

Environmental Management Plan

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19. ENVIRONMENTAL MANAGEMENT PLAN

19.1. Introduction

This Chapter of the EIS provides a draft Construction Environmental Management Plan (CEMP) and Operational Environmental Management Plan (OEMP) to summarise the construction and operational controls that will be implemented for the Bulk Commodities Export Facility (BCEF) Project. These EMPs draws from the mitigation and monitoring recommendations provided within each of the preceding chapters of the EIS.

The broad aims of these draft EMPs are to achieve the following:

- » Provide practical and achievable plans for complying with environmental requirements
- » Demonstrate compliance with relevant legislative obligations
- » Outline performance criteria to be met by the Project
- » Provide evidence to stakeholders and the community that the Project is being managed in an environmentally sensitive manner
- » Specify roles and responsibilities, monitoring regimes and corrective actions.

It will be used to guide detailed design, site establishment and construction, operation and decommissioning of the Project. For a description of the activities to be undertaken in each of these stages, refer to **Chapter 2, Project Description**. Whilst this document has been prepared for EIS purposes, a more detailed CEMP will be prepared by the Appointed Contractor. The CEMP will be regularly reviewed and updated during construction either on a quarterly basis, or when there is an incident or a change in scope. An OEMP will also be prepared by the Operator, which will be regularly updated.

The EMP sets out:

- » Objectives for environmental management
- » General roles and responsibilities for implementation at the construction and operational phases of the development
- » Specific management plans for the following issues:
 - Earthworks and erosion and sediment control
 - Protection of terrestrial fauna and flora
 - Protection of surface and groundwater
 - Protection of marine water quality
 - Protection of marine fauna and fauna, particularly the Australian Giant Cuttlefish
 - Noise and vibration
 - Air quality
 - Visual amenity and light nuisance
 - Waste management
 - Sustainability
- » Requirements for reporting and auditing
- » Incident and emergency response processes.

The EMP includes the elements described in **Table 19.1a**.

Table 19.1a: Elements of the Environmental Management Plan

Element	Description
Objective	The performance goals against which the policy will be measured
Management action	The procedures to be undertaken to meet the policy and strategy
Responsibility	Nominated responsible person and/or party for undertaking each specific task/action
Performance requirement	The required level of performance, where environmental/legislative standards apply, or in their absence, Project specific performance outcomes
Monitoring	Procedures to monitor, measure and record performance
Reporting	Reporting requirements of the task/action and the responsible parties
Corrective action	The procedures to be undertaken if performance goals are not met

19.2. Roles and Responsibilities

The *Environmental Protection Act 1993* (EP Act) stipulates that:

'A person must not undertake an activity that pollutes, or might pollute, the environment unless the person takes all reasonable and practicable measures to prevent or minimise any resulting environmental harm'.

All parties are required to undertake their work in accordance with all relevant Acts, Policies and Regulations.

Table 19.2a outlines the roles and responsibilities for each Party taking part in management of the Project.

19.3. Training

The Appointed Contractor is to provide training for the site workforce on environmental management requirements as part of the site specific induction. Training is to be provided prior to construction and for any staff, including contract staff and sub-consultants, who may be employed at any stage throughout the duration of the construction period. The induction should inform workers of the content and requirements of the site-specific EMP. All personnel directly involved in environmental management must be appropriately experienced to undertake their relevant tasks.

Once the BCEF is operational, the Operator will be responsible for providing regular training in environmental management procedures as outlined in this document for all on-site staff and contractors/sub-contractors who visit the site.

Table 19.2a: Roles and Responsibilities

Role	Responsibility
The Proponent (Spencer Gulf Port Link (SGPL))	<ul style="list-style-type: none"> Minimise the potential environmental impacts associated with the Project Address issues raised by the community Ensure that the Contractor/Operator has appropriate environmental controls and systems in place Ensure this EMP is regularly reviewed and updated.
Appointed Contractor (construction)	<ul style="list-style-type: none"> Ensure all necessary environmental approvals are secured prior to commencement of work. Plans work in a way that avoids or minimises the impact on the environment Ensure all site personnel, including sub-contractors, are aware of their environmental responsibilities Conduct activities in accordance with this EMP Ensure all necessary environmental management procedures are in place. Ensure environmental risks are identified and appropriate measures are put in place. Liaise with Environmental Protection Agency (EPA) and other authorities. Respond to any complaints received. Monitor EMP compliance regularly and update if required. Notify any legislative breaches or environmental incidents to authorities.
Operator (Flinders Ports)	<ul style="list-style-type: none"> Conduct activities in accordance with the requirements of this plan Ensure environmental inspections are carried out regularly to ensure compliance with this EMP and relevant legislative requirements Notify any legislative breaches or environmental incidents to authorities Undertake environmental management actions as directed by regulatory agencies and/or council

19.4. Federal, State and Local Legislation

The *Environmental Protection Act 1993* stipulates that:

'A person must not undertake an activity that pollutes, or might pollute, the environment unless the person takes all reasonable and practicable measures to prevent or minimise any resulting environmental harm'.

All parties are required to undertake their work in accordance with all relevant Acts, Policies and Regulations. These include:

Federal Legislation

- » *Environment Protection and Biodiversity Conservation (EPBC) Act 1999.*

State Legislation

- » *Aboriginal Heritage Act 1988*
- » *Coastal Protection Act 1972*
- » *Dangerous Substances Act 1979*
- » *Development Act 1993*
- » *Environment Protection Act 1993*
- » *Fire and Emergency Services Act 2004*
- » *Heritage Places Act 1993*
- » *Marine Parks Act 2007*
- » *Mining Act 1971*
- » *National Parks and Wildlife Act 1972*
- » *Native Vegetation Act 1991*
- » *Natural Resources Management Act 2004*
- » *Pastoral Land Management and Conservation Act 1989*
- » *Petroleum Products Regulations Act 1995*
- » *Protection of Marine Waters (Prevention of Pollution from Ships) Act 1987*
- » *Public and Environmental Health Act 1987*
- » *Work Health and Safety Act 2012.*

Guidelines

- » EPA SA Publication 080/07: Bunding and spill management
- » EPA SA Publication: Construction Noise
- » EPA Air Quality Policy 1994
- » Environment Protection (Noise) Policy 2007
- » EPA SA Publication: Odour assessment using odour source modelling
- » EPA SA Publication 491/03: Stormwater pollution prevention: Code of practice for the building and construction industry
- » EPA 934/10 Refuelling
- » Environment Protection (Water Quality) Policy 2003
- » Environment Protection (Waste Management) Policy 1994
- » Draft South Australian Environment Protection (Waste to Resources) Policy
- » EPA SA Publication: Waste transport form
- » EPA SA Publication: Waste transport certificate
- » EPA SA Publication: Guidelines for the use of the Environment Protection (Noise) Policy 2007
- » EPA SA Publication: Site Contamination and the Environment Protection Act 1993.

