

# Construction Environment Management Plan

Guidance Material

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July 2013

## ABSTRACT

This CEMP guidance material has been prepared by MAC to assist the identification and management of environmental risks associated with construction work at Moorabbin Airport.

## Foreword

Proponents of developments on Moorabbin Airport are required to undertake an environmental risk assessment to identify potential environmental impacts associated with their construction works. Any potential environmental impacts identified by the risk assessment must be addressed within a Construction Environmental Management Plan (CEMP). The CEMP identifies the management measures that will be used to prevent or minimise the environmental risks associated with the construction works.

The CEMP is assessed by Moorabbin Airport Corporation (MAC) and the Airport Environment Officer (AEO) and, when approved, becomes the final CEMP. The proponent is required to implement the approved CEMP during the construction work.

This CEMP guidance material has been prepared by MAC to assist the identification and management of environmental risks associated with construction work at Moorabbin Airport.

The guide specifies the issues that must be addressed in the CEMP.

The proponent is responsible for ensuring:

- That the information provided in their CEMP is comprehensive and correct;
- The requirements of the final CEMP, as approved by MAC and the AEO, are communicated to all staff and sub-contractors working on the construction site; and
- All the management measures identified in the final CEMP are implemented.

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## Definitions

| Term          | Definition   |
|---------------|--|
| AEA           | Moorabbin Airport Environment Advisor responsible for the provision of environmental advice to MAC   |
| AEO           | Airport Environment Officer responsible for regulation of the Airports Act 1996 and the Airports (Environment Protection) Regulations 1997                 |
| CEMP          | Construction Environment Management Plan   |
| Final CEMP    | The Construction Environment Management Plan prepared by the proponent and approved by the Airport Environment Advisor and the Airport Environment Officer |
| MAC           | Moorabbin Airport Corporation  |
| The Proponent | The applicant of the development proposal and any person (or company) engaged by them to deliver a proposed project at Moorabbin Airport                   |

## Instructions for the Use of this Guidance Document

This CEMP guidance material has been prepared to help the Proponent to identify the principal environmental risks associated with construction work at Moorabbin Airport and specify the management measures they will use to manage those risks.

The sections in this document reflect the sections the CEMP should contain, while the *blue italicised text* within each section of this guide provides advice on the information that must be supplied within each section of the document.

**Tips** provide further suggestions that may be useful in the development of the CEMP.

**Notes** provide information of which the proponent should be aware.

## Construction Environment Management Plan

### Introduction

The purpose of the CEMP and the party that will be responsible for its implementation must be described.

*In this section identify:*

- *The purpose of the CEMP;*
- *The party that prepared the CEMP;*
- *The party that will be responsible for implementing and maintaining the CEMP, and*
- *The Proponent (if different from the above).*

## Project Details

### Project Description

This section provides a description of the proposed works.

*In this section provide:*

- *A detailed description of the proposed works;*
- *A summary works schedule, including an anticipated start and finish dates, and*
- *A site map*

**Tip:** The site map should show the location of the following site features, services and facilities as relevant, as well as the environmental control measures the proponent intends to use.

#### Site Features

- Drains (natural and stormwater) including outfall points
- Slope (show contour lines and direction of fall)

#### Site Facilities

- Buildings (existing and proposed)
- Drains
- Services (Electrical, telecom, gas)

#### Environmental Control Measures

- Sediment and Erosion Controls
- Vehicle Wash area (if proposed)
- Vehicle refuelling / equipment maintenance areas (if any)
- Chemical / Fuel store (if any)
- Soil stockpile area (if any)
- Waste Storage Area

### Legislative requirements

In this section identify the legislation that is applicable to the construction works. The key environmental legislation is listed below, but other legislation may be applicable and should be listed.

**Tip:** The environmental legislation applicable on airport includes but is not limited to;

- Airports Act 1996
- Airports (Environment Protection) Regulations 1997
- Moorabbin Airport Master Plan
- Moorabbin Airport Environment Strategy
- Environment Protection and Biodiversity Conservation Act 1999

Associated Guidelines and Codes of Practice, if any

Where construction works have impacts extending off the airport site, Victorian legislation and other requirements may apply, including the;

- Environment Protection Act 1970 and associated regulations and policies

## Responsibility

This section identifies the responsibility of parties associated with the construction works.

*In this section identify;*

- *All persons / parties associated with the proposed works;*
- *Their contact details (phone and email), and*
- *Their responsibility for implementation of this CEMP.*

**Tip:** Relevant persons / parties would include, but may not be limited to;

- The Project Proponent
- The Principal Contractor
- The Site Supervisor
- Construction Personnel
- Sub-Contractors
- MAC Airport Environment Advisor
- The Airport Environment Officer

The Moorabbin Airport Environment Advisor (AEA) can be contacted on 03 8587 8000. The AEA will maintain an active monitoring role in order to ensure the commitments made in the CEMP are implemented. The AEA will liaise with the Proponent as required in relation to aspects of compliance with the CEMP.

