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| ENVIRONMENTAL MANAGEMENT PLAN |
| 2014-07-25  Issue 5.0 – August 2016 |



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**[PROJECT NAME]**

|  |  |
| --- | --- |
| **Environmental Management Plan** | **Issue 5.0** |
| **Document Name** | Environmental Management Plan |
| **Prepared by** | CIP Constructions (NSW) Pty Ltd  **Insert CIP Office e.g. Sydney Office**  Insert Office Address, phone and fax  Email: [admin@ciproperty.com.au](mailto:admin@ciproperty.com.au)  Web: [www.ciproperty.com.au](http://www.ciproperty.com.au/) |

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|  |  |
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| **Abbreviations** | |
| AS | Australian Standards |
| BCA | Building Code of Australia |
| CoC | Condition of Consent |
| PM | Project Manager |
| DERM | Department of Environment and Resource Management |
| EMP | Environmental Management Plan |
| HSR | Health and Safety Representative |
| LEP | Local Environment Plan |
| LGA | Local Government Area |
| SM | Site Manager |



# INTRODUCTION

## Background to the Project

CIP Constructions (NSW) Pty Ltd (CIP) is the Principal contractor for the construction of the new warehouse and office facility for Client’s Name in Project’s Location, NSW. The scope of works includes construction of a new 10,500m2 warehouse with a 500m2 office, heavy duty pavements, carpark and landscaping.

## Context of the EMP

An Environmental Management Plan (EMP) is required to outline environmental management practices and procedures to be followed during the construction of the warehouse and office. The EMP provides a tool for ensuring that relevant requirements are observed during the project.

The EMP provides, but is not limited to:

* A description of the roles and responsibilities for all relevant employees involved in the construction activities; and
* The EMP outlines environmental management responsibilities, anticipated statutory requirements, incident management, corrective action procedures, and complaint handling responsibilities, auditing requirements and training programs.

Section 5 of this EMP contains actions and checklists to assist in monitoring compliance with the EMP.

This document is designed as a dynamic document that should be reviewed and amended as needed to incorporate additional requirements, and/or modifications in the construction approach and schedule. CIP, appointed as the Principal Contractor, by Client’s Name is required to draw on the requirements of the EMP and incorporate these into all Work Method Statements.

This EMP should be read in conjunction with the CIP’s Integrated Management System and associated procedures identified under relevant sections of this Plan, developed for the site.

## Objectives of the Environmental Management Plan

The primary objective of this EMP is to provide an environmental management manual to be used by management and construction staff involved in the activities of the site to minimise adverse environmental impacts. The EMP will also provide information to relevant regulatory authorities regarding the environmental management practices that will be implemented throughout construction. The EMP has the following objectives:

* To reduce or eliminate the release of pollutants into the environment during construction;
* To promote environmental awareness amongst employees and contractors and best environmental practise; and
* To reduce waste generation and the depletion of resources by utilising the “avoid, reduce, reuse, recycle” principles where practicable and appropriate.

## Applicable legal and other requirements

The development of this project is governed by the approved Development Application (DA) and Conditions of Consent (CoC). The CoCs are detailed in the DA Compliance Matrix that forms an integral part of this EMP.

The applicable legal and other requirements are identified in the relevant management plans in Section 5. Copies of these plans and documents are available from the Site Manager.

Compliance with the applicable legal and other requirements is assessed by regular monitoring of environmental controls through site inspections and audits.

This document has been prepared in accordance with the requirements of the AS/NZS ISO 14001:2004 Environmental Management Systems.

# PROJECT DESCRIPTION

## Location and Site Description

Site address: Project Address

## Progression & Duration of Construction Works

The overall construction works are scheduled to be completed within xxxx months.

## Key Stakeholders

The key stakeholders for the project include:

* Client (Principal and owner of land)

## Construction Hours

As per the DA, the construction activities associated with the works, including the delivery of materials to and from the site, are to be within the hours of 7.00 am to 7.00 pm from Monday to Friday, 6.00 am to 1.00 pm on Saturdays and no work on Sundays or Public Holiday. All work will occur within these stipulated times.

## Staffing

The number of personnel associated with the works will fluctuate depending upon the particular work stage and the level of work required. At peak periods, it is estimated that the construction staff would be approximately 70 people. Indicatively, the internal staff will comprised of:

* + - Project Manager (PM)
    - Site Manager (SM)
    - Site Engineer
    - Contract Administrator (CA)
    - Health and Safety Representative (HSR)

## Materials Management

The management of materials will follow as far as practicable, the principles of ecologically sustainable development and a waste minimisation hierarchy. The hierarchy for waste minimisation is as follows:

**Avoid** - preventing the generation of waste in the first place;

**Reduce** - reducing waste involves creating less waste;

**Reuse** - finding or adapting products after their initial use so that they have the same, similar or alternative uses, thus extending the life of a product; and

**Recycle** - a process by which materials that would otherwise become solid waste are collected, separated, processed and returned to the economic mainstream in the form of raw materials or product.

**Dispose** – Remove from site materials not able to be incorporated into the works.

Consideration has been made to the reuse of materials on site, so there is no import or export of materials to obtain the correct site elevations. Consideration will also be given to and include:

* Using recycled materials where possible;
* Maximising opportunities to generate less waste, such as wrapping/packaging to be returned to the supplier, recyclable or biodegradable/compost able;
* Avoiding unnecessary waste creation; and
* Minimising consumption of resources by ordering only required amounts of materials. The waste management procedures identified are incorporated into the waste action plan (Section 5.2).

# PROJECT ORGANISATIONAL STRUCTURE

The organisational structure of CIP Constructions that will be used during construction is provided in **Figure 1**

## Roles and Responsibilities

The preliminary roles and responsibilities of personnel working on the project are outlined below.

### Project Management Team

The Project Management Team (PMT) is comprised of the Principal Contractor’s personnel and will consist of the roles of the PM, SM and the HSR. The detailed roles and responsibilities of the PM, SM and HSR are outlined in Sections 3.1.2, 3.1.3, 3.1.4 and 3.1.5.

The responsibilities of the PMT include, but are not limited to, the following:

* Accountable for overall delivery and compliance with regulatory requirements including the Conditions of Consent;
* Allocate resources and funding as appropriate;
* Hold PMT meetings to conduct regular reviews of progress and to devise actions and processes for continual improvement of the construction and environmental performance;
* Provide direction and feedback on progress as required;
* Resolve external business factors that may influence progress;
* Review and approve the EMP;
* Review and approve the site induction and training program for all persons involved in the construction activities and monitor implementation;
* Where needed, approve compliance reports and environmental performance reports to be submitted to relevant authorities;
* Where needed, ensure specialist studies and reports are undertaken; and
* Maintain overall control of the site management function.

Site Manager

Name

Health & Safety Representative

Name

Project Manager

Name

**Martin**

**Daniel Santilli**

Construction Manager

Name

Contracts Administrator

Name

**Martin**

**Daniel Santilli**

Site Engineer

Name

**Figure 1.0 - Project Organisational Structure**

### Project Manager

The PM is a representative of the Principal Contractor. The PM’s role includes but is not limited to the following:

* Overall management of the project;
* Coordination of the PMT; and
* Management of contractual and environmental issues in particular contractor plant and equipment.

### Health and Safety Representative

The Health & Safety Representative (HSR) is part of the PMT and is a representative of the Principal Contractor. The HSR is responsible to the PMT on matters directly relevant to the health and safety component of the project and on matters relating to the implementation of the Health and Safety Management Plan and are defined in the Health and Safety Management Plan.

