PROJECT SEA DRAGON - CORE BREEDING CENTRE AND BROODSTOCK MATURATION CENTRE

EMERGENCY RESPONSE PLAN

Final, Rev 0 – March 2020

PROJECT AND DOCUMENT DETAILS

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DOCUMENT AUTHORISATION

Approved by	Position	Date	Signature
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ABBREVIATIONS

CBC and BMC, or the Project	Project Sea Dragon Core Breeding Centre and Broodstock Maturation Centre
DENR	Department of Environment and Natural Resources
EPA 270	Environment Protection Approval
ERP	Emergency Response Plan
MSDS	Material Safety Data Sheet
NT	Northern Territory
PPE	Personal Protective Equipment
PSD	Project Sea Dragon Pty Ltd
WDL 242	Waste Discharge Licence

GLOSSARY

Terms used in this Emergency Response Plan are consistent with the definitions of the *Waste Management and Pollution Control Act*, as defined below.

Contaminant means a solid, liquid or gas or any combination of such substances and includes:
(a) noise, odour, heat and electromagnetic radiation;
(b) a prescribed substance or prescribed class of substances; and
(c) a substance having a prescribed property or prescribed class of properties.

Environment means land, air, water, organisms and ecosystems and includes:
(a) the well-being of humans;
(b) structures made or modified by humans;
(c) the amenity values of an area; and
(d) economic, cultural and social conditions.

Environmental harm means:
(a) any harm to or adverse effect on the environment; or
(b) any potential harm (including the risk of harm and future harm) to or potential adverse effect on the environment, of any degree or duration and includes environmental nuisance.

Material environmental harm means environmental harm that:
(a) is not trivial or negligible in nature;
(b) consists of an environmental nuisance of a high impact or on a wide scale;
(c) results, or is likely to result, in not more than $50,000 or the prescribed amount (whichever is greater) being spent in taking appropriate action to prevent or minimise the environmental harm or rehabilitate the environment; or
(d) results in actual or potential loss or damage to the value of not more than $50,000 or the prescribed amount (whichever is greater).

Serious environmental harm means environmental harm that is more serious than material environmental harm and includes environmental harm that:
(a) is irreversible or otherwise of a high impact or on a wide scale;
(b) damages an aspect of the environment that is of a high conservation value, high cultural value or high community value or is of special significance;
(c) results or is likely to result in more than $50,000 or the prescribed amount (whichever is greater) being spent in taking appropriate action to prevent or minimise the environmental harm or rehabilitate the environment; or
(d) results in actual or potential loss or damage to the value of more than $50,000 or the prescribed amount (whichever is greater).

Environmental nuisance means:
(a) an adverse effect on the amenity of an area that:
(i) is caused by noise, smoke, dust, fumes or odour; and
(ii) unreasonably interferes with or is likely to unreasonably interfere with the enjoyment of the area by persons who occupy a place within the area or are otherwise lawfully in the area; or
(b) an unsightly or offensive condition caused by contaminants or waste.

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1. INTRODUCTION

1.1. PURPOSE

The Emergency Response Plan (ERP) is a requirement of the Project Sea Dragon Core Breeding Centre and Broodstock Maturation Centre (CBC and BMC, or the Project) Environment Protection Approval (EPA 270) and the Waste Discharge Licence (WDL 242).

In accordance with the conditions of the EPA and WDL, Project Sea Dragon *must implement, maintain and follow an Emergency Response Plan that addresses procedures for responding to emergencies associated with the activity that may cause environmental harm*.

This ERP has been prepared to provide a set of actions to follow when responding to emergencies to ensure the correct containment, clean up / rectification and reporting is undertaken.

1.2. SCOPE

The ERP has been prepared for Project Sea Dragon Pty Ltd (PSD) and applies to the CBC and BMC located at Bynoe Harbour in the Northern Territory. It is applicable to emergencies associated with activities under the EPA and WDL including:

- construction and installation of the discharge settlement ponds, discharge pipeline, sediment drying area and seawater discharge outfall (as per the requirements of EPA 270); and
- discharge of wastewater via the authorised discharge point at Wheatley Creek.