The Airport Environment Officer (AEO) can be contacted on 03 9338 5943. The AEO is responsible for regulatory oversight of the works and will maintain an active monitoring role to ensure that the commitments made in the CEMP are implemented.

**Note:** The Proponent may designate responsibility for development and implementation of the CEMP to the Principal Contractor and their sub-contractors however the Proponent remains responsible for ensuring compliance with the commitments made in the final CEMP.

## General Management Requirements

The CEMP must address the following matters.

### Environmental Awareness and Training

All personnel working on the proposed development should be aware of their environmental responsibilities including the commitments made in the CEMP.

*In this section specify*

- *The training the personnel working on the proposed development will receive in relation to their regulatory responsibilities and the commitments made in this CEMP, and*
- *The party responsible for ensuring all personnel receive the relevant environmental training.*

**Tip:** Training can take various forms including site induction, toolbox talks and worksite meetings.

### Environmental Management Records

Records that demonstrate the environmental commitments made in the CEMP are being addressed and which verify the status of those matters, must be maintained.

Records must be legible and readily able to be interpreted by a third party, and must be available on request at any time during construction works. A copy of all records must be provided to the AEA at completion of the project.

*In this section specify*

- *The records that will be maintained, and*
- *The person or party responsible for maintaining the environmental records.*

**Tip:** Records that must be kept include evidence that site induction has been completed, evidence that personnel have received training in their environmental responsibilities and the commitments made in the CEMP, site monitoring data, incident reports, complaint follow-up records, licences and permits, waste transfer receipts and fill validation receipts.

### Monitoring / Auditing

In order to demonstrate that the environmental obligations and commitments made in the CEMP are being met the proponent will need to undertake routine monitoring of the work site.

*In this section specify;*

- *The environmental matters that will be inspected and / or monitored;*
- *When those matters will be inspected and / or monitored;*
- *The frequency of any monitoring, and*
- *The person responsible for the monitoring.*

**Tip:** You may wish to prepare a checklist that can be used during the implementation of the project which details the environmental matters to be

monitored; the timing of monitoring (pre-commencement, during construction - at a particular phase, and post construction); the frequency an issue is be monitored (daily, weekly, before or following an event); and, the party responsible for the monitoring.

**Note:** The AEA and the AEO will monitor environmental performance during construction works - up to the point of practical completion. Monitoring will occur as often as necessary to ensure conformance with environmental obligations and the commitments made in the CEMP.

### Reporting

The proponent is required to provide a written report to the AEA.

*In this section specify:*

- *The matters that will be addressed in written reports to the AEA;*
- *The format the written reports will take (hard copy or electronic), and*
- *The proposed frequency of the reports.*

**Tip:** Reports should address the following matters;

- The results of site monitoring including any actions arising therefrom
- Non-conformances with the commitments of the CEMP and the corrective actions taken to address them
- A summary of any complaints received and the actions taken to address them
- A summary of any environmental incidents or emergencies and the response measures implemented to address them.

**Note:** Incident reports need to made promptly to the AEA.

### Complaint Handling

Any complaints received during the construction period must be logged and actioned. The AEA must be notified as soon as practical, but not more than 3 days thereafter, of the nature of the complaint and the action taken to resolve it.

*In this section specify:*

- *The manner in which complaints will be managed;*
- *The details that must be documented, and*
- *The person responsible for notifying the AEA of the complaint and its resolution.*

**Tip:** You may wish to prepare a complaint handling procedure and a template for documenting any complaints received and the actions taken to resolve them.

**Note:** The AEA will investigate to confirm that any complaints received have been satisfactorily resolved.

### Non Conformance with Targets

Any non-conformance with the targets specified in the final CEMP and the action taken to rectify them must be documented and reported to the AEA.

*In this section specify;*

- *How non-conformance with targets will be managed;*
- *The details that must be documented, and*
- *The person responsible for notifying the AEA of a non-conformance and the action taken to rectify it.*

**Tip:** You may wish to develop a procedure for managing non-conformances on site and a template for documenting the non-conformance and the action taken to address them.

**Note:** The AEA will investigate to confirm that non-conformances have been satisfactorily resolved.

### **Environmental Incidents and Emergencies**

Environmental Incidents and Emergencies must be reported to the MAC and the AEA as soon as practicable.