The HSR will have responsibilities that will include:

* Ensuring induction training includes occupational health and safety;
* Leading safety and incident management and risk assessments;
* Ensuring compliance with the Health and Safety Management Plans;
* Ensuring a monitoring system is in place to track and report all health and safety incidents and liaise with the relevant staff on an as-needed basis;
* Attend routine meetings with the PMT and SM and report any issues of health and safety concern at these meetings; and
* Review corrective and preventative actions to ensure the implementation of recommendations made from the audits and site inspections; and review and approve revisions to the EMP.

### Site Manager

The Site Manager’s s role includes but is not limited to the following:

* Coordinate and manage training of all staff and contractors/subcontractors prior to the commencement of construction activities, including EMP training;
* Conduct competency assessments;
* Identify environmental aspects and impacts;
* Conduct risk assessment;
* Identify operational controls;
* Manage day-to-day implementation of the EMP;
* Report directly and promptly to the PM on all environmental matters including incidents and non-conformances;
* Implement all required corrective actions and as appropriate amend the EMP;
* Report directly and promptly to the HSR on all occupational health and safety matters including incidents and accidents;
* Conduct site inspections to ensure environmental management measures are effectively in place; and
* Liaise with the relevant staff on an as-needed basis.

### Site Engineer

The Site Engineer is responsible for execution and completion of the nominated works under his responsibility in accordance with the specified technical, quality, safety and environmental requirements, including but not limited to:

* Carry out Quality Assurance for all trades including preparation of ITPs.
* Input into the documentation and review of Technical Procedures, Safe Work Method Statements, Risk Analyses and Work Instructions of the nominated work under their responsibility.
* Implementation of the requirements of Technical and Safety/Environmental Procedures, Safe Work Method Statements and Work Instruction of the nominated work under their responsibility
* Execute the works in accordance with the program and achieve productivity requirements of the nominated work under their responsibility.
* Ensure that appropriate labour, material, plant and equipment required for the works are available and conform to the requirements of the contract and best practice of the nominated work under their responsibility.
* Identify and report product non-conformances and implement approved dispositions of the nominated work under their responsibility.
* Preparation of the Job Safety Analysis with employees of the nominated work under their responsibility.
* Report departures from scope of work.

### Subcontractor’s Construction Supervisor

The subcontractor’s construction supervisor’s roles and responsibilities include but are not limited to:

* Ensuring all staff have all relevant statutory and non-statutory licences that are necessary;
* Completing (and ensuring) all the subcontractor’s staff complete the induction and environmental awareness training including competency assessments;
* Effectively managing environmental issues associated with their work;
* Reporting any serious environmental incidents directly and promptly to the Site Manager;
* Reporting all communications with the community (including complaints and inquiries) and report the incident directly and promptly to the Site Manager;
* Reporting any serious injuries or accidents to personnel directly and promptly to the Site Manager and HSR;
* Coordinate all corrective action requests given by the Site Manager;
* Notify the Site Manager of forthcoming activities that may affect the community;
* Record all contact with the community;
* Report any environmental incidents, communication with the community and occupational health and safety issues to the Site Manager immediately; and
* Direct staff to install and maintain environmental management devices, where necessary.

### Work team

The Work Team is comprised of all personnel on site including Principal Contractor’s personnel, consultants, sub-consultants, contractors and subcontractors. The Work Team’s role includes:

* Completing the induction and environmental awareness training including competency assessment and maintenance of records;
* Recording (or seeking appropriate assistance to record) all contact with the community on an appropriate register;
* Reporting any environmental incidents, communication with the community and occupational health and safety issues to the Site Manager immediately;
* Site Manager will report all incidents etc. to the PM for consultation with the regulatory authorities, as appropriate; and
* Carrying out all directions from the Site Manager, including installing all environmental management devices.

## Communication

### Key Contacts

Key contacts associated with the construction works are identified in Table 3.1. Except in the case of emergency, the primary contact in the first instance should be the Site Managaer (Environment, Construction, Health and Safety and Community Liaison). Government and regulatory authorities should not be contacted under normal circumstances. Table 1.0 (below) provides an indication of the circumstances under which each contact should be contacted.

**Table 1.0 – Key Contacts for Construction Activities**

|  |  |  |  |
| --- | --- | --- | --- |
| **Agency** | | **Circumstances** | **Contact Details** |
| Ambulance  Fire  Police | All emergency situations | | 000 |
| Project Manager (PM)  Name | Overall Project Control, environmental and contractual issues. Project related incidents, complaints etc | | PM’s Phone No |
| Health and Safety Representative (HSR)  Name | Incidents/Accidents etc | |  |
| First Aid Officer  Name | First Aid injuries | | First Aid Officer’s’s Phone No |
| Site Manager (SM)  Name | Suspected pollution/environmental incident and construction related incident etc. | | SM’s Phone No |
| Contracts Administrator (CA)  Name | Contracts Administration | | CA’s Phone No |

### Community Consultation and Communication

Communication with the adjoining properties and neighbouring workers shall be undertaken on an on-going basis, in advance of activities that may be considered as potentially affecting amenity (such as excessively noisy, dusty or traffic generating activities).

Follow-up/closure communication will be undertaken following any complaints received from stakeholders and neighbours to ensure that the issues rose have been adequately resolved. This process is to be managed using form EMP-002 Complaints Register.

A sign at the construction area will advise stakeholders of:

* The requirement that unauthorised entry to the work site is prohibited;
* The name of the person in charge of the work site, a 24 hour telephone number(s) at which that person may be contacted during and outside working hours, postal addresses and …….. provided at the entrance to the site.
* Name of Principal Contractor.

# ENVIRONMENTAL IMPACTS AND RISKS

## Management Requirements

As considered necessary, the Principal Contractor will prepare a statement of environmental management measures. The statement will include their scope of works, a risk analysis and controls that will be put in place to mitigate deleterious environmental impacts of their activities that are consistent with the procedures of this EMP. All personnel working on site, including subcontractors will be required to undertake site induction and EMP training (Section 6.1).

The environmental action plans provided in Section 5 are to be referred to and used by sub-contractors in the preparation of the statement.

## Environmental Aspects & Impacts

Activities and processes associated with construction may have negative impact on the environment are summarised below which identifies the applicable environmental impacts associated with the works, outlines how these activities may impact on the environment and comments on the status of the site in relation to the environmental impact.

Specific control measures for activities that have significant environmental impact (Rating 1) are contained within the Action Plans in Section 5. Activities that have been identified as having an environmental impact rating of 2 or 3 are to be monitored to ensure that the risks associated with these activities are not increasing.

