



**Redland**  
CITY COUNCIL

# Environmental Management Plan

Infrastructure & Operations  
Project Delivery Group  
Construction Projects Unit

**PDG-43700**

**Trailhead Facility - Redlands Coast Eastern  
Hinterland Experience**

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## Scope of Works

This site based environmental management plan (SBEMP) focuses on the identification and management of potential risks of harm to the environment when Redland City Council Internal Construction Crews and Contractors will be undertaking the construction a carpark with approx. 23 car park spaces. The site will have an entry and exit driveways on West Mt Cotton Rd and will include tree removal, fencing, drainage and associated works.

This management plan does NOT detail every procedure carried out by Staff and Contractors within the site and shall be read in conjunction with all the other management plans for the project and procedures.

## Purpose

The purpose of this environmental management plan is to ensure:

- a. Redland City Council complies with Environmental Protection (EP) Act 1994.

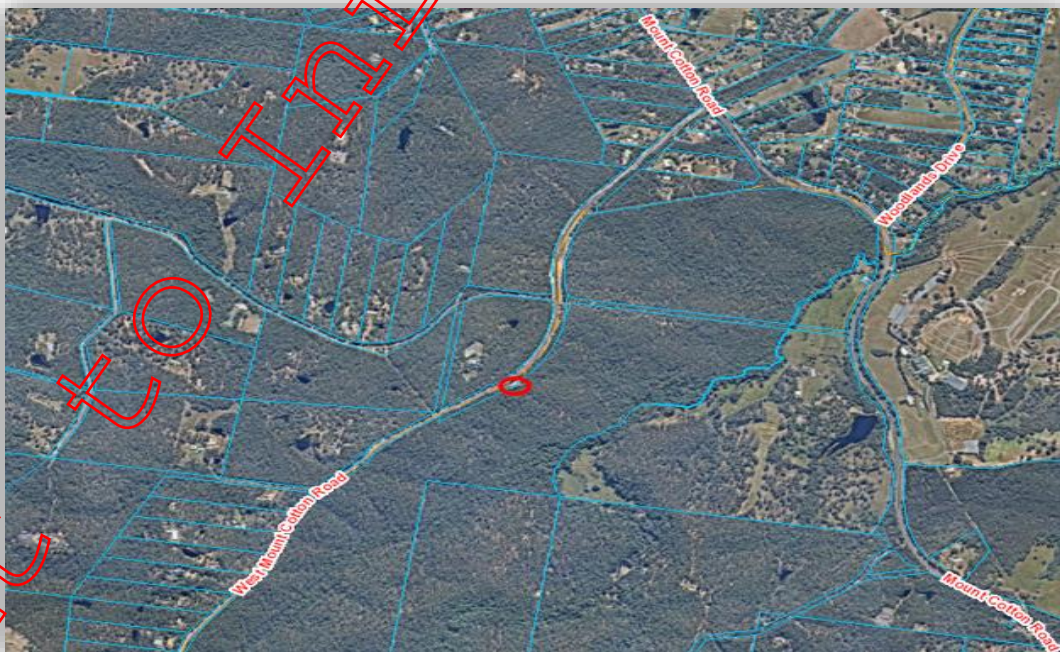
*The Environmental Protection Act creates a general duty for all people, companies and government bodies to take all reasonable and practical steps to avoid harm to the environment.*

*Under the EP Act, it is an offence to cause harm to the environment, it's also an offence to not notify authorities if you are doing an activity and become aware that it's causing environmental harm.*

- b. Redland City Council is proactively identify activities that may cause harm to the environment and safeguarding against undesired environmental impacts.