*In this section specify;*

- *A definition of what will constitute an environmental incident or emergency in association with the construction works;*
- *The manner in which environmental incidents and emergencies will be managed, and*
- *The person or persons responsible for managing environmental incidents and emergencies including notification of the matter to the AEA.*

**Note:** MAC will direct emergency response and / or provide assistance as required (i.e. If the matter impacts, or threatens to impact aviation areas and / or off-airport areas).

MAC will investigate all environmental incidents and emergencies to confirm they have been satisfactorily resolved.

### **License and Permits**

Relevant licences, permits and consents must be obtained before commencement of the works.

*In this section specify;*

- *The licences, permits and consents required to conduct the proposed works, and*
- *The persons responsible for ensuring all relevant licences, permits and consents are in place.*

**Tip:** Include any licences required by tradespersons conducting specialised works.

**Note:** All relevant licences, permits and consents must be available for inspection during the construction phase.

## Management of Environmental Risks

### Introduction

The primary purpose of the CEMP is to assess the environmental risks associated with the proposed works and develop management strategies to prevent and / or minimise these; this section is designed to help you with that process.

*To do this you will need to;*

- *Identify all potential environmental impacts associated with the proposed works;*
- *Assess the level of risk associated with each potential impact, and*
- *Develop management strategies to prevent and / or minimise the potential impacts.*

### Identification of potential environmental impact

In this section you identify the potential impacts associated with the construction work.

*In order to identify the potential environmental impact associated with the proposed works you will need to:*

- *List all the activities involved in carrying out the proposed works;*
- *Identify what aspect of the environment the activity could interact with, and*
- *Identify the potential impact that could occur if the activity isn't adequately managed.*

To help with this task an example of the potential impacts associated with a number of common construction activities is provided in Table 4.1.

**Note:** Because all construction works involve different activities that may interact with different aspects of the environment not all the impacts associated with your project will be identified in the attached table. You should prepare a table that lists all the activities associated with the works you propose to undertake and identify how these could interact with the environment. You can then identify what the potential impact on the environment would be if the activities are not adequately managed.

**Table 4.1 Environmental Aspects and Impacts associated with common construction activities**

| Activity        | Impact  | Likelihood | Consequence | Risk | Management Measure |
|-----------------|---|------------|-------------|------|--------------------|
| Site Management | Non-conformance with approved CEMP targets  |            |             |      |                    |
| Excavation      | Erosion of exposed surfaces   |            |             |      |                    |
|                 | Vehicles moving over exposed area track soil onto local roads                             |            |             |      |                    |
|                 | Wind moving over exposed areas causes erosion of exposed surfaces and raises dust         |            |             |      |                    |
|                 | Water moving over exposed surfaces causes erosion and sedimentation of drains and streams |            |             |      |                    |
|                 | Works within a water course causes sedimentation  |            |             |      |                    |
|                 | Removal of soil uncovers contaminated materials   |            |             |      |                    |
|                 | Removal of soil uncovers heritage item  |            |             |      |                    |

| Activity                          | Impact  | L | C | R | Management Measure |
|-----------------------------------|---|---|---|---|--------------------|
| Stockpiling Material              | Water movement over stockpiled material causes erosion and sedimentation of drains and streams  |   |   |   |                    |
|                                   | Wind movement over stockpiled material causes erosion and raises dust   |   |   |   |                    |
|                                   | Too high an angle of repose causes stockpile to collapse leading to increased erosion   |   |   |   |                    |
| Operation of equipment            | Poorly maintained equipment causes air emission that exceed air quality standards   |   |   |   |                    |
|                                   | Poorly maintained equipment or failure to fit recommended noise suppression equipment causes noise that exceed noise emission standards and disrupts neighbours       |   |   |   |                    |
|                                   | Operations outside designated work hours cause noise emissions that impact on neighbours  |   |   |   |                    |
| Washing Plant & Equipment on site | Inappropriate location of equipment wash areas and poor practices during washing, causes runoff containing pollutants (detergent, sediment) to enter drains & streams |   |   |   |                    |
| Refuelling equipment on site      | Inappropriate location of equipment refuelling activities and poor practices causes spills that contaminate soil, drains and streams as well as groundwater           |   |   |   |                    |

| Activity                             | Impact   | L | C | R | Management Measure |
|--------------------------------------|--|---|---|---|--------------------|
| Storing chemicals on site            | Inappropriate location of chemical stores, poorly stored chemicals and poor handling practices cause spills that contaminate soil, drains, streams and groundwater     |   |   |   |                    |
|                                      | MSDS not held on site lead to inappropriate handling, use or storage of chemicals causing spills that contaminate soil, drains, streams and groundwater.               |   |   |   |                    |
| Importing fill material              | Poor quality control during importation of fill material allows contaminated material to be imported to site causing a contaminated site                               |   |   |   |                    |
| Removal of excavated material        | Poor control of the method of disposal of excavated materials allows the materials to be illegally dumped or disposed to an inappropriate landfill                     |   |   |   |                    |
| Storage of wastes (solids & liquids) | Poorly located waste storage areas and / or poor practices when storing waste materials allows them to escape and litter surrounding land, drains and streams          |   |   |   |                    |
|                                      | Poorly stored food scraps attract birds and create an aviation hazard  |   |   |   |                    |
| Disposal of wastes                   | Poor control of waste disposal causes wastes to be illegally dumped or taken to an inappropriate waste disposal facility leading to contamination of land and streams. |   |   |   |                    |

