approvals are included in Appendix C of this EMP and will be available onboard the dredge at all times.

PBPL will ensure that its dredging operations comply with those conditions of the above approvals for which it is responsible. NQBP, as the proponent, is responsible for supplying all relevant information regarding the environmental approvals and associated conditions to the PBPL. NQBP have also reviewed and approved this EMP. A copy of all approval documents and relevant environmental management plans will be kept on board the dredge at all times.

Note: The Sea Dumping Permit refers to the NQBP Long Term Maintenance Dredging Management Plan (LMDMP). This LMDMP has been considered in the preparation of this EMP.

7 Roles and Responsibilities

The approvals for this maintenance dredging project and the NQBP LMDMP include a range of conditions and requirements which must be complied with. Some of these conditions relate to operational activities while others relate to broader management issues, environmental monitoring and reporting. Contract negotiations between PBPL and NQBP have clarified responsibility for compliance with the various conditions.

Table 2 provides an outline of the roles and responsibilities of the staff involved in the Weipa maintenance dredging project. This also provides an outline of the Chain of Command and links between parties involved in the project.

7.1 Communications

As part of the pre-dredge environmental due diligence procedure the following documents will be used to capture campaign requirements and ensure all workorders are agreed by all parties and consider the risks and restrictions of the permits:

- Pre dredge environmental due diligence questionnaire (to be completed by NQBP prior to the commencement of the dredging campaign)
- Pre dredge checklist (to be completed by PBPL Environment, PBPL Onshore Management and the Vessel Master prior to the commencement of the dredging campaign)
- Work order form (to be completed by the Client, PBPL Onshore Management and the Vessel Master prior to the commencement of and following the completion of the dredging at a location)

All work orders will be issued using the work order form, with all parties having fully agreed to the instructions, the limitations of equipment and the area being dredged and/or bed levelled. No works shall be carried out unless it has been issued on a work order form. If a work order needs to be changed or amended at any point (e.g. conditions change considerably or more information becomes available), this will be reported to the vessel master/onshore manager who will then discuss required changes with the client. Any changes to a work order form should be clearly communicated, and a revised version number will be allocated to the work order.

When dredging close to or at the permitted design depth, every effort will be made to lower drag heads no deeper than approved dredge depths. However, due to the dynamic nature of dredging, the drag heads may exceed maximum design depths on occasion. When dredging close to or at design depth, limitation of the methodology and equipment will be discussed with the vessel master, the onshore manager and NQBP.

A final bathymetric survey, to be carried out after all dredging and bed levelling activities have been completed, will be used to assess the dredging activities against the permitted design depths. Depths for interim surveys should not exceed the permitted over dredge allowance.

Where an interim survey detects exceedance of the design depth plus any over dredge allowance, the conformance reporting procedure will be initiated to determine the cause of the exceedance and appropriate corrective action.

Dredged areas in the final survey should be no deeper than the approved design including any over dredge allowance, acknowledging the dynamic nature of dredging as detailed above. It should be noted that many areas within the approved dredge footprint are already deeper than design depth due to the natural form of the seabed and/or natural processes due to metocean conditions and do not require dredging.

Table 2: Roles and Responsibilities of Key Employees Associated with the 2025 Weipa Maintenance Dredging Project.

Position	Contact Numbers	Responsibility	Reporting to	Contact Numbers
PBPL Staff Onboard *TSHD Brisbane*				
Vessel Master	[redacted]	Responsible for all aspects of vessel shipboard management	Head of Dredging Operations	[redacted]
Chief Engineer	[redacted]	Responsible for operation and maintenance of onboard machinery	Vessel Master	[redacted]
PBPL Staff On-Shore				
Site Representative	[redacted]	Management of day to day operations of project	Head of Dredging Operations	[redacted]
Head of Dredging Operations	[redacted]	Management of overall operations of dredger.	Executive General Manager Marine	[redacted]
Environmental Advisor	[redacted]	Responsible for undertaking monitoring of EMP implementation	Environment Manager	[redacted]
Executive General Manager Marine	[redacted]	Responsible for overall management of the Corporation's dredging activities	Chief Executive Officer	
NQBP Staff				
Principal Advisor Environment	[redacted]	Primary site contact for coordination and management of environmental matters	Senior Management Environment	[redacted]
Weipa Maintenance Dredge NQBP Project Manager	[redacted]	Overall project management	Senior Manager Asset Services	[redacted]
Weipa Maintenance Dredge NQBP Project Director	[redacted]	Broad Project Delivery Oversight	General Manager Infrastructure & Operations	[redacted]
MSQ Contacts				
Regional Harbour Master	[redacted]	Contact for hazardous spills and shipping safety issues		
Maritime Operations Officer (Weipa)	[redacted]	Maritime Operations		

8 Environmental Management Plan

The purpose of the Environmental Management Plan (EMP) is to:

- Identify the potential hazards associated with undertaking the dredging and material relocation works;
- Identify the appropriate mitigation measures for each potential environmental hazard; and
- Indicate the corrective actions to be undertaken if an undesirable impact or unforeseen level of impact occurs.

It should be noted that PBPL is operating as a contractor for NQBP to undertake the dredging works. Ultimate responsibility for the project lies with NQBP and this EMP provides a description of only those components within the control of PBPL. Other compliance monitoring and reporting issues are to be addressed directly by NQBP and are described in further detail in the LMDMP and relevant approval documents.

This EMP is designed to comply with the NQBP LMDMP. The sections below provide an outline of the structure and details of the component management plans.

8.1 Structure

Each of the Management Plans within this document follows the structure outlined in Table 3 below. The management plans in the NQBP LMDMP have a slightly different structure.

Table 3: Management plan structure and components

Item	Content
Element	Aspect that requires management.
Objective	What is intended to be achieved.
Actions	Tasks that will be undertaken to ensure Objective is met.
Performance Indicators	Qualitative or quantitative measurement to gauge objective.
Monitoring	Details of measurement of performance indicators.
Reporting	Nature, timing and responsibility for reporting results.
Corrective Action	Action to be taken if monitoring indicates objective is not being met.
Term	Active term of management plan.
Responsibility	Delegation/nomination of responsibilities for overseeing management plan operation.

8.2 Management Plans

The following elements have been identified as issues requiring specific management to avoid unacceptable environmental impacts, and management plans have been developed accordingly.

All compliance monitoring is to be conducted by NQBP.

Waste – The general categories of waste have been defined as follows:

- General waste (refuse generated from crew);
- Comingled recycled waste including paper, plastics, metals and glass;
- Paper and cardboard waste;
- Sewage waste (including both black and grey waters); and
- Oily water, oil wastes and other hazardous or regulated wastes such as greases, paints and chemicals.

Emissions (Noise / Vibration / Light / Air Quality) – The generation of emissions during vessel operation and potential impacts on sensitive receptors forms the basis of this management plan. Please note that issues of workplace noise and vibration are controlled and managed under existing occupational health and safety protocols within the vessel's safety management system.

Turbidity – Whilst this management plan aims to limit the generation of plumes as much as practical, the principal management response will be:

- the *TSHD Brisbane* will meet the environmental performance requirements as detailed in the Environmental Authority and Sea Dumping Permit approval conditions; and
- dredging and dumping operations will only be undertaken within approved areas.

Any specific quantitative monitoring of the dredging works will be undertaken by NQBP in accordance with relevant approval conditions and management plans.

Protected Marine Fauna – This management plan addresses the potential for the *TSHD Brisbane* to directly impact on protected marine fauna during dredging (e.g. capture of marine turtles in dredge head), transit (collision) or material relocation operations. Overarching issues of secondary impacts such as habitat disturbance are beyond the scope of this document and would have been addressed in impact assessments associated with the original capital works approvals, or site-specific considerations by regulatory authorities when issuing necessary licenses/permits.