**Table 2.0 – Aspects & Impacts Register**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Sr.** | **Area** | **Aspect/s** | **Potential Impact/s** | **Impact Rating** | **Control Measures** | **Legal & Other Requirements** |
| 1 | Site Offices, Amenities and General Site Areas | Lighting / IT Equipment | * Use of energy * Use of natural resources | 2 | * Turn off the lights when not required. * Monitor electricity consumption. * Periodic maintenance. * Use of CFL and low voltage fittings where possible. * Turn all IT equipment to energy saver mode. * Periodic maintenance. | Nil |
| Printing | * Use of natural resources/paper * Use of energy * Waste & by-products | 2 | * Turn all printers into energy saver mode. * Avoid printing by screen reading. * Encourage/default double sided printing. * Encourage grey scale printing. * Recycle waste paper. * Recycle printer cartridges. * Periodic maintenance. * Procure green star rating printers. | Nil |
| HVAC | * Emissions to air * Use of energy * Use of natural resources | 2 | * Periodic maintenance. * Set temperature to 22°C. * Individual controls for low use areas like meeting rooms. | Nil |
| Waste | * Waste and by-products * Emissions to land * Emissions to water | 2 | * Avoid waste by buying bulk packaging. * Reuse waste where possible like scrap paper. * Segregate recyclable and general office waste. * Monitor waste disposal. | Nil |
| Appliances | * Use of natural resources * Use of energy * Emissions to air | 2 | * Periodic maintenance. * Procure at least 4 star rated appliances. * Recycle e-waste. | Nil |
| Emergency | * Emissions to air * Emissions to land * Emissions to water | 2 | * Periodic maintenance of emergency equipment. * Dispose of any contained spill / leaks as per MSDS. | Nil |
| Water usage | * Use of natural resources | 2 | * Minimize water usage. * Use water saving taps. * Fix drips and leaks. | Nil |
| Cleaning chemicals | * Waste and by-products * Emissions to land * Emissions to water | 2 | * Minimize usage. * Procure eco-friendly chemicals. * Disposal of left-over chemicals, contained spill / leaks & empty containers as per MSDS. | Nil |
| Travel | * Use of natural resources and fossil fuels * Emissions to air | 2 | * Limit travel by use of communication technology. * Use of alternate means of transport where possible. * Buy carbon credits as part of travel bookings. * Use of small engine size / hybrid hire cars. | Nil |
| Minor site purchases | * Emissions to air * Emissions to land * Emissions to water | 2 | * Procure “green” products where possible. * Buy from local suppliers where possible. * Buy bulk packaging | Nil |
| 2 | Construction Activities | Removal of vegetation/soil disturbance | * Loss of biodiversity * Soil erosion | 1 | * Implement requirements of Erosion and Sediment Control Plan. * Periodic site inspections. * Remove vegetation that is utmost necessary for the construction activities. | Airports (Environmental Protection) Regulations 1987 |
| Excavation -  Acid Sulphate Soils and  Unsuitable / Contaminated soils | * Emissions to land * Emissions to water * Odour * Emissions to air * Complaints / legal breach | 1 | * Develop and implement Remediation Works Plan & Air Quality Management Plan when contamination is found. * Implement complaints procedure | Airports (Environmental Protection) Regulations 1987 POEO Act 1997 |
| Excavation & Demolition - General | * Emissions to air - dust * Noise * Vibration * Complaints / legal breach * In-ground utilities and services | 1 | * Work in accordance with DA conditions. * Implement complaints procedure * Undertake Dial Before You Dig survey and permit to excavate. | Airports (Environmental Protection) Regulations 1987  POEO Act 1997 |
| Use of construction equipment | * Emissions to air – dust and carbon emission * Noise * Vibration * Use of natural resources / fossil fuels * Spills & leaks | 1 | * Minimize use * Maintain adequate spill kits on site * Use of residential class mufflers * Avoid idle running * Conduct periodic maintenance * Implement dust control measures like speed limits, water spray, etc. | Airports (Environmental Protection) Regulations 1987 POEO Act 1997 |
| Use of construction vehicles | * Disruption to local traffic * Noise * Emissions to air – dust and carbon emission * Spills & Leaks | 1 | * Minimize use * Implement requirements of Traffic Control Plan * The covering of loads and the installation of “shake down” pads will ensure no materials are left on public roads. * Maintain adequate spill kits on site. * Maintain road worthiness * Conduct periodic maintenance * Avoid idle running | Airports (Environmental Protection) Regulations 1987  POEO Act 1997;  Road Transport (General) Act 2005 |
| Water Usage | * Use of natural resources * Run-off of polluted water into storm water system. | 1 | * Minimize use * Use recycled water for construction activities where possible. * Disposal of polluted water in accordance with statutory requirements. | Airports (Environmental Protection) Regulations 1987 |
| Use of construction chemicals | * Spills and leaks * Emissions to air * Emissions to water * Emissions to land | 1 | * Minimize use * Store in bunded containers * Follow MSDS requirements * Minimize stock | POEO Act 1997;  Environmental Hazardous Chemical Act 1985 |
| Construction Waste | * Waste and by-products * Emissions to land * Emissions to water | 1 | * Avoid waste by buying bulk packaging and required quantities. * Reuse waste where possible. * Segregate recyclable and general construction waste. * Monitor waste disposal. * Monitor construction water quality before discharge/disposal. | POEO Act 1997;  Water Management Act 2000 |
| Site Hoarding | * Visual Impact | 1 | * Ensure site hoarding is constructed in accordance with DA conditions. * Ensure graffiti and damage to site hoarding is promptly rectified. |  |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **Consequence** | | | | | |
| Disaster | Very Serious | Serious | Substantial | | Minor |
| **Likelihood** | Almost certain | 1 | 1 | 1 | 2 | | 2 |
| Likely | 1 | 1 | 2 | 2 | | 2 |
| Possible | 1 | 2 | 2 | 2 | | 3 |
| Remotely possible | 2 | 2 | 2 | 3 | | 3 |
| **Likelihood / consequence** | | | | | | **Risk Class** | |
| The hazard has the potential to:   * Permanently disable or kill * Cause major damage to the structure * Have significant impact on the surrounding population and environment | | | | | | **1** | |
| The hazard has the potential to:   * Temporarily disable or seriously injure * Cause minor damage to the structure * Breach the site boundary and pollute local environment | | | | | | **2** | |
| The hazard has the potential to:   * Cause minor injury * Be contained within the site boundary | | | | | | **3** | |

The environmental impacts with a rating of 1 or those having any legal or other requirements associated with it are considered as “significant”. The ratings shall be based on the control and influence CIP can have on the environmental impact.

The aspects and impacts are to be reviewed at least quarterly or when changes in construction activities which are likely to change the environmental risk profile or impacts.

# ENVIRONMENTAL ACTION PLANS AND MONITORING REQUIREMENTS

This section of the plan includes the action plans for each environmental aspect that may be impacted upon from the construction works. The action plans set out the environmental monitoring and management tasks that need to be undertaken during the works. Details regarding the location and frequency of monitoring and auditing are specified. Each action plan specifies the monitoring required to assess the effectiveness of environmental controls and who is responsible for each action. Monitoring requirements also includes the periodic inspections of the emergency response measures to ensure that these are maintained in operative conditions at all times.

Records of monitoring and site inspections are maintained as part of IMS records.

It is essential that prior to the commencement of the construction works, the site personnel and subcontractors are made aware of their environmental management responsibilities associated with their designated tasks. CIP ensures that all personnel working for and on behalf of CIP are inducted into the project environmental requirements including this EMP and any associated management plans and documents. Re-training is conducted when changes to the site environmental conditions occur.

Records of project induction are maintained as part of IMS records.