Client Documents

- » Contractual documentation
- » Contractor EMS.

Other

- » ISO 14001:2004 standard.

19.5. Environmental Management Plans

19.5.1. Water Resources

The Project area has low rainfall, and water resources are limited; drainage lines are mostly dry and the groundwater resources are considered poor in terms of volume. The impacts of the Project on either surface water or groundwater are limited, and can be readily managed through standard site practices.

19.5.1.1. Construction

Objective:

- » The quality and quantity of surface water leaving the site that has been affected by construction activities meets required standards and objectives
- » Groundwater levels and quality are managed during the construction phase

Performance Criteria:

- » No surface water generated by construction activities is released from site that does not meet the relevant EV water quality criteria (as per the Environmental Protection (Water Quality) Policy 2003)
- » Contaminants are not to be conveyed off the site through groundwater as a result of construction activities
- » No long term change to the potential yield of groundwater resources as a result of construction groundwater use

Management Action	Responsibility	Timing
Substances that may be contaminating (i.e. paints, solvents, oils etc.) will be stored in sealed and bunded enclosures	Contractor	During works
Stockpile and storage locations will be located in areas away from drainage lines or known aquifer recharge areas (as identified in geotechnical investigations to be undertaken in the detailed design phase)	Contractor	Stockpile areas to be identified in the Erosion and Sediment Control Plan prior to works commencing
Wastewater from portable toilets will be removed and disposed at an authorized site	Contractor	Prior to commencement of works
A sufficient number of spill kits (including mobile spill kits) will be available on site in accordance with AMSA requirements (for on the jetty)	Contractor	During works
Designated wash down areas will be provided that allow for capture of wastewaters including paint and concrete. These will be regularly cleaned and any waste disposed of appropriately	Contractor	During works
Should groundwater be sourced for construction water supply, appropriate licenses will be obtained prior to use	Contractor	Prior to use of groundwater
A detailed Erosion and Sediment Control Plan will be developed by the Contractor prior to construction	Contractor	Prior to construction
Construction works will be staged to minimize the extent of surface exposure at any one time. Vegetation removal will be limited wherever possible.	Contractor	During Works
Disturbed areas will be stabilized as soon as practical (i.e. hydro-mulching, planting or structural stabilization). Topsoil stripped from the site will be separately stockpiled and reused as topsoil for rehabilitation works.	Contractor	During and after Works
'Clean' surface water will be diverted around major construction works so that it does not become contaminated.	Contractor	Prior to construction
Temporary erosion and sediment controls will be put in place; options may include the use of hay bales, sediment curtains, rock and concrete controls and sedimentation basins. These will be established and stabilized prior to works commencing.	Contractor	Prior to construction
Construction works that occur within existing drainage lines will be undertaken in a manner that minimises disturbance to bed or banks.	Contractor	During works.

Monitoring:

- » Regular water quality monitoring of surface water that is discharged from the construction site (to include pH, NTU as a minimum)
- » Regular monitoring of groundwater levels and quality (if groundwater is to be used for construction purposes)
- » Monitoring is to occur prior to construction, during construction and post-construction

Reporting:

- » The results of surface and groundwater monitoring will be reported on a regular basis to the Project superintendent (or if a significant incident/rainfall event occurs)
- » Any non-conformances and corrective action undertaken will be documented in a monthly report

Corrective Action:

- » Non-conformances reported immediately to the superintendent and appropriate corrective action shall be undertaken in a prompt manner.

19.5.1.2. Operation**Objective:**

- » The quality and quantity of surface water leaving the site that has been affected by operational activities meets required standards and objectives

Performance Criteria:

- » No surface water is released from site that does not meet the relevant EV water quality criteria (as per the Environmental Protection (Water Quality) Policy 2003)
- » Contaminants are not to be conveyed off the site through groundwater as a result of operational activities

Management Action	Responsibility	Timing
Runoff from hard stand areas and roofs is to be directed to sealed drains to a storage area for collection and reuse	SGPL	During operations
Irrigation Management Plan to be prepared to ensure wastewater from on-site treatment plant is treated to a suitable quality and applied so as not to impact surface and groundwaters.	SGPL	Prior to commissioning of the sewage plant
Water sensitive design principles will be implemented to treat stormwater discharged from site e.g. appropriate planting, rock protection, swale drains, detention ponds	SGPL	Prior to operations commencing
Substances that may be contaminating (i.e. paints, solvents, oils etc.) will be stored in sealed and bunded enclosures	SGPL	During operations
Runoff from all iron ore storage areas will be collected and diverted through appropriate treatment	SGPL	During operations
Staff will be trained in Emergency Response Measures in the event of a spill occurring	SGPL	During operations

Monitoring:

- » Regular monitoring of stormwater discharged from the site to ensure it meets SA requirements.
- » Regular monitoring of irrigation quality.

Reporting:

- » The results of surface monitoring will be reported on a regular basis
- » Any non-conformances and corrective action undertaken will be documented in a report

Corrective Action:

- » Non-conformances reported immediately to the site Manager and appropriate corrective action shall be undertaken in a prompt manner.

19.5.2. Vegetation Management

The importance of vegetation in the Project area has been highlighted, particularly as habitat for the listed Slender-billed Thornbill (western). In this context, it is important to minimize the removal of vegetation where possible and ensure that areas disturbed during construction are rehabilitated where practical to do so.

19.5.2.1. Construction

Objective:

- » Minimise disturbance of, damage and loss of native vegetation (particularly vegetation that supports the Slender-billed Thornbill) during construction

Performance Criteria:

- » No damage to vegetation or habitat that is to be retained on site
- » No clearance of vegetation in excess of that estimated and provided to the Native Vegetation Council.

Management Action	Responsibility	Timing
Areas of vegetation to be retained are identified, marked and protected (e.g. using flagging tape, fencing, marker paint etc.)	Contractor	Prior to commencement of works
Staff are made aware of protected vegetation areas	Contractor	Prior to commencement of works
Clearing along the proposed rail spur shall be limited to the amount necessary to undertake earthworks and should aim to minimize the construction corridor wherever possible	Contractor	During works
Hollow logs, rocks and other debris will be salvaged for use for habitat enhancement within rehabilitation areas.	Contractor	During clearing activities
Vehicle routes and storage areas will be clearly outlined, to avoid damage to areas of vegetation to be retained.	Contractor	Prior to commencement of works
Vegetation offsets will be established, as per legislative requirements.	Contractor	Post-construction (will likely be staged)

Monitoring:

- » Regular checking of protected vegetation fencing and clearing
- » Post construction survey of clearance area

Reporting:

- » Any vegetation clearance compliance measures implemented must be regularly reported by the Contractor to the Principal.
- » Post-construction survey results to be reported to the Native Vegetation Council

Corrective Action:

- » If clearing occurs outside the approved areas, cease all work and advise Superintendent and regulatory authorities.
- » Rehabilitate disturbed area immediately