Cultural Heritage – An area of cultural significance has been identified adjacent to Urquhart Point (see Appendix F for map of exclusion zone). This area is not to be dredged or bed levelled. In addition, this management plan is generally in the scope of maintaining a watch on dredge material for unanticipated items of cultural significance.

Ballast Water – The *TSHD Brisbane* has relatively small ballast water tanks which are only discharged in special circumstances (e.g. light draft required for shallow water (<3m) work). Ballast water will be managed in accordance with the Commonwealth's *Biosecurity Act 2015*. To further minimise the risk of translocation of exotic organisms, fresh water is used to fill the ballast tanks when possible.

Vessel Washdown – This management plan is applicable to areas were wash waters may flow directly overboard, such as the deck and dredge head.

Bunkering of Fuel – Refueling the *TSHD Brisbane* occurs by vessel-to-shore connection. There is the potential for fuel spill/leaks to enter the waterways however this risk is controlled by operating procedures and use of licensed contractors to perform the fuel transfer.

8.3 Waste Management

8.3.1 General and Recycling Wastes

The *TSHD Brisbane* is fitted with one 3m^3 general waste bin, one 1.5m^3 paper waste bin, 4 x 240L comingled recycling bins and 2 x container bins for the collection of on-board wastes. These are fitted with secured lids to prevent material being blown overboard during either storage or handling. An approved contractor collects the bins fortnightly when the vessel is alongside port reception facilities during re-provisioning/crew-change operations. Containers will either be kept on board or taken to an appropriate container recycling facility.

Further details are contained within the Waste Management Plan (section A20 of the *TSHD Brisbane* Operational and Administration Procedures Manual).

Element	Waste Management - General and Recycling Wastes
Objective/Target	To ensure that general refuse produced on-board the *TSHD Brisbane* is collected, retained and transferred to an appropriate facility without unintentional loss.
Actions	During at-sea operations: • Supply of appropriate collection bins in areas such as galley, crew quarters and mess. • Transfer of bins as required to large bins on-deck. • All on-deck bins secured in position to prevent movement whilst at sea. • Material placed in bin to be as compacted as much as possible to reduce space requirements. • Where facilities exist to recycle material, appropriate separation of refuse. • Bin lids to be chained down to prevent wind- blown material loss at all times. • All collection points to be emptied to on-deck bin when 75% capacity. • Visual check to ensure that on-deck bins have sufficient capacity to retain general waste until next scheduled on-shore transfer. During transfer: • Licensed collector to be used to collect general refuse for transfer to approved facility. • Record of waste tracking certificates retained where relevant. • Bin lids to be chained in position during transfer to prevent material loss.
Performance Indicators	No loss of general refuse over-board during collection, storage or transfer.
Monitoring	Regular visual assessment of collection points. Visual inspection of on-deck bins.
Reporting	Reporting of material loss over-board to Vessel Master and NQBP in accordance with incident reporting protocol detailed in Section 9 of this EMP.
Corrective Action	If practicable, retrieve material that was lost. Review procedure causing material loss and rectify immediately.
Term	During all operations.
Responsibility	Vessel Master.

8.3.2 Sewage Treatment

The *TSHD Brisbane* is fitted with a modular sewage treatment system, which treats all onboard blackwater and greywater. This system is IMO approved and designed to meet the requirements of the *Queensland Transport Operations (Marine Pollution) Regulation (2008)* for Grade A treated sewage. Current TSHD procedures consider all effluent produced by the system to be 'untreated' and is diverted to the holding tank and only discharged in a location that is designated for untreated sewerage discharge or discharge ashore to a shore approved facility

Further sewerage treatment details are contained within the following documentation:

- Waste Management Plan (section A20 of the *TSHD Brisbane* Operational and Administration Procedures Manual) and AMSA waste logbook;
- Sewage Logbook (Includes effluent discharge locations, effluent discharge log, in-house sludge assessments and discharge log and independent effluent assessment); and
- Aquamar Bio-Unit type MSP I Sewage Treatment Plant - Complete Manual.

Element	Waste Management – Sewage Treatment
Objective/Target	To ensure sewage generated on-board is appropriately treated and releases are managed.
Actions	During at-sea operations: • All sewage effluent (including greywaters and blackwater) generated onboard shall be directed to the onboard treatment system. • Treated effluent shall be diverted to onboard holding tanks • Effluent from the treatment system and holding tank is to be discharged in appropriate locations to ensure compliance with relevant legislation (see Appendix A - Untreated sewage discharge- which includes a plan showing restricted locations for discharge of untreated sewerage for Weipa). • Sludge tank to be pumped out as required by Chief Engineer. Operation of the sewage treatment system is in accordance with the Waste Management Plan (section A20 of the TSHD Brisbane Operational and Administration Procedures Manual). Chief Engineer coordinates with Vessel Master as to when discharge occurs. • Pump-out of sludge tank to be managed as for untreated sewage discharges and, by way of appropriately licensed contractors where required. Service records: • The sewage treatment system is to be managed and maintained as described in the sewage treatment manual), operational procedures manual, sewage logbook and MP2.
Performance Indicators	No sewage discharge within an area that prohibits the discharge of untreated sewage (Appendix A). Dredging navigation system delineates safe discharge areas. Operation of the sewage treatment system is in accordance with the Waste Management Plan (section A20 of the *TSHD Brisbane* Operational and Administration Procedures Manual). Only approved personnel (Chief Engineer) are to operate the sewage discharge system. Chief Engineer coordinates with Vessel Master as to when discharge occurs. All discharges are recorded in the sewage log. All sea valves are Lloyds certified and inspected and overhauled every refit. Any internal sewage spills would be contained within the ship's compartments or in the bilge.
Monitoring	Vessel Master to monitor vessel location during sewerage discharge events to ensure vessel is not within an area that prohibits the discharge of untreated sewage.
Reporting	Reporting of sewerage discharge location in Sewage Log Book. Any exceptions reported to vessel master and NQBP in accordance incident reporting protocol detailed in Section 9 of this EMP. All sewage spills to be reported to Maritime Safety Queensland.
Corrective Action	Review procedure resulting in sewerage discharge in prohibited location and rectify immediately.
Term	During all operations.
Responsibility	Management and operation of on-board system is by the Vessel's Chief Engineer. Ensuring sewerage discharge is not within a prohibited location is by the Vessel's Master.

8.3.3 Hazardous Waste and Regulated Wastes

Hazardous waste includes waste oils, oily water, oil sludge, chemicals and paints. The vessel is fitted with four 240 L hazardous waste bins for oily rags and oil filters which are serviced by appropriately licensed contractors when required. Oily water is contained within the bilge water holding tank and is discharged onshore by a licensed contractor. Oils are recycled through the engine until the waste oil forms a sludge which is transferred to a holding tank for onshore pump out by a licensed contractor. Any minor amounts of hazardous waste materials are contained in designated hazardous waste bins and stored in bunded areas until discharge onshore.

Regulated wastes are a stream of controlled wastes that are unlikely to be produced on board, but include materials that the vessel may come across and remove from the river channel during the operation. This includes items such as tyres.

Further details are contained within the Waste Management Plan (section A20 of the *TSHD Brisbane* Operational and Administration Procedures Manual).