## General Site Issues

(This includes Authority requirements, monitoring of environmental performance, and actions to address impacts as outline in section 5.4 of this EMP.)

|  |  |
| --- | --- |
| Strategy: | To ensure all management procedures operate effectively. |
| Performance Target: | All personnel are trained.  All Registers and Reporting processes are in place and maintained.  Construction works aim for continual improvement. |
| Legislation, Guidelines, References: | Environmental Protection Act 1994  Environmental Protection Regulations 1998  And all associated Legislations  Complaints Register EMP-002  Site Environmental Control Checklist |

*Check the contents of this table*

**Table 3.0 – General Site Issues**

|  |  |  |  |
| --- | --- | --- | --- |
| **Environmental Management Requirement** | **Responsibility** | **Timing/Frequency** | **Reference/Notes** |
| Ensure that all Subcontractors are aware of this EMP. | SM | Pre-Construction | PMP |
| Ensure that this EMP forms part of any subcontract document. | CA | Pre-Construction | PMP |
| Ensure EMP, checklists, registers and Work Instructions are available to all personnel and documentation is maintained as outlined in the PMP and Section 9 of this EMP. | PM | Pre-Construction | PMP and Section 9 of EMP |
| Ensure all approvals and licenses are obtained. | SM | Pre-Construction | Section 2 of the PMP |
| Conduct a site induction including site environmental training for all personnel involved in the construction works to orientate them to the work areas and to explain the requirements of the EMP. Environmental training is to include all aspects detailed in Section 5.12 of this EMP. | SM | Pre-Construction, or during construction for new personnel | Induction and Training Register Section 5.12 of this EMP |
| Conduct an initial site inspection to ensure environmental controls are established on-site in accordance with site checklists. | SM | Pre-Construction | Section 8.2 of this EMP |
| Construction activities associated with the works, including the delivery of materials to and from the site, are to be within the hours of 7.00 am to 6:00 pm from Monday to Fridays, 6.00 am to 1.00 pm Saturdays. All work will occur within these stipulated times. | SM | Daily throughout entire construction period | Section 2.4 of this EMP |
| Review the EMP and amend where necessary. | PM / HSR | As necessary | Section 10.2 of this EMP |
| **Inspections and Audits** | | | |
| Inspect environmental controls and repair as necessary. | SM | Daily and/or after rain | Section 8.2 of this EMP |
| Monitor the implementation of all environmental management control procedures, check compliance with requirements and take remedial action where necessary. | SM | To be established | Site Checklist |
| Ensure all Registers are maintained accurately. | SM | Daily | Site Checklist |
| **Incidents and Accidents** | | | |
| Report any oil or chemical spills or accidents on-site that are likely to cause environmental pollution or health and safety issues. Document incident. | SM | Immediately on incident | Section 5 of PMP |
| Following any spillage or incident the SM will ensure the appropriate contractor is responsible for the clean-up. Any clean-up will be documented in accordance with Section 9 of this EMP and the PMP. Any contaminated material or waste required to be removed off-site will be sent to an appropriately licensed landfill. | SM | Immediately on incident | Section 5 and 7 of PMP |
| Notify the SM immediately of any incidents breaching the EMP or legislative provisions. | Work Team | Immediately on incident | Section 5 of PMP |
| Notify the relevant authority immediately of any incidents breaching legislative provisions. | PM | Immediately on incident | Section 8 of this EMP |
| Document any complaints, inquiries or contact with stakeholders. | PM | As per incident/complaint | Section 8 of this EMP |
| Respond to all complainants. | SM or PM | As soon as practicable | Complaints Register |
| Issue a Non-conformance/Corrective Action Report when:   * A complaint is received regarding any pollution or other environmental impact caused by the project; and * A departure from approved or agreed procedures is observed. | SM | When required | Section 8.3 of this EMP |

## Waste Action Plan

**Strategy:** That development and ongoing management reduce waste generation and maximise appropriate use of recycled or recyclable materials.

**Performance Target:** Evaluate options for utilising recycled and recyclable materials. Consider waste generation during construction activities.

**Compliance with all applicable environmental legislation and guidelines**

*Check the contents of this table*

**Table 4.0 – Waste Action Plan**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Environmental Management Requirement** | | **Responsibility** | **Timing/Frequency** | | **Reference/Notes** |
| Incorporate into contracts where possible, requirements for the procurement of materials to have high recycled or recyclable content. | | CA | Pre-tender | | Contract documents |
| As possible, ensure the Subcontractor’s methods include practices which minimise the generation of waste, maximise recycling opportunities and re-use waste materials (eg. order the right quantity, reuse from work). | | PM & CA | Pre-construction | | Contract documents |
| Ensure that facilities for the collection, transfer and disposal of all identified waste streams are in place. | | SM | Pre-construction | | Section 3 of PMP |
| **During Construction** | | | | | |
| Construction waste to be disposed off-site (if any) to be classified in accordance with Environmental Guidelines: Assessment, Classification and Management of Liquid and Non-liquid wastes, to the NSW EPA and to be disposed of to a facility that may lawfully accept the waste. | SM | | | Throughout construction | Section 3 of PMP |
| All recyclable waste streams identified from construction to ensure materials are reuse and or recycled where practicable. | SM | | | Throughout construction | Waste contractors monthly recycling report |
| Waste containers/skips must not be located on a public road or road related area (footpath, nature strip, shoulder, road reserve, public car park, etc.) | SM | | | Throughout construction |  |
| Ensure bins are serviced regularly to ensure the area remains tidy. | SM | | | Throughout construction |  |
| Dispose of any waste that cannot be reused or recycled at a landfill licensed by the NSW EPA to accept that type of waste. | SM | | | As required |  |
| Construction employees and subcontractors will be encourage to minimise domestic waste production and reuse/recycle where possible. | SM | | | As required |  |
| Ensure the site is maintained in a clean and tidy condition. | SM | | | Throughout construction |  |
| **Post Construction** | | | | | |
| Clean and remove rubbish from the site working areas. | SM | | | Throughout construction |  |
| **Monitoring requirements** |  | | |  |  |
| Waste dockets to be provided and kept on site for construction waste (not including domestic waste) is collected and transported to landfill. | SM | | | As needed | Section 3 of PMP |
| Visual inspection of bins and other waste disposal areas. | SM | | | Daily |  |

## Traffic and Access Action Plan

|  |  |
| --- | --- |
| **Strategy:** | To minimise disruption to roads and road users. |
| **Performance Target:** | Minimise traffic congestion  Allow safe access along roads for all users  Compliance to Project Specific Traffic management Plan |
| **Legislation, Guidelines, References:** | Environmental Protection Act 1994  Environmental Protection Regulations 1998  And all associated Legislations  Project Specific Traffic Management Plan  Complaints Register EMP-002  Site Environmental Control Checklist |

*Check the contents of this table*

**Table 5.0 – Traffic/Access Action Plan**

|  |  |  |  |
| --- | --- | --- | --- |
| **Environmental Management Requirement** | **Responsibility** | **Timing/Frequency** | **Reference/Notes** |
| Parking for all construction staff and personnel is to be contained on-site within designated areas. | SM & Subcontractors | Pre-construction | Section 2 PMP |
| All construction traffic is to enter/exit the construction site via the site main access way. | SM & Subcontractors | Throughout construction period | TMP |
| Identify and use a primary transportation route for construction trucks. | SM & Subcontractors | Throughout the entire construction period | TMP |
| Drivers will notify the Site Manager of major changes to the transportation route. | SM & Subcontractors | As required | Revise TMP |
| Ensure trucks are correctly sized and fully loaded (not overloaded) so that the volume of each delivery is maximised and the number of trips is therefore minimised. | SM & Subcontractors | Throughout the entire construction period |  |
| Consult with Council and DMR as necessary to identify periods when major road works or traffic re-developments in designated routes are occurring. | SM | Throughout the entire construction period |  |
| Use communication systems (such as CB radios, mobile phones) as necessary to manage the flow of truck movements to site. | SM & Subcontractors | Throughout the entire construction period |  |
| **Post Construction** | | | |
| All roads damaged by construction activities must be rehabilitated – i.e. re-seal or fill in holes and ditches etc that the construction equipment has caused. | SM | As needed and on completion of the project, as required |  |
| **Monitoring Requirements** |  |  |  |
| Visual inspections to be undertaken of the condition of accesses to the site, parking areas, access roads, and compliance with vehicle speeds at construction site | SM | Throughout construction | Section 2 PMP |

## Hazards and Risk Action Plan

|  |  |
| --- | --- |
| **Strategy:** | That measure is taken to minimise hazards and risks. |
| **Performance Target:** | Zero environmental accidents or incidents |
| **Legislation, Guidelines, References:** | Environmental Protection Act 1994  Environmental Protection Regulations 1998  And all associated Legislations |

NOTE: This Action Plan relates to environmental hazards and risks only. Occupational, Health and Safety hazards and risks are addressed in the Occupational Health and Safety Plan and will be incorporated into the subcontractors Safe Work Method Statements and Job Safety Analysis.