1.3. SITE LOCATION

The CBC and BMC are located at Point Ceylon at Bynoe Harbour, in the Northern Territory (NT), 42 km south-west of Darwin, on Portion 3192. The closest township to the CBC and BMC site is Dundee Beach which is 22 km to the west. The site is located between the localities of Dundee Downs and Bynoe, which are approximately 5 km to the west and east respectively. The site location is shown in Figure 1, with Figure 2 showing the general site layout, including discharge location and receiving waters.

1.4. FACILITY DESCRIPTION

The CBC will be used for the development, production and selection of high performing prawn stock. The top performing individual prawns produced at the CBC will be transferred to the BMC to produce commercial numbers of broodstock for use in the hatchery. There are also a number of common facilities on site that will support both facilities.

1.5. REVIEW

This emergency response plan is to be reviewed and updated prior to works starting on the site, and periodically thereafter, at a minimum annually.

FIGURE 1 SITE LOCATION

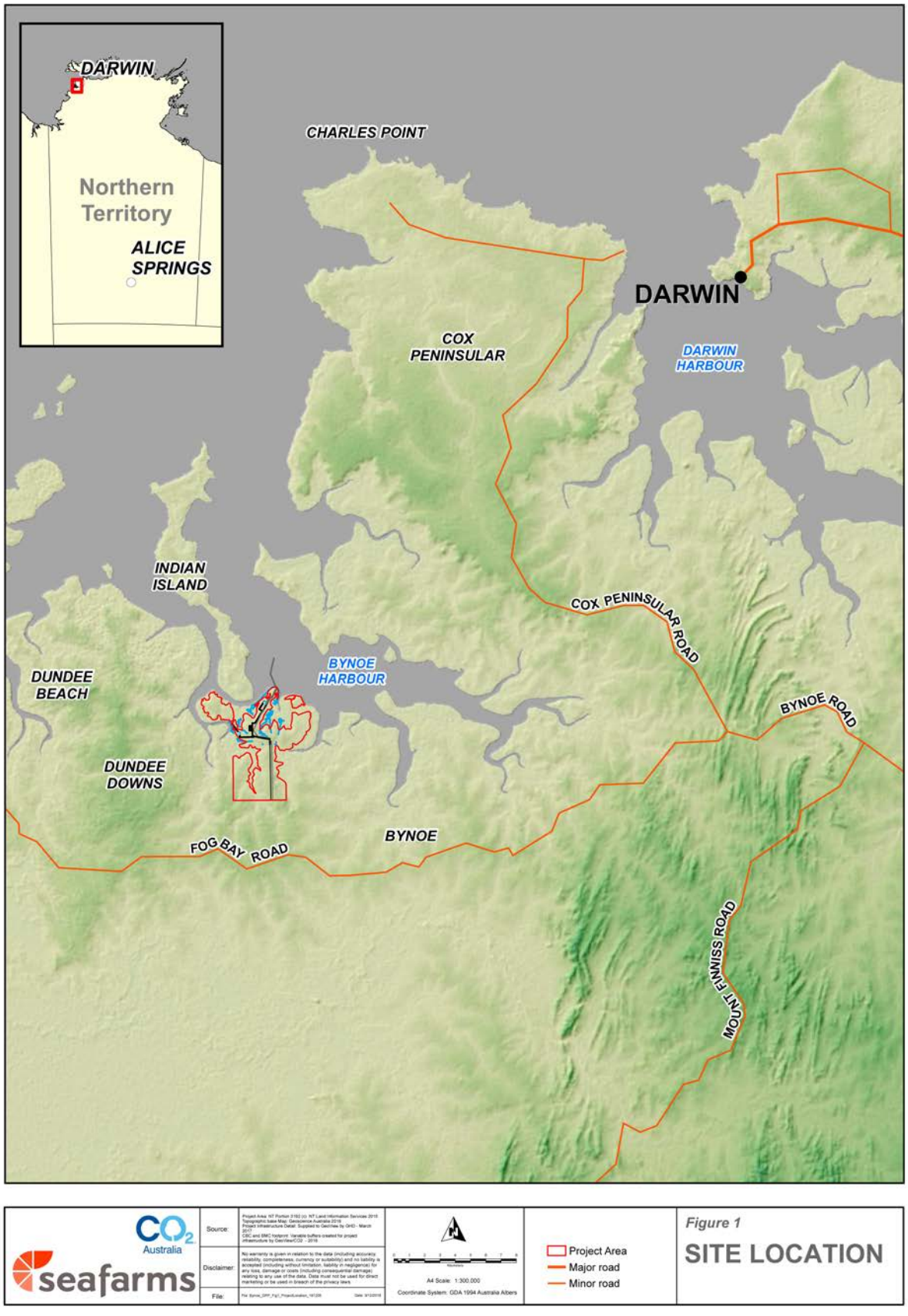
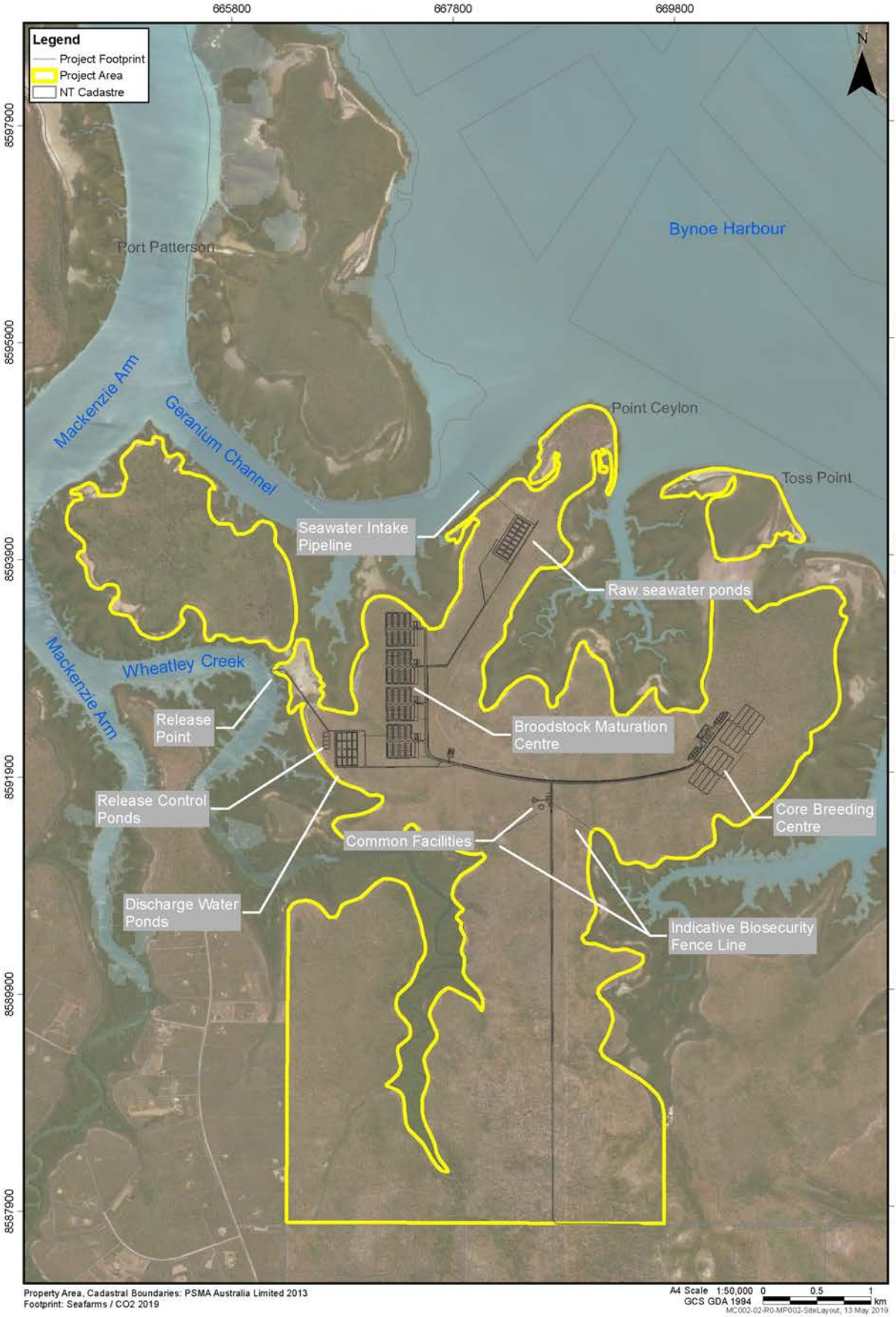