Element	Waste Management – Hazardous Waste
Objective/Target	To ensure hazardous waste generated on-board and regulated wastes are appropriately managed.
Actions	During at-sea operations: • All hazardous/regulated waste to be stored in appropriate manner and clearly marked in accordance with legislative requirements. During transfer: • Hazardous/regulated waste to be collected by licensed contractor only, for disposal at approved facility. • All procedures to minimise spills during transfer of hazardous waste to contractor shall be followed. Spill response equipment shall be easily identifiable and conveniently located. • Disposal of all hazardous/regulated waste to be recorded in accordance with the requirements of section A20 of the *TSHD Brisbane* Operational and Administration Procedures Manual
Performance Indicators	No inappropriate storage, disposal or spill of hazardous wastes.
Monitoring	Reporting by all crew of any observations of inappropriate storage, handling or spill of hazardous wastes.
Reporting	Exception reports directly to Vessel Master. Vessel Master must report any spills to the marine environment to NQBP's Project Manager on [redacted]; and notify Maritime Safety Queensland on 07 4052 7470 or 1300 551 899.
Corrective Action	Vessel Master to assist with clean up of spill, review procedure breakdown and correct if required. This may include staff training.
Term	During all operations.
Responsibility	Management and operation of on-board system is by the Vessel Master, with input from Environment Manager PBPL as required.

8.4 Emissions

The *TSHD Brisbane* is fitted with modern and fully maintained emission reduction devices to limit emissions generated during works as much as possible. Further, the nature of the works is such that the potential for disruptive noise, vibration, light or air quality to sensitive places (e.g. residential areas) is limited by distance.

Element	Emissions Management
Objective/Target	To ensure emissions generated by operation of the *TSHD Brisbane* does not unduly impact adjacent areas.
Actions	**Noise** • 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.* **Light** • All lighting to be maintained as per manufacturers' specifications. • Where practicable, LED lighting will be used to provide more direct illumination of tasks and reduce light spill. • Use of external vessel lighting will be minimised unless required for safety purposes. **Air quality** • All combustion plant particularly main and auxiliary engines to be maintained as per manufactures' specifications. • Appropriate adjustment of trim and ballast to ensure effective operation. • Exhaust stack to be visually monitored to ensure no visual dark emissions. **Vibration** • All equipment on board the *TSHD Brisbane* to be maintained as per manufacturers' specifications.
Performance Indicators	No emissions-based complaints regarding the operation of the vessel.
Monitoring	All complaints recorded in appropriate system and forwarded to Vessel Master and Environment Manager. If necessary (e.g. if requested by DESI), noise shall be monitored to determine the level of impact in accordance with requirements of condition N1 of ERA 16 approval.
Reporting	Any complaints to be reported to Vessel Master, PBPL Environment Manager and PBPL Head of Marine. NQBP will be advised in accordance with the Reporting protocol detailed in Section 9 of this EMP (refer also to Section 10.1) Annual review of all complaints received, and follow-up action undertaken.
Corrective Action	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 emissions reduction equipment and review/replace as required.
Term	During all operations.
Responsibility	Management and operation of on-board systems is by the Vessel Master, with input from Environment Manager as required.

8.5 Turbidity Control

The *TSHD Brisbane* is fitted with a range of best practice design features (e.g. central column weir anti-turbidity green valve and below keel discharge) to minimise production of turbid waters. All devices meet relevant permit requirements. The vessel's electronic navigation system is also configured with audible alarms to alert the Vessel Master that the vessel is approaching the limit of the DMPA whilst carrying out material placement activities.

Element	Turbidity Management
Objective/Target	To ensure turbid plumes generated by operation of the *TSHD Brisbane* are minimised.
Actions	• Ensure dredging and material placement is undertaken within the approved areas only, by reference to electronic navigation aids and visual marks as required. • Dredge heads are deployed in line with Procedure B24 – Launching and recovery of dredge pipes, to ensure dredging only occurs within permitted areas (and within permitted depths). • Within the practicalities of the vessel, minimise the generation of plumes by control of the discharge system. • Ensure exclusion zone is maintained around the seagrass extents detailed in Appendix G. The GIS for the seagrass extent is loaded into the electronic navigation system to assist in maintaining this exclusion zone.
Performance Indicators	Plumes of turbid waters are contained, as far as possible, within the boundaries of the approved dredging and material disposal areas. No plumes of turbid waters extending into areas containing known identified sensitive receptors.
Monitoring	Review of vessel dredging and placement tracks against approved dredging and material disposal area boundaries and the seagrass extent boundaries. Dredge Master to visually monitor the extent and concentrations of the plume when in operations to ensure it does not encroach upon seagrass meadows for dredging within the Inner Harbour. NQBP will monitor daily turbidity levels and plume behaviour by satellite imagery.
Reporting	Reporting of turbidity incidents (material placement outside the approved areas or visible turbidity plume impacting sensitive areas) immediately to Vessel Master, Head of Marine and Environment Manager. PBPL to notify NQBP Dredging Project Manager.
Corrective Action	Vessel Master, in consultation with Environment Manager, to investigate whether the turbidity is a direct result of dredging and dredge material placement activities. If determined to be a result of dredging, Vessel Master to consider relocation of activity or altering of dredging timeframes for dredging activities within these areas in consultation with the Dredging Project Manager. In accordance with NQBP turbidity monitoring, agreed corrective actions will be implemented in accordance with the Vessel Master if required (as per Section 10.3).
Term	During all operations.
Responsibility	Management and operation of on-board systems is by the Vessel Master.

8.6 Protected Marine Fauna

The following procedure outlines the management to be put in place to minimise the risk of harming turtles, dugongs and cetaceans during dredging operations. In the event of an incident, contacts are to be followed as outlined in this document.

Element	Protected Marine Fauna
Objective/Target	To ensure the minimisation of the capture of, or harm to, protected marine fauna during dredging and material relocation process.

Actions	• Dredging and material placement only in approved areas.
	• Dredge heads are deployed in line with Procedure B24 – Launching and recovery of dredge pipes, to ensure dredging only occurs within permitted areas (and within permitted depths).
	• Load to be inspected on an opportunistic basis for marine fauna remains.
	• Follow the procedures for the protection of marine fauna outlined in the project Sea Dumping Permit, NQBP LMDMP and Marine Environmental Monitoring Plan (MEMP) (Appendix I) . Specifically:
	  ○ Prior to the commencement of each dredging and dumping run, PBPL must check, using binoculars from a high observation platform, for whales, dolphins, dugongs and turtles within the monitoring zone (which is here defined as the area within 300 m of the vessel).
	  ○ Dredging and dumping activities may only be commenced if no individuals of the above listed species have been observed in the monitoring zone.
	  ○ Where any of the above listed species are sighted within the monitoring zone, dredging/dumping activities must not commence within the monitoring zone until 20 minutes after the last individual has been observed to leave the monitoring zone, or the dredge is to move to another area to maintain a minimum distance of 300m between the vessel and any above listed marine species.
	• Procedure for minimising turtle capture as set out in ***Dredging and Dredged Material Placement Plan – TSHD Brisbane*** to be followed. Refer to **Section 10.5**

Performance Indicators	No dredging or placement of material outside approved areas (note approval map shown in Figure 2 of this document). No capture of, or harm to, protected marine fauna.
Monitoring	Review of vessel dredging and placement tracks against approved area boundaries. Load to be inspected on an opportunistic basis for marine fauna remains. Visual monitoring of 'monitoring zone', in accordance with sea dumping permit conditions.
Reporting	Reporting of any incidents involving cetaceans, dugong or turtle to Vessel Master and Environment Manager in accordance with PBPL's Marine Fauna Incident Response Procedure (Appendix H), for turtles refer to extract in section 10.5for additional documentation requirements. **This reporting requirement is irrespective of whether the fauna is dead or alive.** NQBP to be urgently advised by PBPL (via Environment Manager), in accordance Incident reporting protocol detailed in Section 9 of this EMP. This will enable NQBP to notify the Department of Climate Change, Energy, the Environment and Water (DCCEEW) within 24 hours, in accordance with the conditions of the sea dumping approval.
Corrective Action	Vessel Master to investigate reason for exception and take appropriate action.
Term	During all operations.
Responsibility	Management and operation of on-board systems is by the Vessel Master, with input from Environment Manager as required.

8.7 Cultural Heritage

Cultural heritage refers to both European and Indigenous heritage issues.