*Check the contents of this table*

**Table 6.0 – Hazards and Risk Action Plan**

|  |  |  |  |
| --- | --- | --- | --- |
| **Environmental Management Requirement** | **Responsibility** | **Timing /Frequency** | **Reference/Notes** |
| Prepare a construction safety management plan that will identify the potential risks presented to non-construction workers and present strategies to minimise these risks. | HSR | Pre-construction | Section 5 of PMP |
| **During Construction** | | | |
| Ensure the subcontractor takes measures to include spill containment procedures and appropriate storage and control of chemical facilities (include locations on the site layout plans). | SM | During construction | Section 6 of PMP |
| Any imported fill must be validated in accordance with Council’s Contaminated Lands Policy and NSW EPA requirements. | Specialist Consultant | Prior to importing fill | Council Policies, EPA guidelines |
| Minimise the amount of chemicals, oil and fuel stored temporarily on site as part of construction activities works and ensure substances are stored and used in appropriately contained areas. Refuel vehicles using mini-tankers (thereby eliminating onsite fuel storage). | SM | Throughout construction | Project safety plan |
| Incident Management Procedures identified in Section 8 are to be followed at all times. | SM | Throughout construction | Section 8 of this EMP |
| To manage risks associated with trip hazards, overhead hazards and other potential dangers surrounding the site:   * Fully fence the site and ensure all materials are contained within it, * Provide signage that advises of the works and alternative access arrangements around the area; and * Provide separate visitor access to the site that avoids construction areas. | HSR & SM | Throughout construction | Section 5 of PMP |

## Air Quality Action Plan

|  |  |
| --- | --- |
| **Objective:** | To have no change to the existing air quality |
| **Strategy:** | Minimise dust  Control dust generated from demolition and removal of existing structures  Minimise impact of exhaust emissions  Monitor dust generation |
| **Performance Target:** | No dust and particulate matter generated at the site boundary |
| **Legislation, Guidelines, References:** | Environmental Protection Act 1994  Environmental Protection Regulations 1998  And all associated Legislations  Complaints Register EMP-002  Site Environmental Control Checklist |

*Check the contents of this table*

**Table 7.0 – Air Quality Action Plan**

|  |  |  |  |
| --- | --- | --- | --- |
| **Environmental Management Requirement** | **Responsibility** | **Timing/Frequency** | **Reference /Notes** |
| **During Construction** | | | |
| Ensure dust suppression resources are provided on-site (i.e. water carts). | SM | Pre-construction |  |
| Ensure trafficable areas are clearly defined and stabilised and the on-site speed limit is adhered to. | SM | Throughout construction |  |
| Maintain construction equipment including trucks and vehicles, to reduce exhaust emissions. | SM & Subcontractors | When required |  |
| Control any dust generated from the demolition and removal of existing buildings and structures. | SM | Throughout construction |  |
| Keep dust-generating activities to a minimum during dry and windy conditions. Cease all works that have the potential to generate dust in excessively windy conditions and/or use fine mist sprays to suppress the dust. | SM | When required |  |
| Keep large, unprotected areas moist during windy weather. If water is insufficient, soil binders and/or dust retardants may be used | SM | During construction |  |
| Load and cover trucks and ensure the tailgates of all trucks transporting spoil from site are securely fixed prior to loading and immediately after unloading. | SM & Subcontractors | During construction |  |
| Ensure there is no burning of waste material on site. | SM | Throughout construction |  |
| Minimise diesel pollutant impacts on surrounding land uses by:   * Turning off diesel combustion engines on construction equipment not in active use and on dump trucks that are idling while waiting to load or unload material; and * Ensuring vehicles are well maintained. | SM & Subcontractors | Throughout construction |  |
| **Post Construction** | | | |
| Stabilise soils as soon as practicable after disturbance to prevent dust generation. | SM | As soon as practicable |  |
| Progressively rehabilitate all disturbed areas to their original condition as soon as possible to prevent dust generation. | SM | As soon as practicable |  |
| **Monitoring Requirements** | | | |
| Visually inspect the site on a regular basis to check for the deposition of dust. Where a significant accumulation of dust is determined, review practices in this area. | SM | Daily |  |
| Install dust monitoring gauges and analyse monthly. | SM & Specialist consultant | Monthly | Dust Monitoring Methodology Document |

## Noise and Vibration

|  |  |
| --- | --- |
| **Objective:** | The impact of construction noise on surrounding land uses is minimised. |
| **Strategies:** | Keep construction noise levels within community accepted levels  Comply with EPA guidelines for construction and traffic noise  Ensure construction equipment has adequate noise prevention safeguards and is maintained in good working condition |
| **Performance Target:** | No complaints relating to noise arising from construction activities. |
| **Legislation, Guidelines, References:** | Environmental Protection Act 1994  Environmental Protection Regulations 1998  And all associated Legislations  Complaints Register EMP-002  Site Environmental Control Checklist |

*Check the contents of this table*

**Table 8.0 – Noise and Vibration Action Plan**

|  |  |  |  |
| --- | --- | --- | --- |
| **Environmental Management Requirement** | **Responsibility** | **Timing/Frequency** | **Reference/Notes** |
| **Pre-Construction** | | | |
| Ensure all equipment (excavators, backhoes, cranes, trucks etc.) have adequate noise prevention safeguards such as residential class mufflers, acoustic enclosures for any diesel generators and/or air compressors as necessary. | SM & Subcontractors | Pre-Construction |  |
| Provide mechanism to ensure that any complaints arising from noisy activities are addressed. | PM & SM | Pre-construction | Section 8.3 of this EMP |
| Ensure that the technical specifications for all subcontractors plant and equipment are written to incorporate consideration of noise mitigating procedures. | SM & CA | Pre-construction |  |
| **During Construction** | | | |
| The hours for construction activities associated with the works, including the delivery of materials to and from the site are between 6.00am and 6.30pm, Monday to Saturdays. No work is to be carried out on Sundays or on public holidays. | PM | Throughout construction | * Section 2.4 of this EMP * Project DA |
| Establish and ensure regular use of effective communication with relevant stakeholders. Surrounding occupiers to be notified of the schedule of construction works and given forewarning for especially noisy activities. | PM & SM | As necessary |  |
| In the event of a noise complaint, implement the complaint procedures detailed in Section 5.6. | PM & SM | Immediately on incident |  |
| Instruct subcontractors and other personnel to maintain vehicles and equipment to ensure manufacturers noise control equipment remain intact and any squeaks and rattles on dump truck bodies and excavator tracks are minimised. | SM & Subcontractors | As necessary |  |
| Maintain truck routes on the site in good condition and ensure trucks remain on designated internal routes. Maintain low speeds. | SM & Subcontractors | Throughout construction |  |
| Ensure there is no ‘warming up’ of plant and machinery outside the construction site. | SM & Subcontractors | Throughout construction |  |
| Maintain low speeds at the construction site to minimise engine noise and chassis rumble. | SM & Subcontractors | Throughout construction |  |
| Where possible, locate construction equipment in a position that provides the most acoustic shielding from surrounding land uses. | SM & Subcontractors | When required |  |
| Ensure trucks are fully loaded so that the volume of each delivery is maximised and the number of trips is therefore minimised. | SM & Subcontractors | Throughout construction |  |
| Minimise rock breaker use where possible. Ripping using a larger excavator or dozer is preferred, if possible, to longer periods of hammering with a smaller machine. | SM & Subcontractors | Throughout construction |  |
| **Monitoring Requirements** | | | |
| Carry out noise compliance checks as necessary on all major equipment, such as drills and cranes to ensure the noise emission levels are generally within expected levels. Instruct subcontractors and other construction personnel to repair or remove noisy equipment from the site if noise levels are exceeded. | SM & Subcontractors | During construction |  |