## Project Address

**The project is located at:** 605-769 West Mount Cotton Road, Mount Cotton (Lot 1 on SP200199)





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### Description of Environment

Environment onsite and surrounding the site consisting of:

Environmental Factor	What's been identified
<b>Redlands Planning Scheme/ City Plan Version 5</b>	

#### Acid Sulfate Soils

None to report

- Below 5 metres AHD
- Between 5 and 20 metres AHD

#### Bush Fire Hazard

- Very High Potential Bushfire Intensity
- High Potential Bushfire Intensity
- Medium Potential Bushfire Intensity
- Potential Impact Buffer









**Flood Prone, Storm Tide and  
Drainage Constrained Land**

- Storm Tide Area
- Flood Prone Area
- SMBI Flood Prone and Storm Tide Area
- Drainage Constrained Land





**Habitat Protection – Bushland Habitat**

-  Koala Habitat
-  Bushland Habitat
-  Enhancement Corridor
-  Enhancement Area
-  Enhancement Link
-  Marine Habitat



**Heritage Place and Character  
Precinct**

- ▼  Local Heritage Place (Significant Trees)
- 
- ▼  Local Heritage Place
- 





Waterways, wetlands and Moreton Bay



Water Supply Catchment



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## Zoning

### Zones

- Low Density Residential
- Low-medium Density Residential
- Medium Density Residential
- Character Residential
- Tourist Accomodation
- Principal Centre
- Major Centre
- District Centre
- Local Centre
- Neighbourhood Centre
- Specialised Centre
- Recreation and Open Space
- Environmental Management
- Conservation
- Low Impact Industry
- Medium Impact Industry
- Waterfront and Marine Industry
- Community Facilities
- Emerging Communities
- Mixed Use
- Rural



**Environmental**

**Fire Ant Risk**

- Zone 1
- Zone 2
- Zone 3



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**Environmental Partnership Program**

None to report


-  Koala Conservation Agreement Program
-  Land for Wildlife
-  Rural Support
-  Voluntary Conservation Agreement
-  Waterways Extension Program
-  Your Backyard Garden Program

**Bush Care Groups**

Bushcare Activity

None to report

Bushcare Groups

-  Bushcare Activity

Bushcare Areas

-  Bushcare Area

### Vegetation Protection Layers

Properties with Building Envelope



Vegetation Protection Orders (Local)



Vegetation Protection Areas (Veg02)



Tree Protection Areas (ThemVeget)