FIGURE 2 SITE LAYOUT



2. EMERGENCY CONTACT INFORMATION

Emergency contact details for key emergency services is provided in Table 1 below.

TABLE 1 EMERGENCY CONTACT INFORMATION

Agency/Individual	Emergency situation	Phone Number
National Fire, Police or Ambulance Service	Life-threatening situation	000
NT Police	Police assistance	131 444
NT Emergency Services	Storm or flood assistance	132 500
Power and Water Corporation	Powerline emergencies and faults	1800 245 090
Department of Environment and Natural Resources	Pollution incident causing environmental harm	1800 064 567
PSD 24 hour emergency contact	All	(08) 8923 7999

3. COMMUNICATIONS

3.1. PUBLIC RELATIONS

In the event of a major incident the PSD Managing Director will coordinate all communications with the media and the public. All contact with the media and public must be through the PSD Managing Director only.

3.2. NOTIFICATIONS

In the event of an incident which has the potential to cause environmental harm or pollution the Department of Environment and Natural Resources (DENR) must be contacted immediately, and in any case within 24 hours. Contact details for the DENR are provided in Table 1.

The Site Manager must immediately be notified of all environmental incidents.

4. PREPARING FOR EMERGENCY RESPONSE

4.1. RISK ASSESSMENT

The key risks associated with activities authorised under the EPA and WDL were identified as part of the Project's Environmental Impact Statement risk assessment. A summary of the key risks with the potential to cause environmental harm are presented in Attachment A and include:

- Uncontrolled releases from discharge settlement ponds leads to untreated, nutrient and sediment enriched water leaving site.
- Uncontrolled releases from the discharge point results in reduction in water quality in Wheatley Creek and Bynoe Harbour.
- Accidental spills or leaks of chemicals, oils, fuels, and other hazardous wastes.

4.2. SAFETY FEATURES

The onsite safety features for the CBC and BMC include:

- First aid equipment
- Fire extinguishers and fire reels
- Hazardous materials storage and chemical register
- Spill containment equipment and spill kits.

4.3. TRAINING

As a minimum, training of staff will include:

- Spill management training specific to the types of spills that may occur - oil and liquid waste spills, chemicals, larger spills to land and to water, including use of absorbents, floating booms and skimmers, and notification procedures; and
- First aid; and
- Fire response procedures.

4.4. WET SEASON AND EXTREME WEATHER

Prior to the start of the wet season (typically October), the site will be prepared by ensuring all waste materials, receptacles and storages are properly contained and stable, and will be able to withstand wet season rainfall without leaching or other loss of contaminants. A site audit will be conducted prior to each wet season with the results provided internally in written form. A similar process will occur prior to forecast storms or other extreme weather events, whereby all wastes are contained and restrained so as to avoid loss of materials during the event.

5. EMERGENCY RESPONSE PROCEDURES

5.1. ASSESS CATEGORY OF INCIDENT

If an environmental incident occurs, the general category of the incident must be rapidly assessed to determine the correct course of action. The general categories of incidents are outlined in Table 2.

The minimum response requirements, notifications and review procedures relevant to each incident category are outlined in Table 3.