19.5.2.2. Operation

Objective:

- » Rehabilitate areas of native vegetation cleared during construction and not required for the operation of the Project. Improve the condition and health of native vegetation on site and implement effective ongoing maintenance

Performance Criteria:

- » No additional areas of vegetation disturbed during operation phase
- » Rehabilitation achieves a level of native plant diversity and composition similar to pre-construction levels

Management Action	Responsibility	Timing
Educate staff on 'no go' areas of Project where vegetation is to be protected (i.e. no vehicle access or storage of material)	SGPL	Component of site induction for staff and contractors
Regular vegetation health checks are to be undertaken, which include:	SGPL	Yearly
<ul style="list-style-type: none"> » Survival rates of species planted in rehabilitation areas » Native species diversity and coverage 		

Reporting:

- » Any additional clearance or disturbance of vegetation to be reported to the site manager
- » Report on vegetation survey results to be provided to site manager

Corrective Action:

- » Any disturbance of vegetation will require investigation and additional protection measures to be provided, if deemed effective
- » Disturbed area to be rehabilitated immediately

19.5.3. Weed Management

There were a number of weed species identified on site prior to construction of the Project. Additionally, there are a number of weed species identified in the region that the Eyre Peninsula Natural Resources Management Board (EP NRMB) considers of concern (refer to **Chapter 7, Terrestrial Ecology**). It is important the spread and introduction of weeds is managed during the construction and operation of the Project to ensure no further loss of habitat for native flora and fauna and other adverse effects that can result from weed invasion (i.e. poisoning, contamination)

19.5.3.1. Construction

Objective:

- » Minimise the introduction and spread of weeds in disturbed areas

Performance Criteria:

- » Control of weed species declared under the *Natural Resources Management Act, 2004*
- » No introductions of new environmental or declared weed species to the Project site
- » No spread of existing weed species on the Project site.

Management Action	Responsibility	Timing
Any machinery and equipment entering Project site to be thoroughly cleaned and free from plant material	Contractor	Prior to commencement of works
Existing weed species on site to be identified along with high risk areas	Contractor	Prior to commencement of works
Construction staff to be familiar with declared weed species that are likely to be encountered on site	Contractor	Prior to commencement of works
Clear or spray weeds before stockpiling topsoil	Contractor	As required
Store weed infested material away from clean material	Contractor	As required
Control of weeds on stockpiles 10-14 days before use	Contractor	As required
Ongoing control of weeds during construction period. Inspections to occur at least six monthly for the first two years, with treatment as required.	Contractor	Regularly during construction period

Monitoring:

- » Regular monitoring of weeds in all disturbed areas

Reporting:

- » Any weed control measures implemented must be regularly report by the Contractor to the Principal
- » Any new weed species identified to be reported by the Contractor to the Principal
- » Notify EP NRMB of presence of any declared weed species

Corrective Action:

- » If new species of weed identified on site commence immediate control actions

19.5.3.2. Operational

Objective:

- » Manage introduction and spread of weeds in recovering post-construction areas and the threat of introduction associated with vehicle movements within the Project area

Performance Criteria:

- » No new introductions of environment or declared weed species into the Project site
- » Management of existing and rehabilitated areas to a point where limited maintenance is required (i.e. diversity and coverage of native species limits weed opportunities)

Management Action	Responsibility	Timing
Regular weed inspections	SGPL	Twice Yearly
Regular weed control	SPGL	Quarterly or as required
Spray weeds with product approved by EP NRM Board		
Hand pull weeds located near aquatic environments		

Monitoring:

- » Weed monitoring a component of vegetation survey
- » Recording of any declared weed species require notification of the EP NRMB

Corrective Action:

- » Outbreaks of weeds to be controlled immediately by spraying or other appropriate method and management actions to be planned for subsequent 'follow-up' monitoring and control in affected areas

19.5.4. Fire Management

Although most of the native vegetation in the area is low shrubland, it may be necessary at times to trim back vegetation that is encroaching on site access and infrastructure. This is important to reduce fire risk and allow access. Additionally, a fire break will be maintained around permanent buildings to aid in the protection of Project personnel and plant in the event of a fire.

19.5.4.1. Construction

Objective:

- » Reduce risk of fire in Project area including the establishment of a firebreak around main Project area

Performance Criteria:

- » No fires attributed to construction of the Project
- » Compliance with safety audits

Management Action	Responsibility	Timing
Establish firebreak around temporary or permanent buildings	Contractor	Prior to commencement of works
Training in use of onsite firefighting equipment and emergency response	Contractor	Prior to commencement of works
Emergency response plan	Contractor and SGPL	Prior to commencement of works
Check and maintenance of portable firefighting equipment stationed on site	Contractor	Weekly
Do not burn vegetation prunings or removals unless there are no other options and keep fires clear of other vegetation.	Contractor	Ongoing
Under the <i>Fire & Emergency Services Act 2004</i> , welding, gas cutting, grinding and heating bitumen are classified as a "fire". As such they MUST NOT be undertaken on total fire ban days. These activities may be undertaken at other times during the fire season (besides total fire ban days), provided that ALL FIVE conditions under Sec. 79 (2) (c) of <i>Fire and Emergency Services Act 2004</i> are met: (i) A shield or guard of fire-resistant material is positioned around the fire to prevent the escape of sparks, hot metal or slag. (ii) The space immediately around and above the fire is cleared of all flammable material to a distance of at least four metres, or wetted sufficiently to prevent the spread of fire. (iii) A supply of water adequate to extinguish the fire is at hand. (iv) If any equipment is removed from the fire, the equipment is immediately placed in a fireproof receptacle. (v) A person who is able to control the fire is present at the site of the fire from the time it is lighted to the time it is completely extinguished	Contractor	As required
Designated smoking areas and provision of appropriate cigarette butt disposal bins	Contractor	Ongoing

Monitoring:

- » Safety audits

Reporting:

- » Non-compliance to be reported to Project manager

Corrective Action:

- » Maintenance activity to be immediately carried out, review procedures

19.5.4.2. Operational

Objective:

- » Manage vegetation to ensure access and safety of the Project site is maintained. Reduce risk of fire

Performance Criteria:

- » No fires attributed to operation of the Project
- » Compliance with safety audit