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**Land Registers**

None to report

▼  Environmental Register Properties



▼  Environmentally Relevant Activities



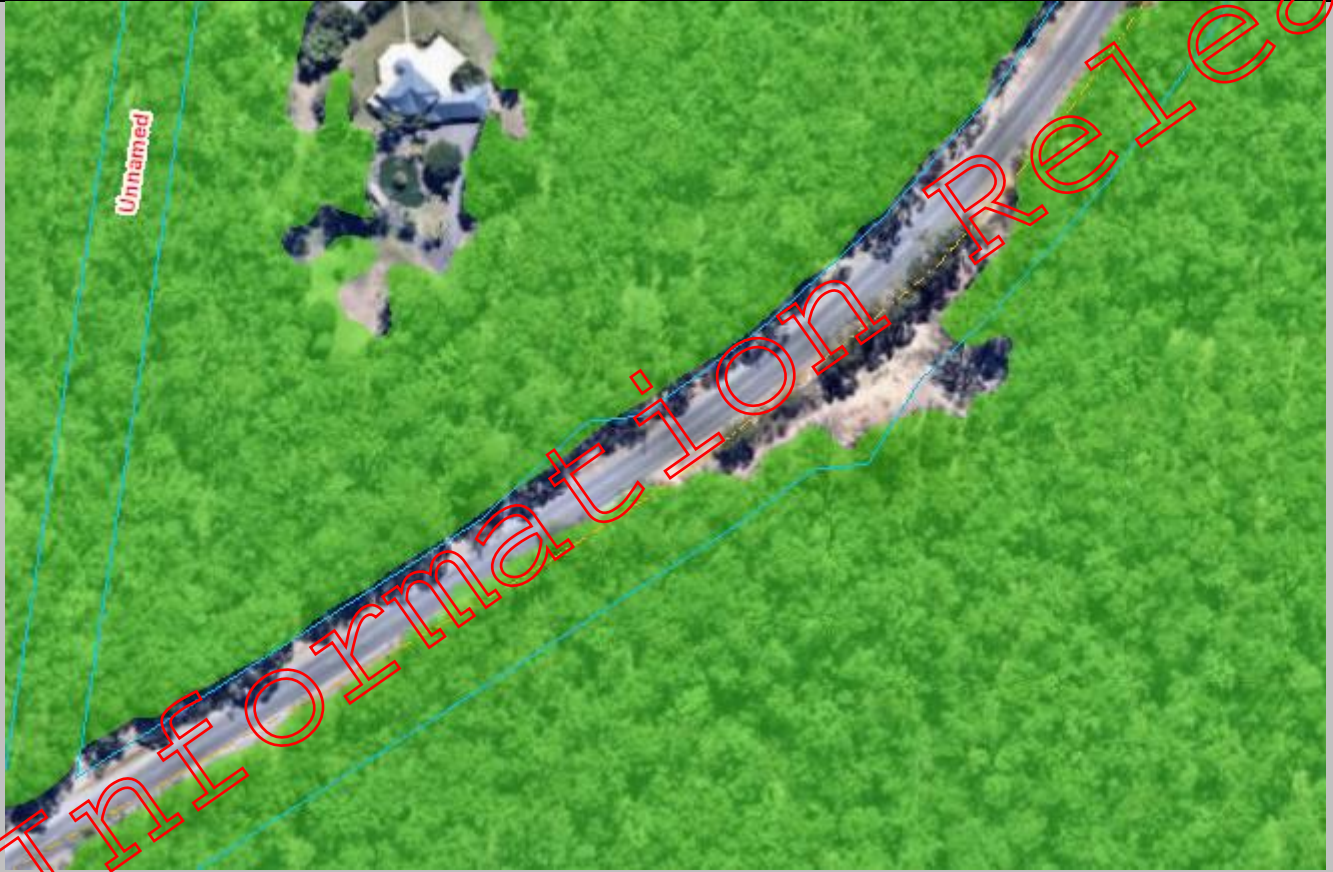
▼  Closed Landfill Sites



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**RCC Koala Habitat 2015**

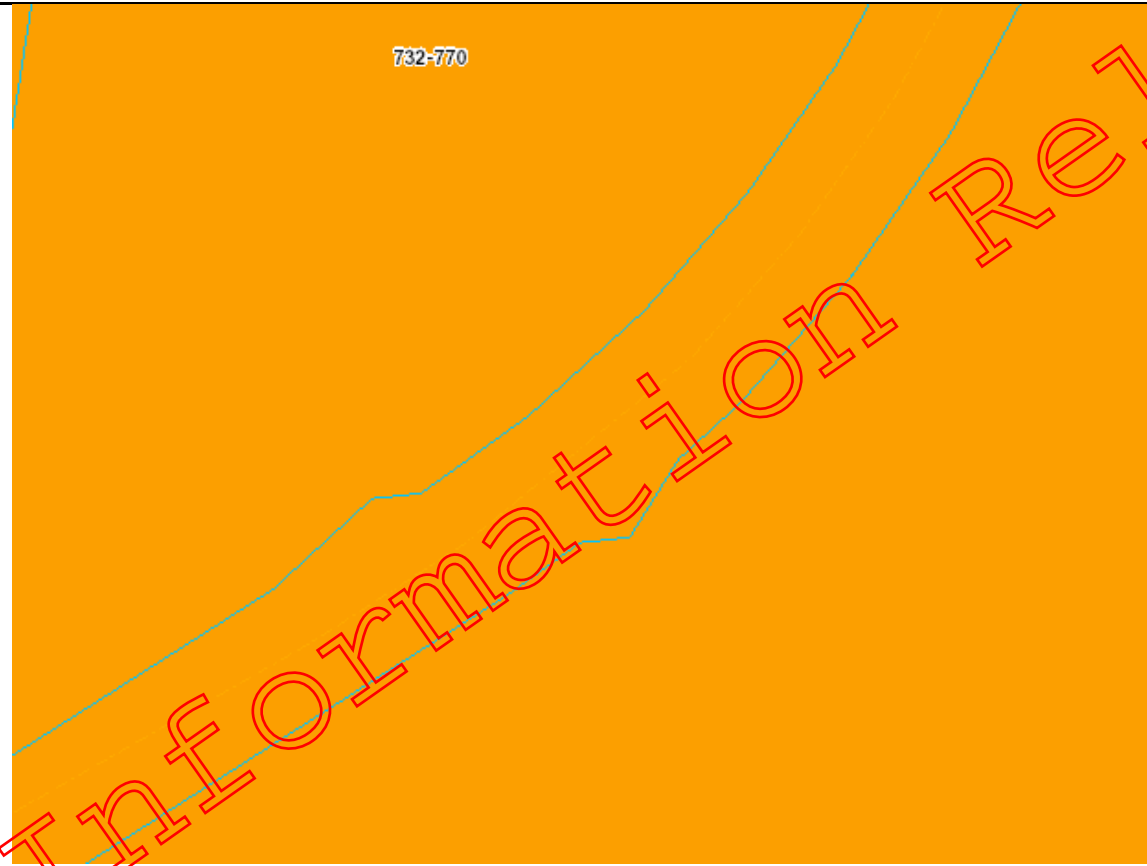
- RE Remnant Koala Habitat
- RE Regrowth Koala Habitat
- Urban Koala Habitat Trees
- Urban Non Koala Habitat