Element	Cultural Heritage
Objective/Target	To ensure dredging operations do not disturb/destroy items of European or non-European cultural significance.
Actions	• Ensure dredging and material relocation is undertaken within the approved areas only by reference to electronic navigation aids and visual marks as required. • Dredge heads are deployed in line with Procedure B24 – Launching and recovery of dredge pipes, to ensure dredging only occurs within permitted areas (and within permitted depths). • Ensure maintenance dredging does not occur within the cultural heritage site adjacent to Urquhart Point (identified in Figure 2 and Appendix F). The GIS location of the cultural heritage site is loaded into the electronic navigation system to assist in maintaining this exclusion zone. • Undertake opportunistic visual inspection of dredge load and dredge heads, reporting any items of suspected cultural significance. If items are found, retain and report to relevant authorities through Vessel Master and Environment Manager and NQBP. • Observe all site-specific requirements which may influence dredge operations.
Performance Indicators	No dredging or bed levelling occurs within the cultural heritage site adjacent to Urquhart Point identified in Figure 2 and Appendix F. No disturbance of items of cultural significance.
Monitoring	No disturbance of items of cultural significance. Dredge track plot indicates complete avoidance of cultural heritage site adjacent to Urquhart Point.
Reporting	Reporting of exceptions to Vessel Master and Environment Manager. Any evidence of items of cultural heritage significance will be reported to NQBP in accordance with the reporting protocol detailed in Section 9 of this EMP.
Corrective Action	Vessel Master to investigate reason for exception and take appropriate action.
Term	During all operations.
Responsibility	Management and operation of on-board systems is by the Vessel Master, with input from Environment Manager as required.

8.8 Ballast Water Management

Ballast water from the *TSHD Brisbane* will be managed in accordance with the *Biosecurity Act 2015*. Given all dredging will occur within Port limits there is a low risk associated with the ballast water. The *TSHD Brisbane* operates under an approved Ballast Water Management Plan and utilises only low risk (i.e. freshwater) ballast at all times unless operational safety requirements require the uptake of seawater. The vessel also holds an exemption certificate from the requirements of the IMO Ballast Water Management Convention. In accordance with the exemption certificate, seawater will only ever be taken up (and therefore require discharge) if it is necessary to maintain vessel safety.

Element	Ballast Water Management
Objective/Target	To ensure that the risk of translocation of organisms in ballast water by the *TSHD Brisbane* is minimised.
Actions	• Ballast tanks filled with freshwaters will be retained without treatment. If discharge is required for safety purposes: • Any ballast tanks holding seawaters will be exchanged prior to arrival with seawaters at a location as distant from the coastline or other shallow (<100m) areas as possible, but not less than 12nm. • A record will be kept of volumes, location and times of ballasting and de-ballasting operations.
Performance Indicators	No release of high risk ballast water during operations.
Monitoring	Review of log of ballast/de-ballasting operations.
Reporting	Vessel Master to maintain record of operations and review for non-conformances.
Corrective Action	Review procedure causing release and rectify immediately.
Term	During all operations.
Responsibility	Vessel Master.

8.9 Vessel Washdown

This management plan relates to the washing of the dredge head (to remove compacted sediment) or the deck (to remove splashes from the hopper/drips from the dredge heads) of the *TSHD Brisbane*. Prior to washing, preference shall be given to sweeping the deck and/or equipment.

Element	Vessel Washdown
Objective/Target	To minimise the potential for contaminants to enter the environment.
Actions	Sweeping of deck in preference to washing where possible. Washdown of the deck and or dredge head shall only occur within the designated dredging or disposal areas. Only dredged material to be release as a result of vessel washing activities (i.e. no release of oil or other contaminants)
Performance Indicators	No inappropriate use of degreasers or washdown in undesignated areas. No release of contaminants to the receiving environment.
Monitoring	Reporting by crew of any observations of contamination to the waterway whilst washing the deck/equipment.
Reporting	Exception reports directly to Vessel Master.
Corrective Action	Vessel Master to assist in clean up spill, review procedure breakdown and correct if required. This may include staff training.
Term	During all operations.
Responsibility	Management and operation of on-board system is by the Vessel Master, with input from Environment team as required.

8.10 Hopper Management

This management plan relates to the washing of the dredge hopper of the *TSHD Brisbane*. The *TSHD Brisbane* hopper shall be washed to minimise the release of potential contaminants prior to leaving the Port of Brisbane or any other port areas where dredging has occurred. Hopper washing activities shall only be conducted at the Dredge Material Placement Area and contained within this designated area by giving consideration to weather and current conditions. To minimise the discharge of materials from the hopper, washing will only be conducted subsequent to pump out at the approved reclamation or placement area.

Element	Hopper Washing
Objective/Target	To minimise the release potential contaminants To perform hopper washing activities in an approved area and in such a way that the material be contained within the area.
Actions	• Washdown of hopper from time to time and when *TSHD Brisbane* leaves any port area for other destinations. • Washdown of the hopper within the designated placement area. • Washdown of the hopper subsequent to discharge of material to approved placement area. • Consideration of weather and current conditions prior to discharge in dredge material placement area. • During discharge the *TSHD Brisbane* will move in such a way that the dislodging of material is assisted by the vessel movement.
Performance Indicators	No discharge of materials outside the designated hopper washing area (i.e., dredge placement area and reclamation area).
Monitoring	Reporting by crew of any observations of visual turbidity plumes outside the designated area.
Reporting	• Hopper exchange to be recorded in the hopper exchange log. • Exception reports directly to Vessel Master.
Corrective Action	Vessel Master to review procedure for discharging hopper washing and correct if required. This may include staff training.
Term	During all operations.
Responsibility	Management and washing operations is by the Vessel Master, with input from Environment Manager as required.

8.11 Bunkering of fuel

The *TSHD Brisbane* uses only ultra low sulfur fuel and regularly refuels by the use of a licensed contractor, typically during provisioning/crew change operations. While this plan is presented in this document to address bunkering operations, the *TSHD Brisbane* has an Australian Maritime Safety Authority (AMSA) approved Oil Spill Response Plan on board as part of the ISO 9004 accredited documentation.

Element	Bunkering of Fuel
Objective/Target	To ensure bunkering of fuel to the *TSHD Brisbane* is appropriately transferred and spillage is prevented.
Actions	During land transfer: • Licensed contractor is used to transfer fuels and levels shall be monitored. • All appropriate spill kit equipment will be on site and all personnel will be trained in the use of spill kits.
Performance Indicators	No spills or leaks during fuel transfer.
Monitoring	Visual inspections of fuel-dispensing equipment during fuel transfer.
Reporting	Recording any observations of slicks, oil, grease, scum or litter on the water in the vicinity of the dredging operations in daily log. Reporting of unanticipated spill/leak to Vessel Master in the first instance, then Head of Marine, Environment Manager, Control Tower and NQBP in accordance incident reporting protocol detailed in Section 9 of this EMP. All major spills to be reported to Maritime Safety Queensland.
Corrective Action	In the event of a major spill, call Emergency Spill Response team for corrective action in accordance with the *TSHD Brisbane* Emergency Management Manual. All minor spills will be cleaned up or contained until further assistance (if required). Vessel Master to investigate source and cause of spill or inappropriate work practices. Change to operating procedures and inform crew.
Term	During all operations.
Responsibility	Management and operation of bunkering of fuel is by the Vessel Master.

8.12 Introduced Marine Pests

This management plan relates to reducing the risk of potential translocation of introduced marine pests by the *TSHD Brisbane* to or from other Port areas. Further information is provided in Section 10.6.