Management Action	Responsibility	Timing
Emergency response plan	SGPL	Prior to commencement of works
Regular inspections and trimming around access areas and infrastructure	SGPL	Yearly (late winter/spring)
Check and maintenance of portable firefighting equipment stationed on site	SGPL	Weekly
Training in use of firefighting equipment	SGPL	Yearly
Maintenance of fire break	SPGL	Yearly (late winter/spring)
Do not burn vegetation prunings or removals unless there are no other options and keep fires clear of other vegetation.	SGPL	Ongoing
Under the <i>Fire & Emergency Services Act 2004</i> , welding, gas cutting, grinding and heating bitumen are classified as a "fire". As such they MUST NOT be undertaken on total fire ban days. These activities may be undertaken at other times during the fire season (besides total fire ban days), provided that ALL FIVE conditions under Sec. 79 (2) (c) of <i>Fire and Emergency Services Act 2004</i> are met: (i) A shield or guard of fire-resistant material is positioned around the fire to prevent the escape of sparks, hot metal or slag. (ii) The space immediately around and above the fire is cleared of all flammable material to a distance of at least four metres, or wetted sufficiently to prevent the spread of fire. (iii) A supply of water adequate to extinguish the fire is at hand. (iv) If any equipment is removed from the fire, the equipment is immediately placed in a fireproof receptacle. (v) A person who is able to control the fire is present at the site of the fire from the time it is lighted to the time it is completely extinguished	SGPL	As required
Designated smoking areas and provision of appropriate cigarette butt disposal bins	SGPL	Ongoing

Monitoring:

- » Safety audits

Reporting:

- » Non-compliance to be reported to site manager

Corrective Action:

- » Maintenance activity to be immediately carried out, review procedures

19.5.5. Terrestrial Fauna

The Project area and surrounding vegetation supports a number of species of native animals, including the listed Slender-billed Thornbill (western). Measures to protect and rehabilitate native vegetation, as outlined in **Chapter 7, Terrestrial Ecology**, will assist in management and protection of native fauna.

There have been a number of feral fauna species identified in the area (refer to **Chapter 7, Terrestrial Ecology**). It is important that these species are not allowed to proliferate with the changing land use resulting from the Project construction and operation. Management of feral species will also assist in the protection of native fauna species.

19.5.5.1. Native Fauna

19.5.5.1.1. Construction

Objective:

- » Minimise the disturbance of native fauna, particularly the Slender-billed Thornbill

Performance Criteria:

- » No unnecessary clearing of native fauna habitat
- » No death or serious injury to native fauna during clearing or construction works

Management Action	Responsibility	Timing
Vegetation to be checked for native fauna (occupied nests, etc.) before clearance by a suitably qualified spotter/catcher	Contractor	Prior to commencement of works
Should nests /dens etc. be identified in the pre-clearance check (or during works), fauna should be given the opportunity to move on of their own volition. Should this not be possible, fauna to be relocated to a more suitable area with similar habitat to that within which they were captured.	Contractor	Prior to commencement of works
Clearing of vegetation will be timed to avoid breeding times of significant species.	Contractor	Prior to commencement of works
Although unlikely due to limited numbers of suitable trees in the Project site, if any hollows are located they will be removed and relocated to adjacent trees not affected by the development	Contractor	As required
Site speed limits to be enforced to reduce instance of vehicle strike	Contractor	Prior to commencement of works
Fauna not to be fed or handled	Contractor	Ongoing
No dogs or other pets will be brought to the worksite	Contractor	Ongoing
Any injured fauna to be taken to the nearest vet or wildlife carer.		

Monitoring:

- » Pre-clearance fauna checks
- » Visual site inspections

Reporting:

- » Fauna encountered during pre-clearance checks to be reported to Project manager
- » Any fauna deaths that appear to be direct result of Project to be reported to Project manager and SGPL

Corrective Action:

- » If any unusual fauna deaths occur work to cease immediately and Project manager and SGPL to be notified
- » In the event that any native fauna are identified prior to, or during the course of, vegetation removal works, the contractor will contact a local Wildlife Group to arrange removal and translocation as appropriate. Non-native species (e.g. birds nest) can be either relocated to closest adjoining areas unaffected by our works or taken to a local vet.

19.5.5.1.2. Operation

Objective:

- » Minimise the disturbance of native fauna

Performance Criteria:

- » No significant impact to native fauna

Management Action	Responsibility	Timing
Fauna not to be fed or handled	SGPL	Ongoing
Site speed limits to be enforced to reduce instance of vehicle strike	SGPL	Prior to commencement of works
No dogs or other pets will be brought to the worksite	SGPL	Ongoing
Appropriate person called upon to remove fauna (e.g. snakes) when required	SGPL	As required

Monitoring:

- » Post construction monitoring of SBTB numbers and habitat quality

Reporting:

- » Any incidents of injury or death to fauna to be reported to Site Manager/Environmental Officer

Corrective Action:

- » The reason for the incident is to be investigated and appropriate corrective actions (e.g. reduce speed limits/install fauna crossings) to be investigated relevant to the species of concern.

19.5.5.2. Feral Animals

19.5.5.2.1. Operation

Objective:

- » Reduce instances of feral animals on land managed by SPGL below existing levels

Performance Criteria:

- » No (or very low) evidence of feral animals in the area managed by SPGL

Management Action	Responsibility	Timing
Regular inspection for evidence of feral animals in Project area (e.g. burrows, scats, etc.)	SGPL	Bi-annual (Spring and Autumn)
Maintenance of perimeter fencing at main Project area to exclude grazing pests (goats, sheep, etc.)	SGPL	Yearly
Control of feral animals if identified as problem using methods approved by the EP NRMB	SGPL	As required

Monitoring:

- » Inspection for evidence of feral animals
- » Inspection of perimeter fencing

Reporting:

- » Brief report prepared following feral animal inspections
- » In event of animal being struck and killed by vehicle, notify environmental officer

Corrective Action:

- » Control of feral animals undertaken where monitoring suggests that they are becoming established and threatening environmental value of the area

19.5.6. Transport

The proposed BCEF development in Port Bonython is expected to generate additional traffic on the surrounding road network. The key potential impacts of this traffic were identified as:

- » Reduced safety due to increased chance of conflict between vehicles
- » Increased delays due to insufficient capacity at intersections or on road or rail links.

The results of the traffic assessment showed that the surrounding road network generally has sufficient capacity to accommodate the future traffic volumes, and no upgrades to road links or intersections are required to increase traffic capacity.

Objective:

- » To minimise the duration and extent of delays and disruption to users of the road network during both Construction and Operation
- » To provide a safe working and travelling environment during construction and operation

Performance Criteria:

- » No or minor traffic delays as a result of construction or operational activities
- » No accidents as a result of construction or operational activities

Management Action	Responsibility	Timing
Construction		
The Contractor will be required to develop a Traffic Management Plan for construction	Contractor	Prior to works
Sufficient on-site car parking to be provided to reduce the likelihood of on-road parking	Contractor	Prior to works
Site traffic will use haul roads within the Project area to avoid travel on public roads where possible	Contractor	During works
Temporary roads or alternative routes will be provided where a road closure is required. Residents of Port Bonython will be notified in advance of proposed road closures.	Contractor	During works
Safety barriers, appropriate signage and traffic control will be used during construction.	Contractor	During works
A bus will be provided to construction staff from Whyalla so that car movements are minimized.	Contractor	During works
Larger structures will be pre-fabricated offsite and shipped to the site, avoiding over-sized loads on public roads where possible	Contractor	During works
Operation		
Improvements will be made to the right turn at the Lincoln Highway/Port Bonython Road intersection	Contractor	To be undertaken as part of construction works
New Port Bonython rail crossing will be provided	Contractor	To be undertaken as part of construction works

Monitoring:

- » Visual surveillance by site staff to ensure performance criteria are being met

Reporting:

- » Any non-compliance with the Traffic Management Plan will reported to the Construction Manager

Corrective Action:

- » In the event that monitoring identifies practices inconsistent with the Traffic Management Plan, the construction Project manager will seek alternative solutions, and may stop work while issues are rectified.
-

19.5.7. Noise and Vibration

Noise and vibration that could cause disturbance to sensitive receivers will mostly occur during the construction phase of the Project, but is still expected to be within acceptable limits. Controls that will be implemented so that noise impacts are minimized are detailed below.