TABLE 2 INCIDENT CATEGORIES

Impact Category	Category applies to any one or more of the following:
High	▪ Serious environmental harm caused or threatened. ▪ May include non-conformance with licence or approval conditions. ▪ Where there is an immediate threat to human life and property. ▪ Creates an immediate observable and significant harm to the environment, flora and/or fauna. ▪ Where it occurs in water catchments for supply of the Project or other site (or off-site) uses. ▪ Where the incident has the potential to seriously contaminate soil or water resources.
Moderate	▪ Material environmental harm caused or threatened. ▪ Any exceedance of specific discharge conditions or non-conformance with licence or approval conditions. ▪ Where there is significant (but not immediate) threat to human life and property. ▪ May have a long term (but not immediate) observable impact on the environment, flora and/or fauna. ▪ Release of licenced species from the facility to the environment.
Low	▪ Where there is no perceived threat to human life or property. ▪ Where the incident is outside sensitive environments. ▪ Where the incident poses no immediate or long-term threat to environmental receptors.

TABLE 3 MINIMUM RESPONSE REQUIREMENTS

Category	Rectification / Clean up	Notification to Site Manager	Notification to Environment Manager	Notification to DENR	Review site procedures?	Further monitoring
High	Immediate	Immediate	Immediate	Immediate	Yes	Yes
Moderate	Immediate	Immediate	Immediate	Immediate	Yes	Decide based on effectiveness of clean-up and rectification
Low	Within 4 hours	Immediate	Within 24 hours	No	No unless improvement opportunity identified	No

5.2. RESPONSE PROCEDURES

For all incidents the response procedure should generally follow the Assess → Control → Contain → Clean-up → Report and Review hierarchy as follows:

- Assess if the source of the incident can be safely controlled and if other external help is required. If external help is required, contact the relevant services.
- Safely control the source of the incident.
- Safely contain the incident to minimise or avoid its movement into or impact on the environment.
- Undertake clean-up and rectification.
- Report the incident in the appropriate log book or forms, and review opportunities for improvement where practicable.

Specific incident procedures for each of the key risks identified in Section 4.1 are detailed in Table 4.

TABLE 4 INCIDENT RESPONSE PROCEDURES

Incident	Response Procedure
Uncontrolled releases from discharge settlement ponds	• Notify the Site Manager. • Notify the Environment Manager. • Cease discharges from the facility. • Conduct immediate inspection to assess impact on the receiving environment. • If practicable, apply containment measures. • Notify relevant administering authority (DENR).

Incident	Response Procedure
	▪ Conduct inspection of the settlement ponds to assess structural damage. ▪ Consult with specialists and relevant authorities to assist in the design and implementation of a remediation/rectification plan. ▪ Environment Manager to design and implement an emergency response sampling plan for any water pollution or potential pollution, as necessary. ▪ Environment Manager to advise any relevant authorities of the incident and record in the incident-complaint register, along with incident details, samples and photographs. ▪ Do not recommence discharging until the remediation/rectification plan has been implemented and it is safe to do so.
Uncontrolled releases from discharge the discharge point	▪ Notify the Site Manager. ▪ Notify the Environment Manager. ▪ Cease discharges from the facility. ▪ Conduct immediate inspection to assess impact on the receiving environment. ▪ Notify relevant administering authority (DENR). ▪ Consult with specialists and relevant authorities to assist in the design and implementation of a remediation plan. ▪ Environment Manager to design and implement an emergency response sampling plan for any water pollution or potential pollution, as necessary. ▪ Environment Manager to advise any relevant authorities of the incident and record in the incident-complaint register, along with incident details, samples and photographs. ▪ Do not recommence discharging until the remediation/rectification plan has been implemented and it is safe to do so.
Accidental spills or leaks of contaminants such as fuel, oils, chemicals or liquid waste.	▪ Notify the Site Manager. ▪ Identify the product that has been spilled. ▪ Determine if the spill can be safely controlled, or if other or external help is required (if so seek this help as soon as safely possible). ▪ Ensure appropriate Personal Protective Equipment (PPE) – refer to Hazchem Code and/or Material Safety Data Sheet (MSDS). ▪ If safe to do so, stop the spill, for example by turning off supply, righting barrels, etc.