Element	Introduced Marine Pests
Objective/Target	To minimise the potential translocation of introduced marine pest organisms.
Actions	• Implementation of Ballast Water Management controls and procedures (Section 8.8). • Implementation of Hopper Management controls and procedures (Section 8.10). • High pressure washdown of other dredging equipment (i.e. dredge head) prior to arriving and departing the Port of Weipa. • Biofouling risk assessments undertaken in accordance with *National biofouling management guidelines for non-trading vessels* (Commonwealth of Australia, 2009) prior to arrival at Port of Weipa
Performance Indicators	No translocation of introduced marine pests to or from other Ports
Monitoring	Reporting and/or observations of marine organisms foreign to the area of the current dredge location.
Reporting	• Reporting of suspicious marine organisms or known marine pests discovered during the dredging process immediately to the Master and the PBPL Environment Manager. Where practical, the PBPL pest webpage can be used to assist in reporting. • Environment Manager to report any suspicious marine organisms or known marine pests discovered to NQBP and Dept. Agriculture and Fisheries. • Exception reports directly to Vessel Master.
Corrective Action	Vessel Master to review procedure relevant procedures and correct if required. This may include staff training.
Term	During all operations.
Responsibility	Management and washing operations is by the Vessel Master, with input from Environment Manager as required.

9 Incident Reporting

Reporting protocols for emergency incidents (e.g. major oil spill) are discussed in Section 10.

Non-emergency reporting requirements for EMP non-conformances are outlined in the above tables. To ensure NQBP and PBPL are adequately informed of incidents, or non-conformances with this EMP:

- The PBPL internal reporting system will be maintained; and
- NQBP will be advised of all incidents via the following protocol.
    1. The Vessel Master will liaise directly with the PBPL Head of Marine (HOM) and/or the Environment Manager (EM).
    2. Following discussion, the appropriate PBPL staff member (either Vessel Master, HOM or EM) will verbally report the incident to the following NQBP locations/staff:
        - Weipa Port Supervisor [redacted]
        - NQBP Dredging Project Manager
        - [redacted]
    3. Written incident reporting will be communicated to NQBP within three working days. This will only be completed by the Vessel Master and forwarded by the PBPL Head of Marine and/or Environment Manager. The Head of Marine or Environment Manager will forward to NQBP and maintain close liaison to ensure full information disclosure.

10 Environmental Monitoring

PBPL will be responsible for the following environmental monitoring components during the Port of Weipa maintenance dredging project. The remaining components of the monitoring will be managed by NQBP with input from PBPL as required.

10.1 Environmental Complaints

Any complaints received by PBPL staff relating to the operation of the *TSHD Brisbane* will be recorded as part of standard operating procedures of the PBPL's Integrated Management System. Complaints will be recorded on the appropriate form and forwarded to the Vessel Master. The Master will then initiate actions to resolve/investigate the complaint as required, with assistance from PBPL staff (e.g. Environment Manager) as necessary. Prior to a response the NQBP Environment Manager will be contacted, and the course of action will be discussed. A copy of all complaints will be forwarded to the NQBP Dredging Project Manager when the item has been closed.

Issues which are not directly related to the operation of the *TSHD Brisbane*, but are related to the Weipa dredging project will be forwarded to the NQBP Dredging Project Manager. Whilst feedback on the resolution of the issue will be sought for recording on PBPL systems, the management of the issue will be the responsibility of NQBP.

10.2 Dredging Activity and Observations

The crew of the TSHD Brisbane will keep a record of dredging activity, which meets NQBP reporting requirements under the project's Sea Dumping Permits. Such information will include:

- Times and dates of when each material placement run is commenced and finished;
- begin and end points of dredge runs;
- GPS track for each material placement run;
- GPS track for each dredge run;
- material type;
- volume of dredged material dumped;
- location of material disposal;
- the person(s) responsible for the operation of the vessel at any time during the dumping run;
- the person(s) undertaking the marine species observation;
- marine species sightings
- volume of fuel used in the project; and
- other pertinent observations as part of the standard vessel operating procedures.

This data will be forwarded to NQBP upon completion of the dredging program and is available throughout the dredging campaign upon request.

10.3 Turbidity

TSHD Brisbane crew will make all attempts to utilise the onboard features (e.g. flooded weir, submerged outlet) to minimise the generation of turbidity plumes as outlined in Section 8.5. Opportunistic visual observations of this discharge will be used by the crew to ensure all efforts made are effective.

The crew of the *TSHD Brisbane* will also undertake opportunistic visual observations of the dredge and disposal areas. Should significant residual turbidity, this will be reported to the PBPL Site Representative for communication to the NQBP Superintendents Representative.

In the event that increased turbidity is noticed within sensitive areas, NQBP will liaise with PBPL via the Dredging Operations Manager to determine the most appropriate adaptive management practice to implement. This may include but is not limited to moving the vessel to dredge in another area or placement of material in a different section of the DMPA.

10.4 Cultural Heritage

The area of cultural significance adjacent to Urquhart Point will not be dredged or bed levelled (refer to Figure 2 of this document for details on this area). Opportunistic visual inspections of dredge load and dredge heads will be completed by vessel staff reporting any items of suspected cultural significance. If items are found, they will be retained and reported as outlined in Section 8.7.

10.5 Protected Fauna

During loading and disposal operations observation and avoidance of fauna of significance, including turtles, dugong and cetaceans will be made and any observations actioned as per Section 8.6. The observation records must include the name(s) of the person(s) undertaking the marine species observation for each run.

All THSD vessels are required to be fitted with turtle exclusion devices to minimize interactions and harm to marine turtles. Please see an extract below for the checking and use of such devices.

Extract from *Dredging and Dredged Material Management Plan* (2016), regarding '*TSHD Brisbane* - Procedure for Dredging with regards to Marine Turtles'

1. *Dredge drag-heads are to be fitted with turtle deflectors during all operations.*
2. *Where dredging without turtle deflectors is intended, the prior written authority of the Manager Marine Operations must be obtained. This authority is to be developed in conjunction with the Environment Manager regarding a risk assessment of the potential of turtle capture.*
3. *A visual inspection of the deflectors will be made when the drag-heads are recovered after each load. The inspection shall note damage and/or excessive wear which may inhibit the effectiveness of the device.*
4. *The patterns of wear on the deflector shall be noted to provide a constant check that they are functioning efficiently, maximising both the use and life of the unit.*
5. *Notification to be provided to vessel master as soon as possible if the deflectors require repairs. Repairs to be made at the earliest opportunity.*
6. *Initial suction at the dredge head (start dredging) will be minimised when not in contact with bed. This shall include:*
    - *initiating dredge pumps as late as possible in descent of head;*
    - *running pumps at the slowest possible speed.*
7. *Final suction at the dredge head (end dredging) will be minimised when not in contact with bed. This shall include:*
    - *stopping dredge pumps as soon as possible in ascent of head;*
    - *running pumps at the slowest possible speed.*
8. *When lowering the drag heads, the trunnion should be lowered first. Once the drag heads are in the water, the jets pumps will be activated. These will remain in action until the swell compensator comes off indicating that the heads are in contact with the bed. The jets can then be turned off.*
9. *In raising the heads, the jet pumps should be turned on before the heads leave the bed. The procedure should then be followed as in 7 above. The jets will remain on until the head is at the water's surface.*
10. *The speed of the vessel will be minimised at all times when the heads are off the seabed. This shall include initial deployment and recovery at the end of a dredge run. At no time shall the speed of the vessel exceed normal dredging speed while the heads are in the water, whether clear of the bed or not. The vessel should maintain minimal headway to ensure the jet pump curtain protects the heads.*
11. *In the unfortunate event a turtle is caught in the drag-head, the on duty dredge master shall report this immediately on the prescribed form and advise the master as soon as possible.*
12. *Reports to be completed on the respective forms. Inspect animal for tags, especially on front flippers. If present, note details and if possible, retain tag for forwarding to Environment Manager.*

10.6 Introduced Marine Pests

An Introduced Marine Pest (IMP) survey was undertaken on the vessel and the tender vessel on 20 March 2025 and 25 March 2025 respectively. Brisbane was an in water inspection with the tender vessel being a dry inspection.