19.5.7.1. Construction

Objective:

- » To minimise noise levels and vibration generated by the construction works.

Performance Criteria:

- » No exceedance of noise criteria at sensitive receptors
- » Night time construction outside of EPA designated hours is limited
- » Respond proactively to noise issues raised by the community
- » No complaints received from sensitive receptors
- » Compliance with AS 2436-2010 - Guide to noise and vibration control on construction, maintenance and demolition sites.

Management Action	Responsibility	Timing
Limit piling to daytime hours where possible	Contractor	During works
Avoid night time construction works in close proximity to False Bay	Contractor	During works
Choosing equipment with noise minimisation controls or fitting mufflers/silencers to plant	Contractor	During works
Records of any noise complaints and noise logging or measurement results will be held on site.	Contractor	During works
Regular communication with the occupants of noise sensitive receptors, including an outline of the plan and programme at the start of works, notification of any changes to the works and reports on progress and provision of a telephone number that noise sensitive receptors can call to express points of view and request information.	Contractor	During works
Establish a communications register for recording incoming complaints.	Contractor	During works
Regularly educate workers and contractors (such as at toolbox talks) to use equipment in ways to minimise noise	Contractor	During works
Regular inspection and maintenance of plant to prevent plant from becoming noisy due to poor maintenance, such as loose and rattling components.	Contractor	During works
Ensuring machinery is turned off when not in use, e.g. no idling plant.	Contractor	During works
Ensuring machine enclosures, doors and access hatches are kept closed.	Contractor	During works
Avoid metal-to-metal contact on equipment wherever possible.	Contractor	During works

Monitoring:

- » Regular recording and monitoring of noise complaints

Reporting:

- » Recording of any complaints received

Corrective Action:

At Point Lowly, impact piling will be audible and noticeable, particularly during the night-time periods, with exceedances occurring in adverse weather conditions (i.e. wind direction from the works to Point Lowly). Wherever possible, piling activities should be limited to the daytime period. Where this is not possible, for example due to tide constraints, community consultation with residents should explore the following options:

- » Noise monitoring of piling works
- » Respite periods

19.5.8. Air Quality

During construction, the greatest contributor to deterioration in air quality is earth and vehicle movements, which can be readily managed with standard controls. During the operational phase, sheds and conveyors will be fully enclosed, preventing the escape of iron ore particulates into the surrounding environment.

19.5.8.1. Construction

Objective:

- » To minimise particulates generated during construction activities

Performance Criteria:

- » Air quality from the construction area does not exceed the air quality criteria for the Project at sensitive receptor locations
- » Respond proactively to dust issues raised by the community
- » No complaints received from sensitive receptors

Management Action	Responsibility	Timing
Sensitive receptors to be informed of upcoming construction activities and hours of work	Contractor	Prior to activities that may cause a deterioration in air quality
Stage clearing activities to minimize the area of exposed earth	Contractor	During works
Cover exposed access tracks with crushed rock or other material in required areas to reduce mud collection on vehicle wheels and dust generation	Contractor	During works
Implement low speed limits (20-40km) on access tracks to reduce vehicle dust	Contractor	During works
Control dust emissions via use of a water cart, an appropriate dust suppression agent (chemical) and or localised water spraying	Contractor	During works
Manage/reschedule construction works during periods of high winds and high evaporation rates by reviewing weather forecasts	Contractor	During works
Cover vehicle loads while transporting loose, dry or dusty material	Contractor	During works
Install dust screens and/or wind fences to shield exposed areas where appropriate and necessary	Contractor	During works
Revegetate or install temporary covers to disturbed areas as soon as practicable	Contractor	During works
Situate soil stockpiles away from sensitive receptors and seed/cover where required	Contractor	During works
Adjust work conditions based on visual observations of dust	Contractor	During works

Monitoring:

- » Daily Visual monitoring and observation of dust

Reporting:

- » Record and respond to complaints received

Corrective Action:

- » Should an exceedance of nominated criteria occur, or a complaint is received alteration of site practices should occur which may include but is not limited to ceasing work in windy conditions, installing additional coverage of exposed area or stockpiles, installing additional dust screens or undertaking more stringent monitoring.

19.5.8.2. Operation

Objective:

- » To minimise particulates generated during the transport of materials to site and from port operations

Performance Criteria:

- » Air quality from the operational area does not exceed the air quality criteria for the Project at sensitive receptor locations, including the marine environment
- » Respond proactively to dust issues raised by the community
- » No complaints received from sensitive receptors

Management Action	Responsibility	Timing
Manual application of water or foaming agents to stockpiles and/or conveyors to reduce dust levels inside storage sheds	Operator	As required
Maintain dust controlling equipment/technology. Works to cease (or backup systems utilized) in the event that maintenance is required. Audible or control system alarms will be installed to alert of potential failure.	Operator	As required
Using of misting sprays fitted to the ship-loader during iron ore loading operations	Iron Ore Suppliers	To be required in contractual arrangements
Install wind speed/direction instrumentation to set operational limitations on ship-loading activities (i.e. no loading when the wind is blowing on-shore above a certain speed)	Operator	During loading operations

Monitoring:

- » Real time PM₁₀ dust monitoring stations to be installed in accordance with Australian Standards until such time as the system has been established.

Reporting:

- » Record and respond to complaints received, system failure alarms or monitoring exceedences.

Corrective Action:

- » Should an exceedance of nominated criteria occur, or a complaint is received alteration of site practices should occur which may include but is not limited to ceasing work in windy conditions or additional watering.

19.5.9. Visual Amenity

Due to the nature of the site and surrounding landscape, and minimal impacts identified, there are few mitigation options available for residual impacts that will be sympathetic with the surrounding low vegetation, and natural character. Rather than apply visual amenity measures that are out of character with the surrounding area, there are some minor visual impacts that will not be mitigated.

19.5.9.1. Construction

Objective:

- » To minimise the impact of construction activities on the landscape character and the visual environment.