## Erosion, Sedimentation and Water Quality

|  |  |
| --- | --- |
| **Objective:** | To protect the soil from erosion and sedimentation caused by construction works. |
| **Strategies:** | Minimise the amount of soil disturbance during construction.  Minimise potential risk of sediments entering waterways including soil erosion or chemical spillage |
| **Performance Target:** | No erosion of soils on-site and no sedimentation down slope of works.  Compliance to Erosion and Sediment Management Plan.  Compliance to draft Site Management Plan. |
| **Legislation, Guidelines, References:** | Protection of the Environment Operations Act, 1997  DLWC’s Urban Erosion and Sedimentation Handbook  NSW EPA’s Pollution Control for Urban Stormwater  Vegetation Management Plan for Lot 2, 26 Muir Rd, Chullora (Actinotus) |

*Check the contents of this table*

**Table 9.0 – Erosion and Sedimentation Action Plan**

|  |  |  |  |
| --- | --- | --- | --- |
| **Environmental Management Requirement** | **Responsibility** | **Timing/Frequency** | **Reference/Notes** |
| **Pre-Construction** | | | |
| Install Sedimentation Controls as per the Erosion and Sediment Control Plan | SM | Pre-Construction | Erosion and Sediment Control Plan |
| All boundaries are to be provided with siltation fencing:   * Protection of stormwater system (eg. sandbags on roads, sealed areas, around drains, geotextile silt/sediment fences on unsealed areas and hay bales on grassed areas). | SM | Pre-Construction and throughout construction | Erosion and Sediment Control Plan |
| **During Construction** | | | |
| Minimise the area of potential soil exposure. Ensure any area of potential soil exposure is kept to an absolute minimum, including all machinery parking sites. | SM | Throughout construction | Erosion and Sediment Control Plan |
| Divert runoff generated outside the work areas around the construction site and divert to sedimentation control. | SM | Throughout construction | Erosion and Sediment Control Plan |
| All construction vehicles exiting the site will depart via a wheel wash facility. | SM | Throughout construction | Erosion and Sediment Control Plan |
| Control vehicle and machinery movements to well defined compounds where possible. Access areas to be limited to a maximum width of 10m. | SM | Throughout construction | Erosion and Sediment Control Plan |
| Maintain all construction equipment and regularly inspect for leaks, fuels and oils. | SM & Subcontractors | During construction |  |
| **Post Construction** | | | |
| Stabilise soils as soon as practicable after disturbance. | SM | After disturbance | Erosion and Sediment Control Plan |
| Lands recently established with grass species must be watered regularly until effective cover has properly established. | SM | After grass planting | Erosion and Sediment Control Plan |
| Remove all temporary erosion and sedimentation control structures. | PM & SM |  | Erosion and Sediment Control Plan |
| **Monitoring Requirements** | | | |
| Discharges to the stormwater system from the sedimentation controls will be monitored for parameters identified according to DERM’s pollution control. | Civil / Stormwater Consultant | First discharge and then every three months | Erosion and Sediment Control Plan |
| Visually monitor water runoff for oils and grease after rainfall events (>10mm in 24hrs). If a sheen or oil film is present, prevent discharge to waterways and undertake water quality sampling and notify the PM. The monitoring will be completed in accordance to the checklists outlined in **Appendix A.** | Civil / Stormwater Consultant | During/after rainfall events | Erosion and Sediment Control Plan |
| Monitor rehabilitation to determine if rehabilitation has been effective. | PM & SM | As required |  |

## Contaminated Soils

|  |  |
| --- | --- |
| **Objective:** | To limit exposure to contaminated soils during construction works. |
| **Strategies:** | Minimise the amount of soil disturbance during construction.  Maintain overlying capping layers at all times.  Dispose any excavated soils appropriately.  Ensure imported soil materials meet clean fill requirements. |
| **Performance Target:** | Compliance to Erosion and Sediment Management Plan.  Compliance to draft Site Management Plan. |
| **Legislation, Guidelines, References:** | Environmental Protection Act 1994  Environmental Protection Regulations 1998  And all associated Legislations  Project specific erosion and sediment management plan  Draft Site Management Plan  Complaints Register EMP-002  Site Environmental Control Checklist  *Check the contents of this table* |

**Table 10.0 – Contaminated Soil Action Plan**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Environmental Management Requirement** | **Responsibility** | | **Timing/Frequency** | **Reference/Notes** |
| **During Construction** | | | | |
| Minimise the area of potential soil exposure. Ensure any area of potential soil exposure is kept to an absolute minimum, including all machinery parking sites. | | SM | Throughout construction | Erosion and Sediment Management Plan |
| Ensure capping layer is maintained at all times (where practical) to avoid exposure of underlying contaminated materials. The capping layer should comprise one of the following:   * a concrete slab (minimum thickness 100mm); * bitumen/asphalt paving on 150mm compacted roadbase; or * compacted low permeability soil to a minimum depth of 0.5m. | | SM | Throughout construction | Erosion and Sediment Management Plan |
| Off-site disposal of contaminated soil must be carried out in accordance with the conditions of a Disposal Permit, issued under Section 424 of the EP Act. Contaminated soil must not be removed off-site without a Disposal Permit. | | SM & specialist consultants | Throughout construction | Erosion and Sediment Management Plan |
| Any imported fill will be assessed/sampled (as appropriate) to demonstrate compliance with clean fill criteria. The source of all imported materials will be documented and assessed. Imported fill may be required to be sampled at a rate of 1 sample per 200m3 to confirm compliance with clean fill criteria. However, if imported fill is a quarry product or can be verified to be from a clean source, then sampling may not be required. | | SM & specialist consultants | Throughout construction | Erosion and Sediment Management Plan |
| If stockpiling of excavated soils is required, where possible, soil material is to be stockpiled on existing hardstand areas. If soil material is unable to be stockpiled on hardstand areas, validation testing will be required beneath the stockpile footprint following the removal of stockpiled materials. | | SM & specialist consultants | Throughout construction | Erosion and Sediment Management Plan |
| If during excavations on site, offensive or noxious odours and/or evidence of gross contamination not previously detected is identified, work must cease in this area of the site and specialist assistance sought to prevent environmental harm. Any remedial action should be developed by an appropriately qualified and experienced person in accordance with Section 381 of the EP Act. | | SM & specialist consultants | Throughout construction | Erosion and Sediment Management Plan |