**Vegetation Associations**

- Grey Gum and Spotted Gum/Open Forest
- Qld Blue Gum Forest /Melaleuca Wetlands
- Littoral Rainforest (SMBI)
- Mangrove Communities
- Littoral Rainforest/Open Rainforest
- Swamp/Heathland (SMBI)
- Rainforest / Vine Forest
- Scribbly Gum - Open Forest
- Black Butt and Scribly Gum/Open Forest
- Swamp She-Oak Forest



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**Composite Mainland Soils LRAM  
2011**

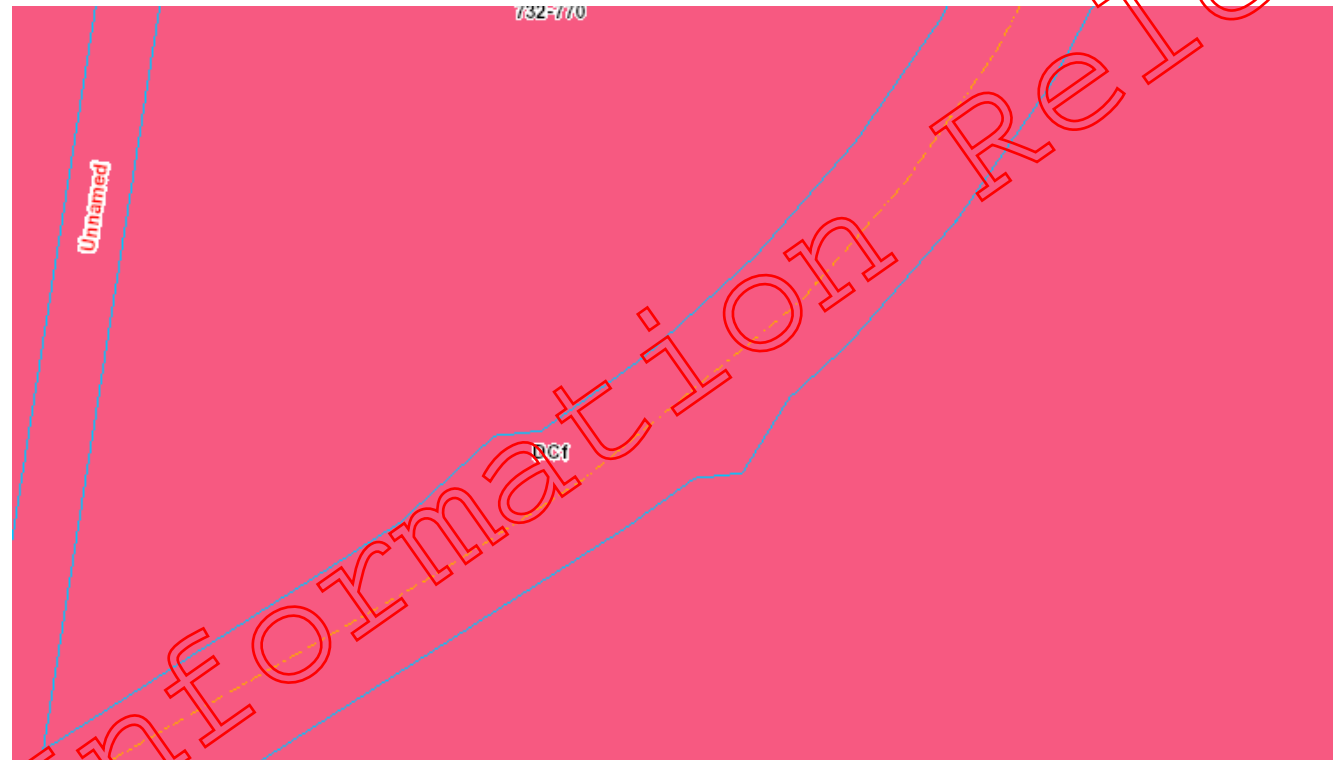
- Coastal Soils - Waterlogged Sands
- Coastal Soils - Saline Gley
- Coastal Soils - Mudflats
- Alluvium - Gleyed Podzolics
- Alluvium - Humic Gley
- Alluvium - Peaty Swamp
- Relic Terrace - Acid Clays and sodic duplex
- Laterite Basalt - Red Soils
- Basalt - Gleyed Waterlogged clays
- Basalt - Prairie Soils and Shallow Clays
- Basalt - Red Soils and Prairie Soils
- Metasediment Uplands - Red/Yellow Podzolics
- S/stone Uplands - Sandy Podzolic
- S'stone Uplands - Red/Yellow Podzolics
- Quartzite Hills - Shallow Soils
- S'stone Hills - Shallow Loams