Incident	Response Procedure
	▪ Apply containment measures, such as spill booms, absorbent material, or by scooping small spills by shovel, etc. ▪ Limit access to the area to only clean up personnel. ▪ Clean up the spill by sweeping, shovelling, scooping or otherwise cleaning up the spill (dry methods are preferred over washing). ▪ If required, Environment Manager to arrange for sampling of any water pollution or potential pollution. ▪ Environment Manager to advise any relevant authorities of the incident and record the spill or leak in the incident-complaint register, along with incident details, samples and photographs.

5.3. REPORTING

All incidents shall be recorded in the incident-complaints register and maintained as a register of incidents on the site.

ATTACHMENT 1 POTENTIAL RISKS

TABLE A1 1

Source of impact	Potential Risks	Standard Operations	Mitigation Strategies
Operational discharges from the facility	▪ Uncontrolled releases from discharge point result in reduction in water quality in Wheatley Creek and Bynoe Harbour	▪ The discharge point will receive wastewater from the discharge settlement ponds via the discharge pipeline. ▪ At the discharge point, water from the discharge pipeline will be released into Wheatley Creek over an embankment which will be flooded at high tide. A rock mattress will be placed up to the low tide mark to ensure no scouring of the salt flat. ▪ The discharge of water will occur daily, however, will be limited to the mid-to-high tide phase of each tidal cycle to maximise the dispersion and mixing of the waste water in Wheatley Creek.	▪ Stop logs will be installed on the discharge settlement ponds to control the release of discharge water into Wheatley Creek. ▪ The discharge point will receive wastewater from the discharge settlement ponds via the discharge pipeline.
Storage of wastewater in discharge settlement ponds	▪ Uncontrolled releases from discharge settlement ponds and overtopping of the discharge settlement ponds leads to untreated, nutrient and sediment enriched water leaving site	▪ Water from the CBC and BMC will be held in the discharge settlement ponds for a minimum of 60 hours to maximise the settlement of sediments. ▪ Once the water has been held in the discharge settlement ponds for 60 hours it will be discharged, via the discharge pipeline, to Wheatley Creek.	▪ Stop logs will be installed on the discharge settlement ponds to control the release of discharge water into Wheatley Creek. ▪ The discharge settlement ponds are located above the 5 m AHD to reduce any interaction will storm tides and surge. ▪ The discharge settlement ponds have been designed to have 500 m of

Source of impact	Potential Risks	Standard Operations	Mitigation Strategies
			freeboard to reduce the risk of the ponds overflowing in an extreme weather event. The 500 mm freeboard was selected to cater for a 100 ARI event, assuming no active controls. In the event rainfall exceeds that level, the design is such that the overflow from one pond reports to the next, with final release in a controlled manner through the release point. • The design of the discharge settlement ponds is to recognised standards (ANCOLD). The standard is risk-based and considers both passive and active controls. Under this standard, the discharge settlement ponds are a low-risk facility due to the probable severity of damage and loss to human life, the environmental and associated facility assets.
Accidental spills or leaks of contaminants such as fuel, oils, chemicals or liquid waste.	• Spills of contaminants result in contamination of soils • Contaminants enter surrounding waterways and lead to changes in water quality in receiving water body	• Fuel, oil, chemical and liquid waste to be stored in bunded and appropriately contained areas. All areas to be located way from sensitive receptors. • Fuel and chemical transfer points to be bunded and located way from sensitive receptors. • Appropriate handling and disposal of chemicals and fuels as specified in EMP and Waste Management Plan	• Chemical and hazardous materials storage will be generally in accordance with AS1940 The Storage and Handling of Flammable and Combustible Liquids and the National Standard for the Storage and Handling of Workplace Dangerous Goods (NOHSC: 1015 (2001)). • Minor storage volumes will be located at various locations (including CBC, BMC), plus a central store at the Common Facilities comprising a metal clad shed with concrete bunded floor,

Source of impact	Potential Risks	Standard Operations	Mitigation Strategies
			sized to contain any possible spillage of chemicals. - Spill kits and fire extinguishers / control equipment will be provided at each chemical store - All waste will be disposed appropriately offsite. - All staff will be trained in the safe handling, storage, use and disposal of hazardous substances and chemicals - A Hazardous Materials Register will be maintained for the whole Project