## Flora and Fauna

|  |  |
| --- | --- |
| **Objectives:** | Tominimise impacts to flora and fauna. |
| **Strategies:** | Conduct activities within identified construction areas to minimise contact with any existing flora and fauna  Remove noxious weeds encountered throughout construction  Carry out appropriate rehabilitation and revegetation. |
| **Performance Target:** | No harm to sensitive areas or detrimental change to flora and fauna in vicinity of works. |
| **Legislation, Guidelines, References:** | Environmental Protection Act 1994  Environmental Protection Regulations 1998  And all associated Legislations  *Check the contents of this table* |

**Table 11.0 – Flora and Fauna Action Plan**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Environmental Management Requirement** | **Responsibility** | | **Timing/Frequency** | **Reference/Notes** |
| **Pre-Construction** | | | | |
| Trees required to be cleared from the site must first be checked for the presence of arboreal mammals or active nests (that is, containing fertile eggs or nestlings). Should observations identify the presence of these, the subject tree (s) should not be removed or pruned until animals nesting in them have completed their breeding cycle or arboreal mammals have been relocated. Fire ant inspection will be undertaken as necessary in accordance with the Queensland Government Department of Primary Industry guidelines. | SM | | Pre-Construction |  |
| **During Construction** | | | | |
| If, during the course of construction, personnel becomes aware of the presence of any sensitive fauna at or near the site, all work likely to affect the sensitive fauna is to immediately cease and the BCC consulted to determine an appropriate course of action prior to the recommencement of work at that site. | | SM | During construction |  |
| Any weed removal (if necessary) is to be undertaken in accordance with Council’s Noxious and Environmental Weeds Policy and using appropriate pesticides and herbicides handling procedures. | | SM | When required | Rehabilitation Plan |
| Weed debris and weed-contaminated debris is to be destroyed and disposed appropriately. | | SM | When required | Rehabilitation Plan |
| If any native fauna is found injured during construction, notify and obtain advice from WIRES immediately. Notify the SM. | | Work Team | When required |  |
| Undertake any planting or replacement of shrubs with locally native species as possible. | | SM & CA | When required | Rehabilitation Plan |
| **Monitoring Requirements** | |  |  |  |
| Visual inspections for sensitive flora and fauna to be undertaken on site and at site boundaries | | SM | When required |  |

## Groundwater

|  |  |
| --- | --- |
| **Objective:** | To ensure protection of groundwater.  To ensure surface waters are not polluted by contaminated groundwater. |
| **Strategies:** | Manage construction activities to avoid impacts on groundwater. |
| **Performance Target:** | No change to groundwater quality |

*Check the contents of this table*

**Table 12.0 – Groundwater Action Plan**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Environmental Management Requirement** | **Responsibility** | | **Timing/Frequency** | **Reference/Notes** | |
| **During Construction** | | | | | |
| Prevent excavation to depth where groundwater table is encountered. | | SM | During construction | |  |
| Although groundwater is not likely to be encountered, any de-watering should be undertaken in accordance with the requirements of DERM. | | PM | As required | |  |

## Utilities and Services

|  |  |
| --- | --- |
| **Objective:** | To avoid damage to any existing utilities and services. |
| **Strategies:** | Ensure measures are taken to avoid damage to existing utilities and services. |
| **Performance Target:** | No damage to existing utilities and services. |
| **Legislation, Guidelines, References:** | Dial-before-you-dig on 1100  Permit to Excavate SSMP-045 |

*Check the contents of this table*

**Table 13.0 – Utilities and Services Action Plan**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Environmental Management Requirement** | **Responsibility** | | **Timing/Frequency** | | **Reference/Notes** | |
| **Pre-Construction** | | | | | | |
| Ensure that services and utilities are identified using Site Drawings and the ‘Dial-before-you-dig on 1100’ service. Permit to Dig and services search process. | | PM | | Pre-construction | | Permit to Excavate  SSMP-045 |
| Identify any services potentially affected by construction activities in consultation with relevant authorities and determine requirements for diversion, protection and/or support. | | PM | | Pre-construction | | PMP |
| If utilities and/or services are identified, the Principal Contractor will consult with the relevant provider of the utilities identified and make arrangements to adjust and/or relocate their services as required. | | PM | | As required | | PMP |
| **During Construction** | | | | | | |
| Ensure no services are disrupted to the local community due to construction works. | | SM | | During construction | |  |
| In the event of damage to utilities or services cease works immediately and implement the Incident Management Plan, as required. | | SM | | During construction | |  |

## Easement Restrictions

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Objective:** | To avoid risk to health and safety of all construction workers within Endeavour Energy easements encompassing overhead transmission lines and Transgrid exclusion zone to the temporary power poles. | | | | |
| **Strategies:** | Ensure measures are taken to avoid any risk to the health and safety of all construction workers. | | | | |
| **Performance Target:** | No injuries to any person inside or near the electrical easement and exclusion zone. | | | | |
| **Legislation, Guidelines,** | Endeavour Energy’s Development Affecting Transmission Line Easement.    *Check the contents of this table*  **Table 14.0 – Utilities and Services Action Plan** | | | | |
| **Environmental Management Requirement** | | **Responsibility** | **Timing/Frequency** | | **Reference/Notes** |
| **Prior and during construction** | | | | | |
| Fully understand SWMS and Risk Assessment while working close or within the easement area and/or exclusion zone. | | Site team, Subcontractors | Prior construction | Ausgrid Energy Easement requirements, Site Work Health & Safety Plan. | |
| Overhead Power services to be surveyed. | | PM | Prior construction | Existing Services Survey | |
| Hazard identification and risk assments to be regularly carried out within easement area | | SM, WHS, PM, SE | Prior and during construction | Work Health & Safety Plan.  Site OH&S Plan | |
| Avoid unauthorized access into easement area and/or exclusion zone by issuing Permit to Enter on daily basis. | | WHS, SM | During construction | Work Health & Safety Plan.  Site OH&S Plan | |
| Avoid operating envelope of plant and equipment to encroach into easement area and/or exclusion zone. | | WHS, SM | During construction | Work Health & Safety Plan.  Site OH&S Plan | |
| Authorized Spotters located in working areas within easement area. | | SM, WHS | During donstruction | Work Health & Safety Plan.  Site OH&S Plan | |
| Easement area and exclusion zone to be fenced, sign posted and flagged. | | SM, WHS | Prior construction | Work Health & Safety Plan.  Site OH&S Plan. | |
| All subcontractors and site staff to be regularly updated/reminded about easement restrictions, risk assessments and SWMS. | | Site team, Subcontractors | During construction | Ausgrid Energy Easement requirements, Work Health & Safety Plan.  Site OH&S Plan | |

# INDUCTION AND TRAINING

## Initial Site Induction and Training

CIP is responsible for ensuring all personnel working on-site have received an initial site induction prior to each employee commencing work on site. Records of this induction will be maintained.

CIP’s construction supervisor is responsible for training all subcontractors’ employees in relation to this EMP and ensuring subcontractor’s personnel attend their induction training. Anyone found departing from the environmental requirements and breaching the controls on site will face strict disciplinary action and potential for permanent removal from the site.

## On-going Training

CIP and the subcontractor’s construction supervisor will be responsible for ensuring all personnel working on-site receive on-going training if construction activities/plan/schedule change or as the need arises.