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# Redlands Geology

- ALLUVIUM
- ARENITE
- ARENITE-MUDROCK
- ARENITE-RUDITE
- BASALT
- CHERT
- COLLUVIUM
- FELSITES (LAVAS, CLASTICS & HIGH-LEVEL INTRUSIVES)
- FERRICRETE
- MAFITES (LAVAS, CLASTICS & HIGH-LEVEL INTRUSIVES)
- MAN-MADE DEPOSITS (TAILINGS, LAND-FILL, MINE DUMPS ETC)
- MISCELLANEOUS UNCONSOLIDATED SEDIMENTS
- MIXED MAFITES AND FELSITES (MAINLY VOLCANICS)
- MIXED SEDIMENTARY ROCKS AND MAFITES
- MUD
- MUDROCK
- PELITE
- POORLY CONSOLIDATED SEDIMENTS
- SAND
- SEDIMENTARY ROCK
- WATER BODIES



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Water and Sewer

Water

- Water Treatment Plants
  - Water Treatment Plant
- Water Pumpstations
  - Pump Station
- Billing Connections
  - 20 mm
  - 25 mm
  - 32 mm
  - 40 mm
  - 50 mm
  - 80 mm
  - 100 mm
  - 150 mm
  - Invalid Data
- Valves
  - GATE
  - AIR
  - SCOUR
  - ALTITUDE
  - BUTTERFLY
  - CONTROL
  - PRESSURE REDUCING
  - PRESSURE RELIEF
  - PRESSURE SUSTAINING
  - STOP
- SLUICING CHECK
- REFLUX
- TRUNK REFLUX
- UNKNOWN
- Hydrants
  - Hydrant
- Other Fittings
- AC Pipes
- Water Mains - Operating
  - 20 - 100 mm (RCC)
  - 101 - 250 mm (RCC)
  - 251 - 500 mm (RCC)
  - 501 - 900 mm (RCC)
  - 20 - 250 mm (SEQWater)
  - 251 - 500 mm (SEQWater)
  - 501 - 900 mm (SEQWater)
  - 20 - 200 mm (Private)



# Waste Water

## Waste Water

### WW Treatment Plants

- Treatment Plant

### WW Pumpstations

- ⊙ Operating
- ⊙ Not Operating

### Pits

#### WW Maintenance Pits

- Operating
- Not operating

### Pipes

#### WW Non Pressure Pipes

- ▶ Effluent Outflow
- ▶ Effluent Reuse
- ▶ Reticulation
- ▶ Trunk Gravity
- Not Operating