Performance Criteria:

- » The earthworks footprint and removal of vegetation is minimised
- » Light levels during night time construction meet relevant standards or appropriate guidelines and standards

Management Action	Responsibility	Timing
Where night time construction is necessary, lighting is managed to reduce direct light spill	Contractor	During works
Waste management measures are implemented and the site is kept tidy at all times	Contractor	During works
Stockpiles and equipment storage areas are set back from site boundaries and highly visible areas	Contractor	During works
The removal of vegetation is minimised and staged to avoid exposure of large areas at any one time. Revegetation of disturbed areas is to occur as soon as practicable.	Contractor	During works

Monitoring:

- » Regular site inspection to monitor rubbish and site tidiness

Reporting:

- » Record and respond to complaints received

Corrective Action:

- » Additional site clean ups, re-siting of stockpile or equipment storage areas or installation of visual screening

19.5.9.2. Operation

Objective:

- » To reduce adverse visual impacts associated with operational activities

Performance Criteria:

- » Light levels from buildings and infrastructure meet relevant standards, with light spill minimised
- » No complaints regarding light overspill or visual amenity

Management Action	Responsibility	Timing
Colour schemes for infrastructure and storage areas blend with the existing environment	Operator	Detailed design
Vegetation surrounding the site is to be maintained to act as a visual screen	Operator	During operation
Site to be kept tidy and free of waste	Operator	During operation
Lighting is to be as minimal as possible, whilst still meeting safety standards. Light hoods will be installed to prevent light spillage	Operator	Detailed design
Car parks are to be designed to follow the natural topography and will be broken up with vegetation to reduce the visual scale and mass	Operator	Detailed design

Monitoring:

- » Regular site inspections to ensure waste is appropriately stored and site is tidy

Reporting:

- » Record and respond to complaints received

Corrective Action:

- » Corrective actions may include additional planting or an amendment to lighting controls if feasible.

19.5.10. Climate Change and Greenhouse Gases

An initial assessment of the greenhouse gas emissions (GHG) likely to be produced by the Project has been undertaken, and the potential impacts of climate change on the operations of the BCEF have been reviewed. The assessment outlines potential mitigation measures, however further design work is required to confirm the feasibility of some of the measures. It is noted where further investigations are required in the tables below.

19.5.10.1. Construction

Objective:

- » To minimise GHG's generated as a result of construction activities

Performance Criteria:

- » Opportunities to reduce GHGs generated during construction are identified and managed

Management Action	Responsibility	Timing
A GHG Management Plan will be prepared by the Contractor for the construction phase	Contractor	Prior to construction
Fuel efficient equipment is to be sourced where available and feasible	Contractor	Considered during purchasing phase
Haul routes will be designed to minimize haulage distances and associated fuel emissions	Contractor	Detailed design
The use of alternative fuel sources (e.g. biofuels) will be explored during detailed design	Contractor	Detailed Design
Clearing of vegetation and soil disturbance will be limited	Contractor	During construction
Topsoil removed for construction purposes will be stored and reused on site to avoid the need for disposal (with associated transport GHG emissions)	Contractor	During construction
The potential for the use of renewable energy (e.g. solar PV) will be explored in detailed design	Contractor	Detailed Design
Energy efficient lighting will be used for night work and also within site sheds.	Contractor	During construction
The use of materials with low embodied energy/recycled content will be explored during detailed design	Contractor	Detailed Design
Materials will be sourced locally where possible to minimise emissions associated with transport of materials	Contractor	During purchasing phase.

Monitoring:

- » Fuel and electricity consumption and waste generated/disposed will be monitored during construction.

Reporting:

- » Compliance with the GHG Management Plan will be reported regularly

Corrective Action:

- » Should irregular consumption of fuel/electricity be observed, corrective actions to minimize use will be identified and actioned.

19.5.10.2. Operation

Objective:

- » To minimise GHG's generated as a result of operational activities
- » The BCEF is managed in a way that is adaptable to climate change

Performance Criteria:

- » Opportunities to reduce GHGs generated during operations are identified and managed
- » Potential climate change risks to the Project are identified and managed.

Management Action	Responsibility	Timing
A detailed Climate Change and GHG Management Plan will be prepared by SGPL prior to operations commencing. This shall include incorporation of climate change risks into Emergency Response Planning i.e. bushfire management, flooding management, ship operations in extreme weather events	SGPL	Prior to operations
Buildings shall be designed to be resilient to changing conditions e.g. higher extreme heat days, more frequent storm events	SGPL	Detailed design
Drainage design shall consider potential changes to rainfall events	SGPL	Detailed design
Review jetty/wharf design to ensure appropriate sea level rise factor has been utilised.	SGPL	Detailed design
Water will be sourced from both potable and non-potable sources to ensure there is adequate water supply in drier conditions	SGPL	Detailed design
Waste storage and collection practices will be appropriate for weather conditions (e.g. regularly collected in hot weather)	SGPL	During operations
Operational Plans will consider safety of staff in extreme weather e.g. heat waves, increased UV exposure.	SGPL	During operations
Energy efficient plant and equipment for the BCEF will be purchased wherever possible	SGPL	During Purchasing phase
The detailed design will review opportunities for the use of renewable energy e.g. solar PV, wind turbines	SGPL	Detailed design
Energy efficient lighting will be installed for all operations e.g. jetty lighting, permanent buildings, car parks	SGPL	Detailed design

Monitoring:

- » Fuel and electricity consumption and waste generated/disposed will be monitored during operations

Reporting:

- » Compliance with the Climate Change and GHG Management Plan will be reported regularly

Corrective Action:

- » Should irregular consumption of fuel/electricity be observed, or climate impacts on infrastructure/staff observed, corrective actions to minimize use will be identified and actioned.

19.5.11. Marine Fauna

19.5.11.1. Construction

Objective:

- » Minimise the disturbance of native marine fauna

Performance Criteria:

- » No significant impact to native fauna

Management Action	Responsibility	Timing
A 'ramping up' approach that requires a soft start at the beginning of piling and after any prolonged (>30 minute) break in piling	Contractor	Ongoing
Observation zone instated for marine mammals during piling activities	Contractor	Prior to commencement of works
Shutdown zone to be enforced where marine mammal approaches piling rig	Contractor	Prior to commencement of works
Site speed limits of vessels to be enforced to reduce instance of ship strike	Contractor	Prior to commencement of works
Scheduling of piling activities to avoid noise impacts on the inshore reef habitat during Cuttlefish aggregation season (May-October) should surveys show the presence of Cuttlefish.	Contractor	Commencement of piling in November

Monitoring:

- » Marine mammal observers
- » Flinders Ports notification procedures (including whale notification) for vessel movements in Upper Spencer Gulf.

Reporting:

- » Any marine fauna deaths in the Project area to be reported to project manager and SGPL.

Corrective Action:

- » If any unusual fauna deaths occur work to cease immediately and Project manager and SGPL to be notified.

19.5.11.2. Operation

Objective:

- » Minimise the disturbance of native marine fauna

Performance Criteria:

- » No significant impact to native fauna.