The inspections of the vessels noted minor biofouling, but did not observe any species that pose a risk to Queensland and wider Australian waters.

11 Emergency Procedures

The *TSHD Brisbane* maintains a Shipboard Oil Pollution Emergency Plan, which outlines the role, responsibilities and actions to be followed should an uncontrolled release of oils/fuels occur. PBPL will also comply with the Emergency Response Section 11 of NQBP LMDMP pg. 63. Further, all crew are trained and accredited in accordance with the Australian Maritime Safety Authority (AMSA) requirements for Australian Coastal voyages.

The vessel is part of the PBPL's work site, which is accredited to AS4801 Safety Management System. As part of this system, all onboard procedures are available to all crew in a written format in the Operational Procedures Manual and Vessel Log, maintained by the Vessel Master.

The vessel has four lines of communication available at all times, including VHF and UHF radio, mobile satellite phones.

11.1 Emergency Contact Details

Reporting to	Contact Numbers
AMSA Marine Incident Reporting	
Mobile	1800 641 792
Satellite	00612 6230 6811
Maritime Safety Queensland	
Office	13 74 68
Harbour Master (Cairns)	
Office	07 4052 7470 (24 hours)
Mobile	[redacted]
Port Control (via Cairns)	
Office	07 4052 7470 (24 hours)
Mobile	0418 774 028
NQBP Weipa Port Supervisor	
Mobile	[redacted]
NQBP Dredging Project Manager	
Mobile	[redacted]
Weipa Port Security	
Office	07 4069 7749
Mobile	[redacted]

Appendix A

Untreated Sewage Discharge Weipa

The discharge of untreated sewage is required to comply with s47 of *Transport Operations (Marine Pollution) Act 1995* (TOMPA), Schedule 4 of Transport Operations (Marine Pollution) Regulation 2008 (TOMPR) and section 93 of the Great Barrier Marine Park Regulation 1983 (GBMPR) as prescribed below.

Transport Operations (Marine Pollution) Act 1995 (TOMPA)

Section 47

Discharge of untreated sewage into nil discharge waters for untreated sewage prohibited

1. If untreated sewage is discharged from a ship into nil discharge waters for untreated sewage, each culpable person for the discharge commits an offence.

   Maximum penalty—850 penalty units.

2. The nil discharge waters for untreated sewage are the coastal waters prescribed under a regulation for this section.

Transport Operations (Marine Pollution) Regulation 2008 (TOMPR)

Section 44

Nil discharge waters for untreated sewage

For section 47 of the Act, the nil discharge waters for untreated sewage are—

a) on and from 1 September 2008 to 31 December 2009—the coastal waters stated in schedule 4, part 1; and
b) on and from 1 January 2010—the coastal waters stated in schedule 4, part 2.

Schedule 4; Part 2

Nil discharge waters for untreated sewage

(On and from 1 January 2010)

1. Prohibited discharge waters.
2. Smooth waters.
3. If a ship has 16 or more persons on board – Hervey Bay waters, Northern Moreton Bay waters and open waters.
4. Hervey Bay waters and northern Moreton Bay waters, within1852m of any of the following—
   a) aquaculture fisheries resources;
   b) a reef;
   c) the mean low water mark of the mainland;
5. Open waters—
   a) within 926m of a wharf or jetty other than a jetty that is a marina; or
   b) within 1852m any of aquaculture fisheries resources; or
   c) if a ship has 7 – 15 persons on board – within 1852m of any of the following—

      (i) a reef;

      (ii) the mean low water mark of an island or the mainland.

Definitions:

prohibited discharge waters means waters of any of the following—

a) a boat harbour;
b) a canal;
c) a marina;
d) a designated area.

a designated area means each of the following areas—

a) the marine national park zone under the *Marine Parks (Moreton Bay) Zoning Plan 2008*;
b) the Noosa River;
c) the marine national park zone, under the *Marine Parks (Great Sandy) Zoning Plan 2006*, located near Burkitt's Reef, Hoffman's Rocks or Barolin Rock, adjacent to the Woongarra Coast;
d) an area within the Great Barrier Reef Coast Marine Park mentioned in schedule 8.

smooth waters means the waters defined as smooth waters under the Transport Operations (Marine Safety) Regulation 2004, schedule 15, but not including—

a) the waters described in schedule 12 of that regulation that are within 0.5n miles from land; and
b) prohibited discharge waters.

Hervey Bay waters means the waters of Hervey Bay, other than prohibited discharge waters, within a boundary drawn—

- from Burrum Point on the mainland to the Fairway Beacon, Hervey Bay
- to Rooney Point, Fraser Island
- along the western shore of Fraser Island to latitude 25º22.90' south
- to latitude 25º24.90' south, longitude 152º58.06' east
- due west to the mainland at latitude 25º24.90' south.

Northern Moreton Bay waters means the waters of Moreton Bay, other than prohibited discharge waters, within a boundary drawn—

- from latitude 27°06' south on the mainland to South Point, Bribie Island
- along the southern shore of Bribie Island to Skirmish Point
- to Comboyuro Point, Moreton Island
- along the western shore of Moreton Island to Reeders Point
- to Amity Point, North Stradbroke Island
- to Cleveland Point on the mainland.

open waters means coastal waters, other than Hervey Bay waters, northern Moreton Bay waters, prohibited discharge waters and smooth waters.

Great Barrier Reef Marine Park Regulations 1983

Section 93D

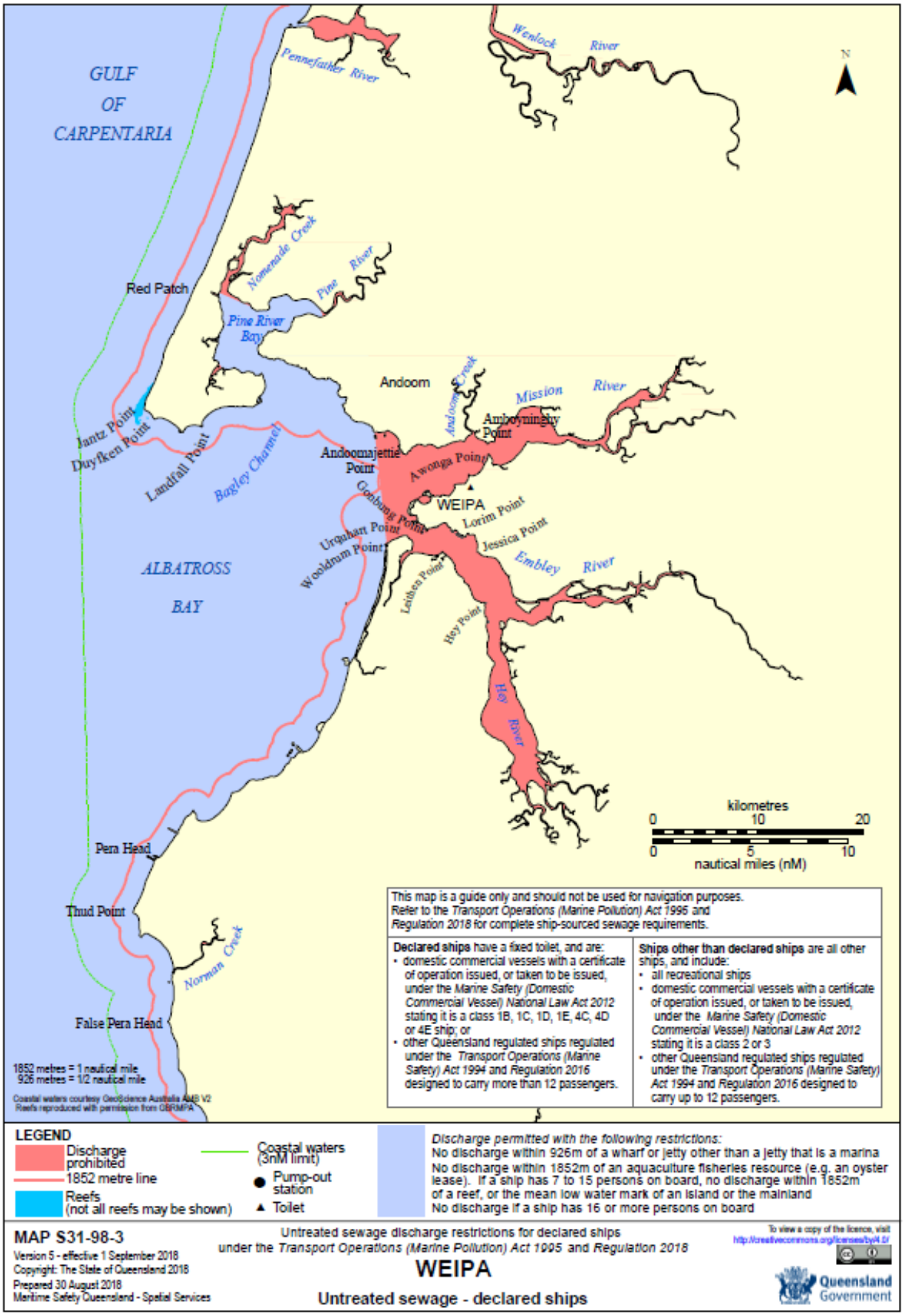
Discharge of untreated sewage from vessels