#### WW Pressure Pipes

- ▶ Operating
- ▶ Out of Service
- Decommissioned

### House Connections

#### WW Connection Labels

- 

#### WW House Connections

- ▶ Operating
- ▶ Not Operating

### Wastewater Catchments

- WW Catchment



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**Stormwater**

**Stormwater**

Roof Water

Roof Water Pits

- Operating
- Not Operating

Roof Water Pipes

- - Operating
- - Not Operating

Roof Water House Connections

- - Operating
- - Not Operatng

Stormwater

Stormwater Pits

- Manhole
- Catchpit
- Not Operating

Stormwater Endstructures

- Operating
- Not operating

Stormwater Open Drains

- - Operating
- - Not Operating

Stormwater Pipes

- Box
- Pipe
- Box (Private)
- Pipe (Private)
- Not Operating



Right to

## Rainfall

In South East Queensland it is important to be aware of the wet season and high storm activity as it could have potential to cause environmental impacts, for instance, localised flooding, wide spread flooding, etc.

The table below indicates the season, month and the chance of rain/ storm events

Season	Months	Chance of Rain/ Storm Events
<b>Summer</b>	December to February	High
<b>Autumn</b>	March to May	Medium
<b>Winter</b>	June to August	Low
<b>Spring</b>	September to January	Medium

## Prevailing winds

The prevailing winds are predominantly south to south east for most of the year.

## Site Based Environmental Management

The site based management address the activities which has the potential to cause environmental harm or environmental nuisance. These activities include:

- General Conditions
- Noise and Vibration
- Air Quality
- Waste Management
- Fuel/ Chemical Spills
- Stormwater
- Sediment and Erosion Controls

The tables below set out objectives, targets, potential impacts and management strategies for the abovementioned activities.

## Site Environmental Management – General Conditions

**Objective:** To ensure the implementation of the activity in accordance approval conditions  
**Target:** To actively operate in accordance with the purpose of the SBEMP

Activity	Potential Environmental Impacts	Responsibility	Management Strategy
<b>Record Keeping</b>	Ongoing or recurring environmental issues remain undetected and unmanaged	Site Supervisor Infrastructure Project Officer	The Site Supervisor is to keep all records relating to incidents, expectations, emergencies, releases, testing, monitoring and complaints and keep a copy with the onsite management plans until the projects has been completed.
<b>Alterations – Changes on site</b>	Possible increase in risk of environmental harm	Site Supervisor Infrastructure Project Officer	Identify and report any alterations or changes onsite that are likely to increase any risk of environmental harm occurring.
<b>Maintain Environmental Management Plan</b>	Potential loss of environmental management processes to effectively deal with site operations and compliance	Site Supervisor Infrastructure Project Officer	<p>The Site Supervisor is responsible for ensuring that the EMP is kept up to date by identifying changes on site to procedures that may raise the risk of potential environmental impacts.</p> <p>The Site Supervisor shall ensure that relevant staff are appointed to fulfil the obligations of the EMP.</p> <p>The Environmental Management Plan must be assessed upon each round of engagement. It must at minimum address the conditions here outlined.</p>
<b>Complaint Recording</b>	Complaints forgotten, problems undealt with.	Site Supervisor	Site Supervisor shall keep records of all complaints received and notify the Infrastructure Project Officer



		Infrastructure Project Officer	
<b>Staff Environmental Training</b>	Lack of awareness of requirements for environmental compliance	Site Supervisor Infrastructure Project Officer	Ensure that all Staff in the Construction Projects Unit undergo training, specific to the site operations and environmental aspects required to be managed and/or monitored.
<b>Maintenance of Measures, Plant and Equipment</b>	Increased risk of an environmental incident occurring, additional noise and vibration.	Site Supervisor Infrastructure Project Officer	Staff members are to ensure that all services are undertaken on their vehicles, plant, and equipment to ensure it is working in the correct manner to minimise the potential impacts caused by noise and vibration.
<b>Identify Potential Impacts</b>	Possible impacts of the activity are not managed (preventing biological & social impacts such as mangroves and seagrass, disturbances of nearby residents)	Site Supervisor Infrastructure Project Officer	Possible impacts to be assess and identified by staff onsite and develop strategies to minimise potential impacts.
<b>Transport handling of new and old materials</b>	Loss of material into the marine environment, noise nuisance	Site Supervisor Infrastructure Project Officer	Staff are to ensure that there is adequate measures in place to prevent any loss of materials during loading, transporting and dumping.