Management Action	Responsibility	Timing
Site speed limits of vessels within the control of Flinders Ports (i.e. within the port and/or controlled by tugs) to be enforced to reduce instance of ship strike	SGPL	Prior to commencement of works
Sighting of whale in Spencer Gulf to be reported to all vessels in the area through Flinders Ports communications.	Flinders Ports	As required

Monitoring:

- » Monitoring and reporting of any whale strikes reported to Flinders Ports.

Reporting:

- » Any instances of ship strike to be reported to SGPL and any authorities
- » Any marine fauna deaths in the Project area to be reported to SGPL.

Corrective Action:

- » Review of procedures.

19.5.12. Marine Water Quality and Hydrodynamics

19.5.12.1. Construction

Objective:

- » No adverse effects on marine water quality

Performance Criteria:

- » Maintain existing water quality for
 - Turbidity (NTU)
 - TSS (mg/L)
 - Total Nitrogen (mg/L-N)
 - Hydrocarbons
- » Compliance with EP Act
- » Compliance with *Environment Protection (Water Quality) Policy 2003*
- » Compliance with EPA (SA) Guideline 080/07 Bunding and Spill management, June 2007
- » Compliance with Stormwater Pollution Prevention Code of Practice for the Building and Construction Industry, (EPA, 1999).

Management Action	Responsibility	Timing
Reduce sources of turbidity <ul style="list-style-type: none"> » Minimize shallow water use of vessels » Enforce vessel speed limits 	Contractor	Ongoing
No discharges to the marine environment	Contractor	Ongoing
Any material likely to degrade water quality to be stored within a bunded compound or area suitable for preventing the escape of that material into surface or groundwater	Contractor	Ongoing
Regular inspection and maintenance of equipment and machinery used in marine environment to reduce risk of spill	Contractor	Daily
Maintenance and access to spill response kits capable of treating small spill incidents	Contractor	Weekly
Monitoring:		
<ul style="list-style-type: none"> » Marine water quality monitoring » Project audits. 		
Reporting:		
<ul style="list-style-type: none"> » Any water quality exceedences to be reported to EPA. 		
Corrective Action:		
<ul style="list-style-type: none"> » Identify source of exceedence and apply control. 		

19.5.12.2. Operation

Objective:

- » No adverse effects on marine water quality

Performance Criteria:

- » Maintain existing water quality for
 - Turbidity (NTU)
 - TSS (mg/L)
 - Total Nitrogen (mg/L-N)
 - Hydrocarbons
- » Compliance with EP Act
- » Compliance with *Environment Protection (Water Quality) Policy 2003*
- » Compliance with EPA (SA) Guideline 080/07 Bunding and Spill management, June 2007.

Management Action	Responsibility	Timing
No discharges to the marine environment	SGPL	Ongoing
Any material likely to degrade water quality to be stored within a bunded compound or area suitable for preventing the escape of that material into surface or groundwater	SGPL	Ongoing
Regular inspection and maintenance of equipment and machinery used in marine environment to reduce risk of spill	SGPL	Daily
Maintenance and access to spill response kits capable of treating small spill incidents	SGPL	Weekly
Operational procedures and regular inspection and maintenance of transport infrastructure to minimize risk of iron ore spillage	SGPL	
Regular review and update of Spill Management Plan	SGPL	

Monitoring:

- » Regular marine water quality monitoring

Reporting:

- » Any water quality exceedences to be reported to EPA.

Corrective Action:

- » Identify source of exceedence and apply control.

19.5.13. Marine Pests

Although there is a small number of marine pests that have been identified as present in the Upper Spencer Gulf (refer to **Chapter 14, Marine Ecology**), numbers are generally low. The increased activity in Upper Spencer Gulf as a result of the Project will provide an increased risk of marine pest introduction if not managed effectively.

19.5.13.1. Construction

Objective:

- » No introduction of marine pests as a result of the Project

Performance Criteria:

- » Compliance with AQIS and PIRSA requirements including:
 - National Biofouling Management Guidelines for Non-trading Vessels (Commonwealth of Australia 2009) - applicable to tug boats
 - Australian Ballast Water Management Requirements (Version 5).

Management Action	Responsibility	Timing
Cleaning of all marine construction plant and equipment prior to arrival on site	Contractor	Prior to commencement of works
All vessels adhere to Australian Ballast Water Management Requirements (DAFF 2011)	Contractor	Ongoing
All vessels adhere to National Biofouling Management Guidelines for Non-trading Vessels	Contractor	Ongoing

Monitoring:

- » Baseline marine survey and post-construction survey

Reporting:

- » All marine pests identified in the baseline survey to be documented.

Corrective Action:

- » If new marine pest is identified in the area notify PIRSA.

19.5.13.2. Operation

Objective:

- » No introduction of marine pests as a result of the Project

Performance Criteria:

- » Compliance with AQIS and PIRSA requirements including:
 - National Biofouling Management Guidelines for Commercial Vessels (Commonwealth of Australia 2009) - applicable to bulk carriers
 - National Biofouling Management Guidelines for Non-trading Vessels (Commonwealth of Australia 2009) - applicable to tug boats
 - Australian Ballast Water Management Requirements (Version 5).

Management Action	Responsibility	Timing
All vessels adhere to Australian Ballast Water Management Requirements (DAFF 2011)	SGPL	Yearly review
All vessels adhere to National Biofouling Management Guidelines for Commercial Vessels and Non-trading Vessels	SGPL	Ongoing

Monitoring:

- » Annual baseline monitoring.

Reporting:

- » All marine pests identified in the baseline survey to be documented.

Corrective Action:

- » If new marine pest is identified in the area notify PIRSA.

19.5.14. Marine Noise

19.5.14.1. Construction

Objective:

- » Minimise the disturbance to native marine fauna as a result of marine construction noise

Performance Criteria:

- » No significant impact to native fauna.

Management Action	Responsibility	Timing
A 'ramping up' approach that requires a soft start at the beginning of piling and after any prolonged (>30 minute) break in piling	Contractor	Ongoing
Observation zone instated for marine mammals during piling activities	Contractor	Prior to commencement of works
Shutdown zone to be enforced where marine mammal approaches piling rig	Contractor	Prior to commencement of works
Scheduling of works to avoid cuttlefish breeding season. Inshore piling to commence at end of season such that sufficient progress is made in the proceeding period that there will be negligible effects from piling noise in the inshore reef area when cuttlefish return in May. Cuttlefish surveys to be undertaken to determine cuttlefish presence during the possible aggregation season; should they not be present, inshore piling will continue as normal.	Contractor	Commence inshore piling in November (if surveys show cuttlefish not present, works may commence earlier)

Monitoring:

- » Marine mammal observers
- » Flinders Ports notification procedures (including whale notification) for vessel movements in Upper Spencer Gulf.

Reporting:

- » Any marine fauna deaths in the Project area to be reported to Project manager and SGPL.