# INCIDENT MANAGEMENT

An emergency and incident response plan has been prepared for the demolition and import/ preload phase of the project. The emergency and incident response plan includes the procedures to be followed during any incidents that can cause environmental damage.

Any incident likely to cause pollution of the site (such as an oil or chemical spill or accident) must be reported immediately to the SM. If the incident results in a breach of legislative provisions, then SM must inform the PM & HSR. The PM will contact relevant authorities (including the DERM) as required.

The DERM must be notified of incidents causing or threatening material harm to the environment as soon as practicable after a person/organisation becomes aware of the incident. The HSR, in his EM role, is responsible for notification to the DERM. Written details of the incident must be notified to the DERM within 7 days of the date on which the incident occurred, if requested by the DERM. Whilst all reporting will occur via the EM, subcontractors and other personnel are required to assist to the fullest extent possible in the notification and reporting of such incidents.

The DERM may make a written request for further details in relation to any of the above matters if it is not satisfied with the report provided by CIP. CIP will provide such further details to the DERM within the time specified in the request. Relevant personnel involved with the construction activities on site must be made aware of such requests and facilitate the attainment of these requirements.

Emergency scenarios for this project include the following:

* Chemical & Oil spills and leaks
* Fire
* Contamination
* Unexpected find
* Damage to heritage structure

Emergency contact numbers are provided in Table 1.0.

Incidents are recorded in the incident report and investigation, as necessary, is carried out to assess the root cause of incident to prevent its recurrence.

# CHECKING, CORRECTIVE ACTION AND REPORTING

## Training Records

**Section** 5.12of this EMP details the initial site induction and on-going environmental training that all personnel working on the construction will be required to undertake. The SM will ensure all employees working on-site have received initial site induction and environmental training. Records of all training undertaken at the construction site will be maintained by the SM. The SM will therefore be able to assess the competency of individuals in accordance with their roles and responsibilities.

## Site Environmental Inspections and Checklist

A site environmental checklist is a simple means for checking the day-to-day environmental controls at a site and recording the details in a manner that is available for inspection. It provides a series of items that can be quickly examined to provide an accurate indication of the effectiveness of safeguards contained in the EMP. An environmental checklist has been developed to cover environmental aspects and impacts identified in Section 4.2 and Section 5. The checklist will be revised as necessary to ensure that it is specific to the site and work to be undertaken.

Inspections will be undertaken by the project personnel. If any deficiency is detected it shall be fixed and a record is made of the corrective action taken. A timeline for corrective actions will be established dependent upon the nature of the action, however, the goal will be to ensure all corrective actions are closed out as soon as possible.

During periods of rainfall greater than 10mm per day, all work areas will be visited and the erosion control facilities inspected by the SM.

## Non-conformance, Corrective Action and Preventive Action

Corrective and preventive action, as appropriate, will be undertaken when non-conformances and incidents occur at the construction site. These will occur at times that include when:

* A complaint is received regarding any pollution or other environmental impact caused by construction site activities;
* A departure from approved or agreed procedures (i.e. performance targets specified in Section 5) is observed;
* A non-conformance is identified as a consequence of any self-assessment, formal audit or other environmental survey or inspection.

If the non-conformance is considered to breach legislative requirements, the SM will be responsible for notifying the PM who will be responsible for reporting any perceived breaches of legislative requirements to the appropriate regulatory authority as soon as possible.

Non-conformances will be analysed and investigated by the SM and/or PM to determine the cause of the non-conformance and to develop a corrective action to prevent recurrence. The SM and/or the PM will record all non-conformances and ensure that the corrective actions are undertaken as soon as possible. Refer to procedure for Nonconformity, Corrective Action and Preventive Action for more details.

## Auditing

CIP has implemented an internal audit regime for its offices and project sites. Audits are carried out to determine the compliance with the IMS, EMP and AS/NZS ISO 14001:2004.

The PM will arrange audits of the subcontractor’s activities as necessary to determine compliance with the EMP. The frequency of audits will be determined by the PM and the need for these audits will be reviewed throughout the duration of the project. Refer to procedure for Internal Audits for more details.

# CONTROL OF DOCUMENTS AND RECORDS

Distribution and control of this EMP and related documents is the responsibility of CIP’s Project Management Team. All project personnel shall be provided access to the correct revision of the EMP. A copy of these documents is also made available on E-site for reference purposes.

This EMP is considered to be a dynamic document, which will be reviewed at the regular PMT meetings and any amendments required will be made accordingly to reflect changes to the project conditions.

Changes to the EMP will be communicated to the appropriate level of responsibility through inductions, on-going training and the issue of revised documentation where necessary.

Records are maintained to demonstrate compliance with the requirements of this EMP, CoC, CIP IMS, etc. The records maintained for the project construction activities are available on site and E-site.

Refer to procedure for Control of Documents and Records for more details.

# MANAGEMENT REVIEW

## Environmental Management Review

The performance and effectiveness of the implementation of this EMP and related documents is reviewed at the regular PMT and client meetings. Participation from other project staff, specialist consultants, and stakeholders, as appropriate, will be included.

Following meetings are held on site where the performance of EMP is reviewed:

* Regular Project Team Meetings
* Monthly Project Control Group meetings/report

Records of these meetings are maintained in the form of minutes and the PMT is responsible to ensure that actions arising out of these meetings are taken in a timely manner.

CIP senior management also regularly reviews the performance of its Environmental Management System across the company as part of the IMS review. Records of these meetings are maintained in the form of minutes held in the Sydney office.

## Continual Improvement

Continual improvement of the EMP will be achieved by continually evaluating environmental management performance against environmental policies, objectives and targets for the purpose of identifying opportunities for improvement. The continual improvement process for the project has been designed to:

* Identify areas of opportunity for improvement of environmental management which leads to improved environmental performance;
* Determine the root cause or causes of non-conformances and deficiencies;
* Develop and implement a plan of corrective and preventative action to address root causes;
* Verify the effectiveness of the corrective and preventative actions;
* Document any changes in procedures resulting from process improvement;
* Make comparisons with objectives and targets.

Implementation of strategies/techniques to improve the environmental performance of the construction works is the responsibility of the PM. Actions and further opportunities for continual improvement will be discussed at Project Management Team Meetings as required.

# APPENDICES

Appendix A Environmental Check List

Appendix B Erosion and Sediment Management Plan

Appendix C Complaints Register

Appendix D Project Specific Traffic Management Plan

Appendix E Dust Monitoring Methodology (if applicable to your DA)

Appendix F Vegitation Management Plan (if applicable to your DA)

Appendix G Rehabilitation Plan (if applicable to your DA)

**DOCUMENT REVISON HISTORY**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Issue No** | **Date** | **Sec No** | **Brief Description of Change** | **Reason** | **Prepared By** | **Approved By** |
| 1.0 | Sep 12 | All sect | Initial setup | Set up of project | PM | CM |
| 2.0 | 8 August 2014 | Policy | Environmental Management Policy updated | Environmental Management Policy reviewed and revision updated. | KA | RB |
| General | Revision numbers updated accordingly. | To reflect above change. | KA | RB |
| 3.0 | Oct 2014 | All | Site Engineer added to section 3.  General maintenance/tidy. | RB felt this was important to be included in the EMP.  N/A | KA | RB |
| 4.0 | Jul 16 | All | Reformating | CIP Rebranding | KA | RB |
| 5.0 | Aug 16 | Intro. | Environmental Policy update | New Environmental policy issued. | KA | RB |