## Site Environmental Management – Noise and Vibration

**Objective:** To minimise noise emissions from the site.  
**Target:** No legitimate noise complaints from staff or community  
 Operate only within designated work periods

Activity	Potential Environmental Impacts	Responsibility	Management Strategy
<b>Monitoring of noise</b>	Determine Validity of noise complaints	CPU Staff Site Supervisor Infrastructure Project Officer	Noise monitoring between working hours. No works to be conducted outside normal working hours unless approved by the Service Manager and surrounding residents have been notified.
<b>Noise from activities</b>	Inappropriate hours of operation for residents & surrounding environments	CPU Staff Site Supervisor Infrastructure Project Officer	Restrict works to between 6.30am and 6.00pm Monday to Friday. No works to be undertaken on weekends or public holidays, unless approved by the CPU service manager.

## Site Environmental Management – Air Quality

**Objective:** To minimise air quality impacts during operational activities  
**Target:** Minimal legitimate dust

Activity	Potential Environmental Impacts	Responsibility	Management Strategy
<b>Plant Exhaust Fumes</b>	Releases of noxious odours and smoke causing nuisance to the community downwind	CPU Staff	All plant and equipment must be maintained to minimise the discharge of the noxious fumes and unburnt carbon from exhausts
		Site Supervisor	
		Infrastructure Project Officer	Record any complaints from the community
<b>Dust arising from activities</b>	Releases of windblown dust	CPU Staff	Ensure any activities are undertaken in a controlled manner to minimise dust arising from the site.
		Site Supervisor	
		Infrastructure Project Officer	Ensure transport loads are appropriately covered
<b>Dust arising from truck (or other plant) movements or activities</b>	Releases of windblown dust	CPU Staff	Ensure truck or other plant activity on any unsealed areas does not cause excess dust.
		Site Supervisor	
		Infrastructure Project Officer	

## Site Environmental Management – Waste Management

**Objective:** To minimise waste generated and recycle wastes where possible.  
**Target:** Reduction in the amount of waste transported to Landfill  
 Ensure solid and liquid wastes are appropriately managed and disposed of.

Activity	Potential Environmental Impacts	Responsibility	Management Strategy
<b>Improper disposal of wastes</b>	Environmental harm or dumping	CPU Staff Site Supervisor Infrastructure Project Officer	Should staff be aware of improper disposal, notify the Infrastructure Project Officer who will report it to the relevant internal and external people.  Contact details: DEHP (EPA) - 1300 130 372 MSQ - 3632 7500 (office Hours) or 3305 1700 (after hours) RCC After Hours Service on 3829 8999

## Site Environmental Management – Fuel and Chemicals

**Objective:** To ensure fuel and chemicals are stored and used correctly  
**Target:** No fuel or chemical spills or incidents

Activity	Potential Environmental Impacts	Responsibility	Management Strategy
<b>Release of petroleum products</b>	Contamination to the water	CPU Staff Site Supervisor Infrastructure Project Officer	Regular maintenance to all plant, equipment and vehicles. Spill kits available onsite and staff trained in its use Any incident is to be recorded and the EPA notified.
<b>Chemical spillage and clean up</b>	Release of inappropriate contaminants directly into the sewer or stormwater	CPU Staff Site Supervisor Infrastructure Project Officer	Ensure that spills of chemicals, fuel, oil, etc are never hosed or disposed of into stormwater or sewer drains. Use spill kits to contain and clean up spills.

## Site Environmental Management – Stormwater

**Objective:** To ensure that the water quality of the stormwater is acceptable  
**Target:** Maintain or improve water quality

Activity	Potential Environmental Impacts	Responsibility	Management Strategy
<b>Unsealed driveways/ exposed earth areas/ stockpiles</b>	Erosion, release of sediment to stormwater	CPU Staff  Site Supervisor  Infrastructure Project Officer	Monitor work site to ensure that erosion is not occurring and implement controls as required.