1. Subject to regulation 93F, the master of a vessel that has 15 or fewer persons on board may allow untreated sewage to be discharged from the vessel in the Marine Park if:
    a. the vessel does not have a fixed toilet; or
    b. where the vessel has a fixed toilet, the sewage has been reduced to a fine slurry.

Section 93F

Discharge of sewage from vessels generally

1. Regulation 93D and paragraphs 93E (b), (c) and (d) are not taken to authorise sewage to be discharged from a vessel in the Marine Park if the vessel is inside a boat harbour, canal or marina.
2. Regulation 93D is not taken to authorise untreated sewage to be discharged from a vessel in the Marine Park if the vessel is less than 1 nautical mile from the seaward edge of an aquaculture operation.



Discharge Locations for Untreated Sewage

Appendix B

Port of Weipa Long Term Maintenance Dredging Management Plan 2020-2030 (LMDMP) *

*Note that due to size of this document, the LMDMP is held on board in electronic format only.

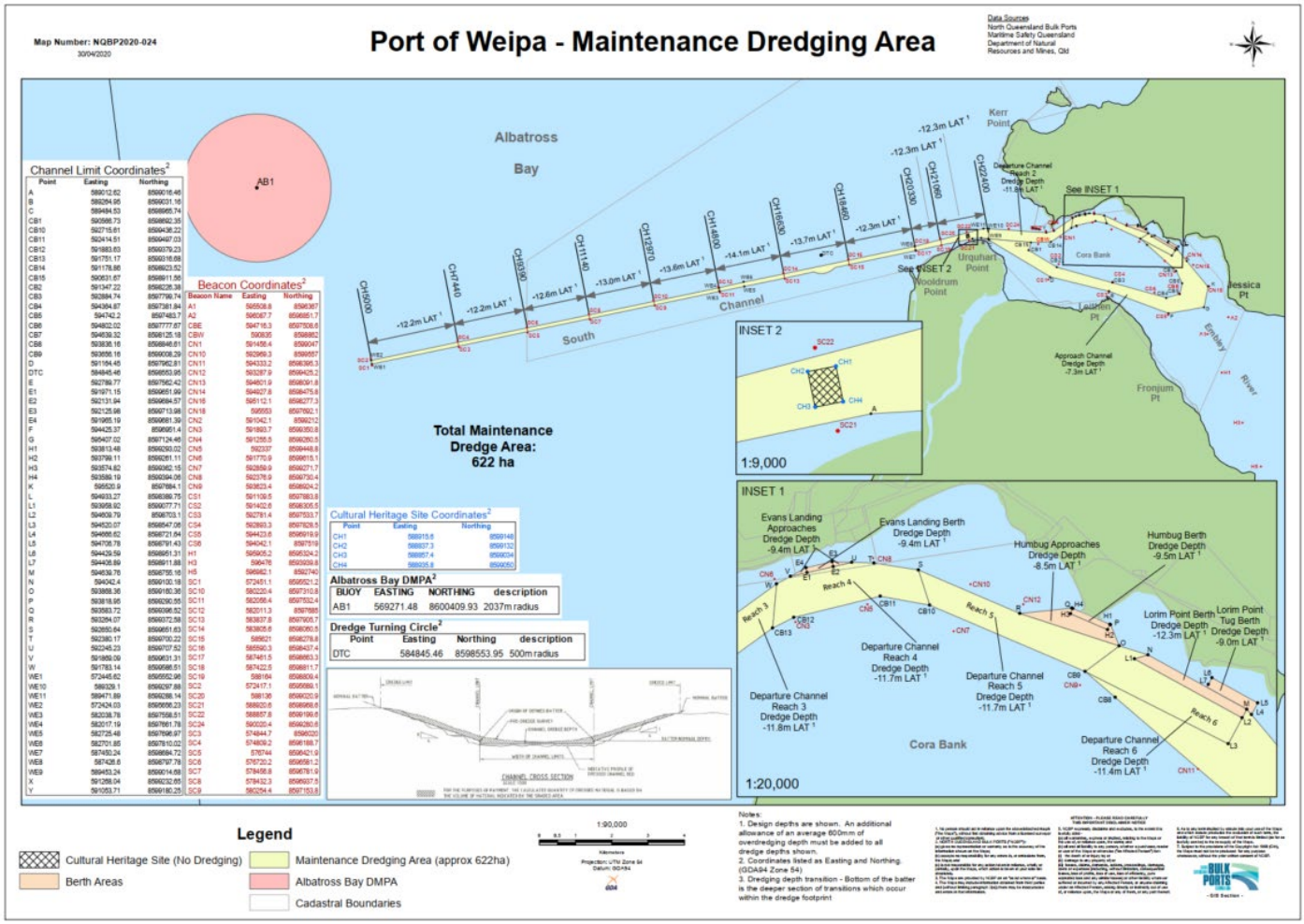
Appendix C

Environmental Approvals

- Appendix C1 – Environmental Authority EPPR00477713.
- Appendix C2 – Sea Dumping Permit SD2020/3996.
- Appendix C3 – Operational Works Approval for Disposal of Dredged Material in Tidal Waters (Albatross Bay DMPA) 2012-20027 SDA.
- Appendix C4 – Operational Works Approval for Tidal Work associated with the Port of Weipa maintenance dredging areas PL/06/02/00015 & 2012-20057 SRA.