Corrective Action:

- » If any unusual fauna deaths occur work to cease immediately and Project manager and SGPL to be notified.

19.5.15. Waste Management

The disposal of construction wastes will follow these principles:

- » Minimise the production of wastes
- » Maximise the reuse and recycling of wastes
- » Dispose of wastes in an environmentally responsible manner.

19.5.15.1. Construction

Objective:

- » To manage waste during construction of the Project in accordance with legislative requirements and to maintain the amenity and environmental values of the area

Performance Criteria:

- » No public complaints
- » A significant portion of waste is reused or recycled
- » The volume of waste produced during construction is minimised
- » All hazardous substances disposed at a licensed facility
- » Compliance with the *Environmental Protection Act 1993*.

Management Action	Responsibility	Timing
A Construction Waste Plan will be prepared by the Contractor	Contractor	Prior to commencement of works
Identify possible waste streams resulting from the Project and recycling opportunities (if available locally; recycling in Adelaide will be avoided due to transportation costs and associated carbon emissions from transport fuels)	Contractor	Prior to commencement of works
Construction material quantities will be accurately measures to reduce over-ordering and on-site stockpiling of materials		
Minimise waste production from construction of Project	Contractor	Ongoing
Opportunities to use recycled materials will be explored during detailed design	Contractor	Detailed Design
Segregate waste streams for recycling and disposal purposes	Contractor	Ongoing
Appropriate storage of wastes (e.g. prevent access of vermin, prevent exposure to wind and runoff, etc.)	Contractor	Ongoing
Hazardous waste (e.g. oils) shall be stored in appropriately bunded areas until disposed of offsite	Contractor	Ongoing
Residual waste to be removed and disposed of offsite	Whyalla Council	Ongoing
Portable self-contained toilets to be used during onshore and jetty construction works	Contractor	Ongoing
At the end of the construction period all waste shall be removed from site	Contractor	End of construction
Excess fill material will be reused on site for landscaping		

Monitoring:

- » Visual inspections
- » Project audits.

Reporting:

- » Any complaints from public to be reported to the site Contractor
- » Quantities of waste recycled/reused and disposed off-site will be regularly recorded
- » Any notification from the EPA to be acted on immediately.

Corrective Action:

- » If any complaints received or inspections note inappropriate storage of waste immediate action to be taken to rectify problem.

19.5.15.2. Operation

Objective:

- » To manage waste during operation of the Project in accordance with legislative requirements and to maintain the amenity and environmental values of the area

Performance Criteria:

- » No public complaints
- » Compliance with the *Environmental Protection Act 1993*

Management Action	Responsibility	Timing
Identify possible waste streams resulting from the Project and recycling opportunities	SGPL	Prior to commissioning
Minimise waste production from operation of Project	SGPL	Ongoing
Segregate waste streams for recycling and disposal purposes	SGPL	Ongoing
Appropriate storage of wastes (e.g. prevent access of vermin, prevent exposure to wind and runoff, etc.)	SGPL	Ongoing
Hazardous waste (e.g. oils) shall be stored in appropriately bunded areas until disposed of offsite	SGPL	Ongoing
Sewage from facilities to be treated onsite with packaged 5000L sewage treatment plant	SPGL	Ongoing
Spill and emergency response plans will be prepared for hazardous materials. Spill kits will be available on site	SPGL	Ongoing
Residual waste to be removed and disposed of offsite	Whyalla Council	

Monitoring:

- » Visual inspections
- » Site audits

Reporting:

- » Any complaints from public to be reported to SGPL
- » Regular reporting of volumes of waste produced, recycled and disposed of
- » Any notification from the EPA to be acted on immediately

Corrective Action:

- » If any complaints received or inspections note inappropriate storage of waste immediate action to be taken to rectify problem

19.5.16. Sustainability

A sustainability assessment has been undertaken for the Project, based on the current concept design. The performance of the Project is considered sound, based on current sustainability features that have been in-built; further opportunities for improvement will be identified during the detailed design phase and through a Project specific Sustainability Plan.

19.5.16.1. Construction and Operation

Objective:

- » To construct and manage the site using sustainable practices that promote a balance of environmental, social and economic outcomes.

Performance Criteria:

- » Sustainable design opportunities are identified and investigated
- » An appropriate management system is put in place so that sustainability processes and objectives are integrated into planning, construction and operational management

Management Action	Responsibility	Timing
A sustainability policy will be prepared addressing both construction and operational activities	SGPL	Prior to commencement of works
A Sustainability Management Plan will be prepared for the Project to address both construction and operational objectives, targets, actions and auditing/ monitoring requirements. It will address detailed measures to improve sustainability in the key areas of energy and carbon, water, discharges to air/ land/water, materials and procurement, waste, community well-being and Stakeholder Participation.	SGPL/ Contractor	Prior to commencement of works
A Sustainability Officer will be appointed who has the responsibility to implement and monitor progress against actions nominated in the Sustainability Management Plan	SGPL/ Contractor	Prior to and during works

Monitoring:

- » Audits of progress against the Sustainability Management Plan

Reporting:

- » During construction, regular reporting against sustainability objectives and targets
- » During operation, yearly reporting against sustainability objectives and targets

Corrective Action:

- » Should objectives and targets of the plan not be met, alternative measures to meet them shall be explored.

19.5.17. Socio-economic Impact

19.5.17.1. Construction and Operation

Objective:

- » To maintain or improve the existing social and economic values of the region

Performance Criteria:

- » A positive contribution to the economy of the Whyalla region through provision of employment and use of local suppliers
- » No adverse impact on existing Port Bonython residents or coastal home owners during construction or operations

Management Action	Responsibility	Timing
Consultation with coastal home owners regarding construction activities that may cause impacts e.g. property access, traffic controls	Contractor	Prior to commencement of works that may impact on coastal home owners
Grade separated crossing of Port Bonython will be designed to maintain property access	SGPL	Detailed Design
Regular engagement with interested stakeholders during both construction and operation of the facility e.g. Whyalla Council, Santos, coastal home owners	SGPL/ Contractor	Prior to and during works
Relocation of the Stony Point Cuttle Fish interpretive signage and viewing platform; the location and design to be discussed with relevant stakeholders	SGPL	Detailed Design
A South Australian Industry Participation Plan will be prepared and included in all tender documentation to encourage local contractor involvement. SGPL are committed to implementing procedures to maximize local employment and local content opportunities. This will also include consideration of Indigenous training and employment.	SGPL	Tendering Phase
Employment contracts and tenders to include behavior requirements	SGPL/ Contractor	Tendering Phase

Monitoring:

- » Regular monitoring of any stakeholder feedback of complaints received.

Reporting:

- » During construction, monthly reporting against socio-economic objectives and targets
- » During operation, yearly reporting against sustainability objectives and targets

Corrective Action:

- » Should objectives and targets of the plan not be met, alternative measures to meet them shall be explored in consultation with stakeholders.