## Establishment of environmental risk

Once you have identified the potential impacts with the construction works you must establish the level of risk associated with them.

*In order to establish the level of environmental risk associated with potential impacts that have been identified you need to determine:*

- *The likelihood that the potential impact will occur if the construction activity isn't managed appropriately;*
- *The environmental consequence if the impact were to occur, and*
- *Use the risk matrix below (Table 4.2) to establish the level of risk associated with each construction activity.*

**Table 4.2 Risk Matrix**

|            |                | Consequence   |        |          |         |              |
|------------|----------------|---------------|--------|----------|---------|--------------|
|            |                | Insignificant | Minor  | Moderate | Major   | Catastrophic |
| Likelihood | Almost certain | Low           | Medium | High     | Extreme | Extreme      |
|            | Likely         | Low           | Medium | Medium   | High    | Extreme      |
|            | Possible       | Low           | Medium | Medium   | Medium  | High         |
|            | Unlikely       | Low           | Low    | Medium   | Medium  | Medium       |
|            | Rare           | Low           | Low    | Low      | Low     | Low          |

### Likelihood Descriptor

|                |  |
|----------------|--|
| Rare           | The may only occur in exceptional circumstances      |
| Unlikely       | The event could occur at some time                   |
| Possible       | The event should be expected to occur at some time   |
| Likely         | The event will probably occur in most circumstances  |
| Almost certain | The event is expected to occur in most circumstances |

### Consequence

|         |   |
|---------|---|
| Extreme | Significant widespread damage, impacts on and off airport, effects permanent / long term duration, significant cost to repair |
| High    | Extensive damage, impacts on and off site, effects long / medium term duration, high / moderate cost to repair                |
| Medium  | Moderate damage, impacts mostly on site, effects medium / short term duration, moderate / low cost to repair                  |
| Low     | Discernable impacts on site only, effects short term duration, repairable at little or no cost.                               |

## Identification of environmental management measures

*In this section specify:*

- *The measures you will take to manage each identified risk;*
- *The person who will be responsible for implementing the management measures, and*

- *The person who will be responsible for monitoring the management measures to ensure that they are effective (This may be the same or a different person to the one who installed the measure).*

### Monitoring

When you have established the level of risk associated with each construction activity you must develop measures to eliminate, avoid or manage each risk. You must also specify the person who will be responsible for implementing and monitoring the proposed measures.

**Tip:** You can use the Management Measure column in Table 4.1 to specify the proposed management measures and monitoring requirements for each risk as well as the person(s) that will be responsible for their implementation.

**Note:** The measures and monitoring you adopt must be appropriate to the level of risk you have identified. You will be expected to implement all the measures you specify during the construction works.

### Environmental Incidents

Unforeseen events may lead to incidents causing environmental harm. Your CEMP must specify your response to such incidents.

*In this section specify:*

- *The parties that will be notified in the event an environmental incident causing environmental harm occurs, and*
- *The responses you propose in the event an environmental incident occurs.*

**Note:** Table 4.3 identifies minimum notification and response requirements considered appropriate to each risk level - You may identify more parties you need to notify in the event an environmental incident occurs on site.

**Table 4.3 Notification and Response requirements**

| Key     | Notification  | Response  |
|---------|---|---|
| Extreme | Notify MAC, AEO, EPA, AEA, and Site Manager immediately.                    | Take immediate action to manage issue. Determine and implement permanent measures to prevent future re-occurrence as soon as practicable. |
| High    | Notify MAC, AEO, AEA, and Site Manager immediately (within 1 hour).         | Take immediate temporary corrective actions to manage issue. Determine and implement permanent corrective actions within 48 hours.        |
| Medium  | Notify Manager immediately, AEO & AEA as soon as possible (within 24 hours) | Take immediate temporary corrective actions to manage the issue. Determine and implement permanent corrective actions within 7 days.      |
| Low     | Notify Manager, AEO & AEA as soon as practicable (within 7 days).           | Manager to take corrective action within a reasonable time frame.   |