The stormwater as constructed mapping shows stormwater infrastructure (operating catchpits, manholes, etc).

Prior to construction works the amount of sediment entering waterway will be minimised through the use of silt fencing and “sausage filters”. Silt fencing will be erected around the project site and “sausage filters” will be horizontal to the kerb and channel, swale drains and any essential area.

These control measures will be checked on a daily basis and monitored for effectiveness. In the event of heavy inclement weather, the control measures will be checked and any identified problems will be rectified immediately.

## Site Environmental Management – Sediment and Erosion

**Objective:** To ensure sediment and erosion controls are adequate  
**Target:** Minimise the amount of dust, sediment and erosion being released from the site

Activity	Potential Environmental Impacts	Responsibility	Management Strategy
<b>Soil Management</b>	Erosion, release of sediments, soil entering waterways, dust emissions	CPU Staff Site Supervisor Infrastructure Project Officer	After performing necessary earthworks, apply soil stabilisation measures as soon as practical, ie placement of final treatment, tuft, vegetation, erosion control mattings such as Bidim, etc  Water exposed earth as required  Soils should be replaced in the same order as they are removed from the ground. It is particularly important that all subsoils are buried and top soils remain on the surface at the completion of works.
<b>Stockpiling</b>	Inundation, release of sediments from stockpile site entering waterways, dust emissions	CPU Staff Site Supervisor Infrastructure Project Officer	Stockpiles should be located away from overland flow paths and waterways and have silt fencing on the downward slope to minimise the risk of run off  Stockpiles to be watered as required to reduce dust emissions  Stockpiles to be separated into soil types  Stockpiles will not be located near/ adjacent to significant sites for instance at the base of a significant tree, etc

In the event that operations change at the project site and increase the amount of contaminants released by the activity or increased the risk of environmental nuisance or environmental harm, the Site Supervisor is required to notify their Infrastructure Projects Officer and/ or Service Manager.

## Monitoring and Reporting

Construction Projects Unit Staff will inspect Installed control measures daily and monitored for their effectiveness. Any identified issued will be addressed and processes to rectify the issue will be undertaken and documented in **Attachment 5 Daily Site Diary within Workplace Health and Safety Plan.**

When undertaking an activity and become aware that it's causing environmental harm or environmental nuisance, stop works immediately and contact the Infrastructure Project Officer, and Redland City Council's Environmental Health Team.

Environmental incidents will be reported though Redland City Council's Safety Vault.

If an incident occurs, fill out the Workplace Incident Report and/ or Hazard/ Near Miss Report forms.

## Emergency and Contingency Response

Contingency plans are required to deal with predictable risks and hazards and to offer corrective response to minimise or mitigate environmental harm. This does not replace a site's emergency response plan as stated in WHS Management Plan.

Follow the five (5) steps listed below for effective preparation of any incidents and/or emergencies and ensure that all documentation is kept.

1. Identify the hazard;
2. Assess potential environmental impacts and estimate risks;
3. Assess acceptability of risks against Redland City policies, relevant permits, etc;
4. Develop appropriate corrective action; and
5. Implement controls and review action to be taken.

## Emergency Contact list

Contact	Contact Number
Construction Projects Unit – Service Manager Nigel Carroll	3829 8459
Construction Projects Unit – Infrastructure Project Officer Tony Sloman	3829 8354
Construction Projects Unit – Infrastructure Project Officer Eddie Buchanan	3829 8340
Construction Projects Unit - Site Supervisor Hamish Cox	
Construction Projects Unit – Project Officer Robyn Hookway	3829 8918
Construction Projects Unit – Project Officer Lynde Hersom	3829 8963



Environmental & Regulation Group	3829 8776
WORKPLACE HEALTH & SAFETY UNIT	3829 8365
Department of Environment & Heritage Protection (DEHP)	13 74 68
Maritime Safety Queensland (MSQ) – Business Hours	3632 7500
Maritime Safety Queensland (MSQ) – after hours for marine pollution spills	3305 1700

Sign off by Service Manager, Infrastructure Projects  
Officer & Site Supervisor - Refer to Dashpivot for sign  
off approvals