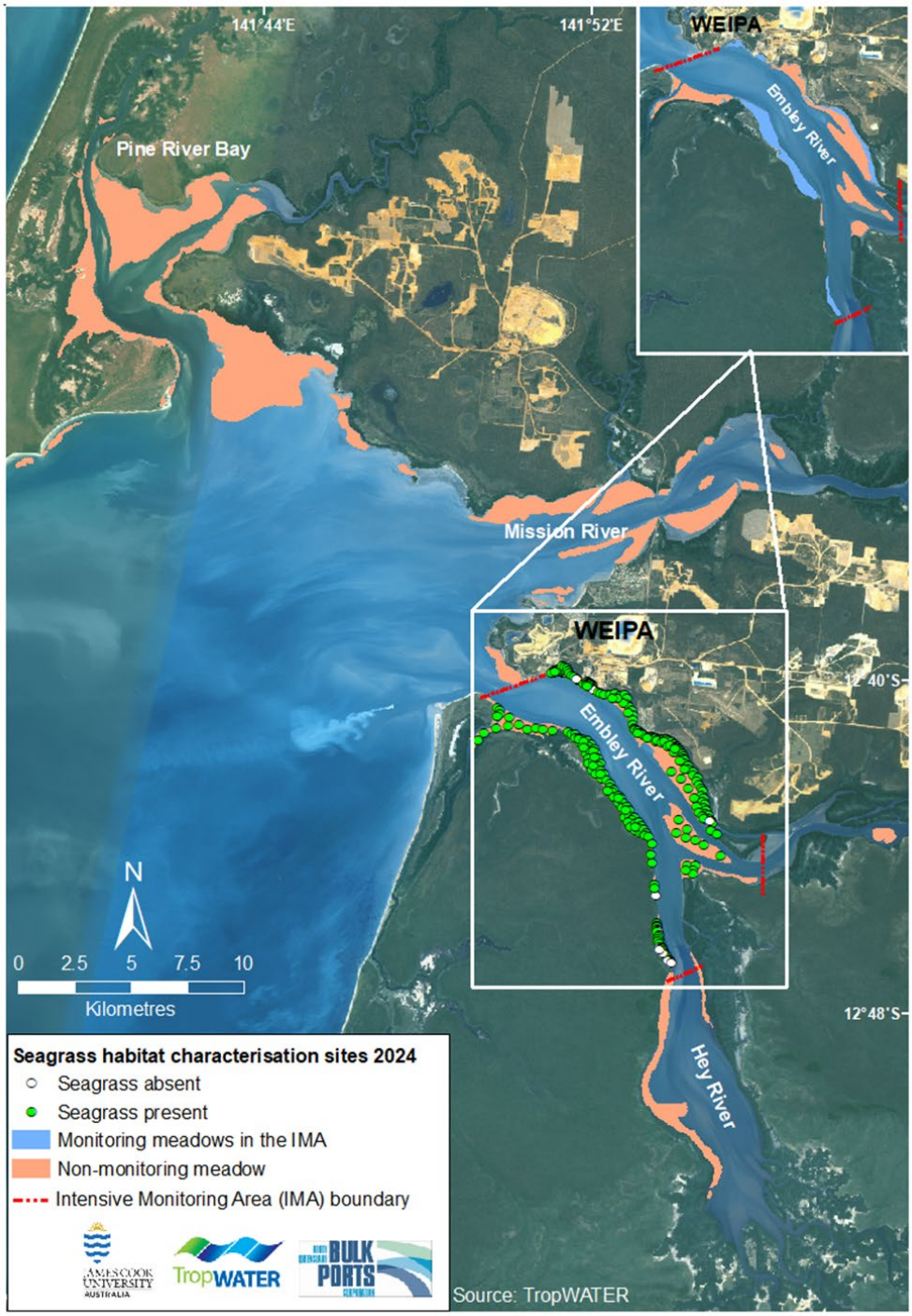
Appendix D

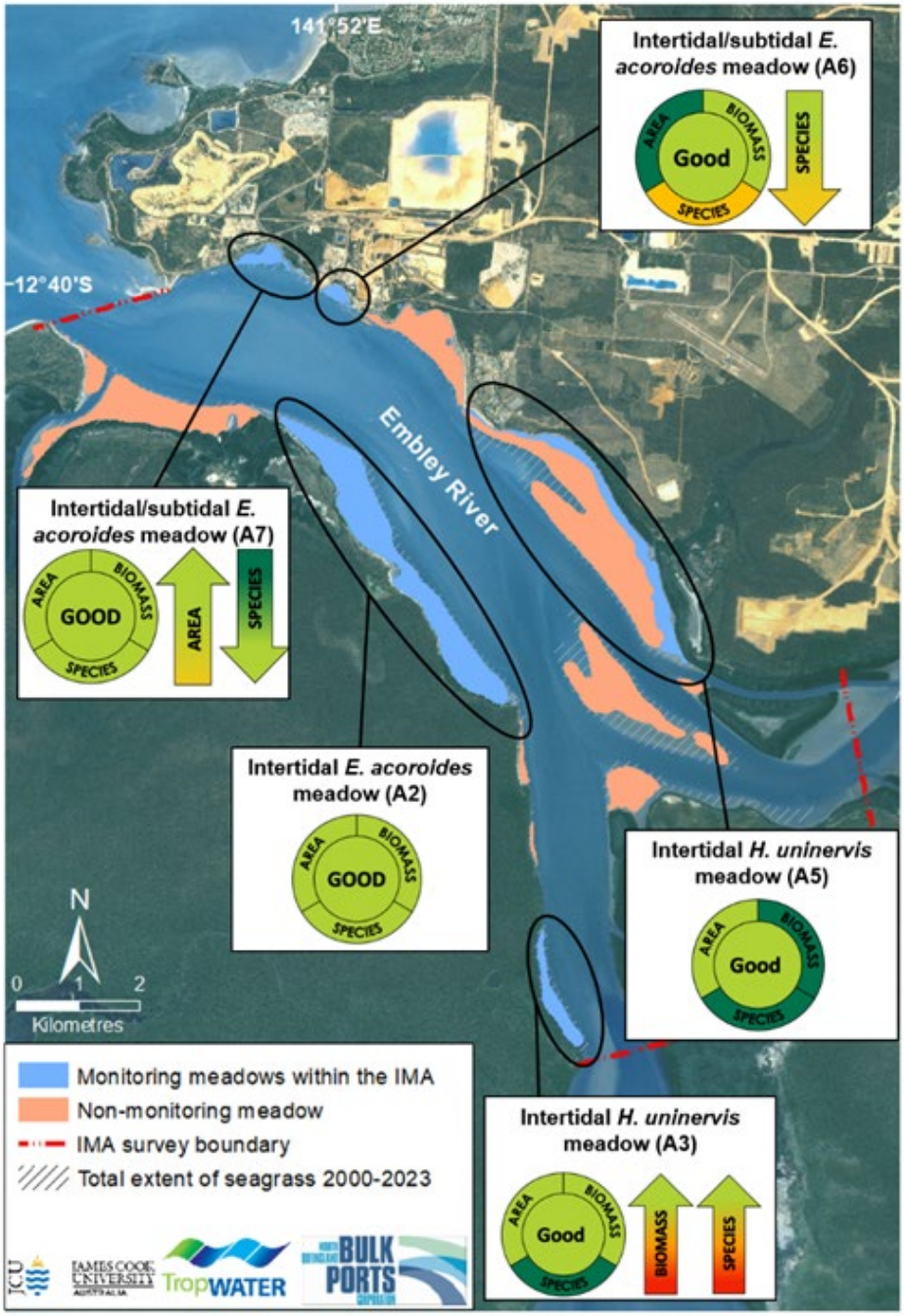
Cultural Significance Exclusion Zone



Appendix E

Seagrass Extent




141°52'E
12°40'S
Embley River
Intertidal/subtidal E. acoroides meadow (A6)
Good
AREA
BIOMASS
SPECIES
Intertidal/subtidal E. acoroides meadow (A7)
GOOD
AREA
SPECIES
Intertidal E. acoroides meadow (A2)
GOOD
Intertidal H. uninervis meadow (A5)
Good
Intertidal H. uninervis meadow (A3)
Good
BIOMASS
SPECIES
N
0
1
2
Kilometres
Monitoring meadows within the IMA
Non-monitoring meadow
IMA survey boundary
Total extent of seagrass 2000-2023
JCU
JAMES COOK UNIVERSITY
TropWATER
BULK PORTS

Appendix F

Turtle Capture Procedure

Appendix G

NQBP Port of Weipa Marine Environmental Monitoring Plan

Port-of-Weipa-Marine-Environmental-Monitoring-Plan-2025.pdf