Tillegra Dam

Planning and Environmental Assessment

Construction Environmental Management Plan Guide

WORKING PAPER

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Hunter Water

Document Control

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Aurecon came into existence in March 2009 through the merger of Connell Wagner Pty Ltd and two South African companies, Africon (Pty) Ltd and Ninham Shand (Pty) Ltd. This post-dated Hunter Water Corporation's engagement of Connell Wagner in July 2007 for professional services for the Tillegra Dam Planning and Environmental Assessment. All references to Connell Wagner in this report should be taken to now refer to Aurecon.

Contents

1 Introduction

1.1 Hunter Water policy context

Hunter Water Corporation (HWC) has developed an environmental management plan (EMP) that covers its entire operations *(Environmental Management Plan 2008-2013)*. The EMP states that environmental protection is a fundamental priority for the management of HWC's services. HWC aims to provide services that meet the needs of its customers in an efficient, reliable and environmentally sustainable manner.

Goal 2 of the Plan is a *Reliable supply of drinking water with minimal environmental impacts*. The following objective and associated action and target are of specific relevance to the Tillegra Dam project:

- Objective: Maintain long term security and sustainability of water use for our growing number of customers
- Action: As part of the planning for Tillegra Dam, develop construction and operational environmental plans that allow for the dam to be constructed and operated in a manner that minimises environmental impacts
- Target: Develop a construction environmental management plan before commencing the construction of the new dam.

1.2 Purpose of this document

The purpose of this document is to provide guidance to the successful construction contractor in the preparation of an effective construction EMP specifically for the Tillegra Dam project. This would facilitate achievement of the following outcomes:

- impacts on the environment are avoided or minimised and mitigated to the greatest extent practicable
- compliance with all relevant conditions attached to the Minister for Planning's approval for the Project
- compliance with applicable requirements of all other relevant legislation
- incorporation of relevant commitments from the Statement of Commitments (SOCs) provided in the EA Report
- a responsive and transparent approach to dealing with any adverse and/or unforseen environmental impacts

- involvement of key stakeholders and the community in the environmental management process
- effective documentation of environmental management outcomes for Project construction.

A secondary objective of this guide is to inform interested parties of how impacts would be managed during construction.

Responsibility for preparation of the construction would rest with the successful construction contractor and it would form part of the contract documentation for the Project. It should be noted, however, that if approved, the Project approval conditions would likely assign ultimate responsibility for preparation and implementation of the construction EMP to HWC.

This guide has been prepared with reference to the following NSW Government documents:

- *Guideline for the Preparation of Environmental Management Plans* (Department of Planning)
- *Environmental Management Systems Guidelines* (NSW Construction Policy Steering Committee).

This guide is not intended to replace these documents and it is expected that the construction contractor would make appropriate reference to them in developing the Project construction EMP.

A short list of other sources of information is provided as Appendix A.

2 Preparation of the Construction EMP

2.1 What is a construction EMP?

A construction EMP is a site, activity or project-specific Plan developed to provide a structured framework for the implementation of appropriate environmental management practices during construction of a project.

To be effective, the construction EMP for the Tillegra Dam project would need to provide for:

- application of best practice environmental management to the Project
- implementation of recommendations and mitigation measures identified in the Project EA Report including all applicable conditions of approval
- compliance with applicable environmental legislation
- demonstration of due diligence
- how, where and when mitigation measures would be implemented including responsibilities, required resources, etc
- effective management of identified and potential environmental risks
- achievement of applicable sustainability outcomes.

Consideration would also need to be given to achievement of applicable outcomes in HWC's *Environmental Management Plan 2008-2013*.

As construction progresses, the importance and relevance of individual management measures and strategies may change. Some may become less important as the risk associated with a specific environmental aspect reduces while others may be come more important as risks increase.

The construction EMP therefore needs to be treated as a 'living' document that focuses on continual improvement (refer Section 2.5), is regularly reviewed and revised as required.

2.2 What makes for a useful construction EMP?

The ultimate utility of the construction EMP will be determined by a number of factors including:

- the awareness of construction personnel with respect to its existence and their familiarity with its implementation
- clarity such that it can be understood at the tool box level, which can be greatly enhanced through conciseness of information and extensive use of suitable graphic material
- frequency of reference and use.

2.3 Who should be consulted?

The SOCs for the Project (provided in the EA Report) include consultation with certain stakeholders. Should the Project be approved, it is likely that the conditions attached to the approval would include the requirement to similarly undertake appropriate consultation with relevant stakeholders.

Using past approvals as a guide, this would typically include government agencies that have legislative responsibility for environmental protection such as the Department of Environment and Climate Change (DECC). Consultation with such agencies would generally be limited to matters for which the agency has a statutory responsibility to administer.

During the preparation of the construction EMP, all relevant authorities should be consulted as early as possible to facilitate a reasoned response, and to minimise the risk of delay to the construction program.

Should the Tillegra Dam Community Reference Group (TDCRG) still exist, it may need to be consulted. Broader community involvement may also be appropriate.

2.4 Approval

Using past approval conditions as guide, it is expected that it would be necessary to submit the construction EMP to the Department of Planning (DoP) for the Director-General's approval prior to the commencement of construction. The construction program should allow sufficient time for this activity, and it would be prudent to make allowance for revisions should they be required.

In its review of the construction EMP, the DoP is expected to consider factors such as:

- the adequacy of the response to all relevant conditions of approval
- how relevant commitments made in the EA Report have been addressed in the construction EMP
- protocols for consultation with relevant government agencies and whether there are any outstanding issues to be resolved
- the roles and responsibilities of personnel responsible for implementing the construction EMP (including subcontractors).

2.5 Review and revision

As indicated in Section 2.1, the construction EMP needs to be treated as a living document, and regularly reviewed and revised as necessary during the entire construction period.

The timing of reviews would depend on the development of the Project but would typically be undertaken:

- when there is a change in the Project scope
- following significant environmental incidents
- when there is need to improve performance in relation to managing impacts associated with a particular environmental aspect, such as where the level of risk changes (increases)
- following an environmental audit
- at the end of the construction to highlight matters that need to be taken forward into operation of the Project.

3 Contents of the Construction EMP

3.1 Construction EMP outline

The EMP should include information covering at least the four elements shown in Table 1. Each of these elements may have different end users and information provided should, as far as practicable, reflect the needs of these users.

TABLE 1 ELEMENTS TO BE COVERED IN THE CONSTRUCTION EMP

INFORMATION	END USER
BACKGROUND	
Aim/objectives of construction EMP Locality description – land uses, etc. Project description Environmental policy – HWC and contractor	All stakeholders – nternal and external Community groups DoP– approving authority
ENVIRONMENTAL MANAGEMENT	
Environmental management structure and responsibility Environmental requirements and obligations including approval and licensing requirements Reporting, documentation Environmental training Communications and complaints Emergency contacts and response	HWC management and supervisory staff DoP and other agencies Contractors staff Others as appropriate
IMPLEMENTATION	
Risk assessment Environmental management activities and controls Environmental management plans and/or maps Environmental schedules	HWC management and supervisory staff Construction staff and site staff Community groups Operations staff DoP
MONITORING AND REVIEW	
Risk assessment Environmental management activities and controls Environmental management plans and/or maps Environmental schedules	HWC management and supervisory staff Construction staff and site staff Community groups Operations staff DoP

Given the size of this project, it is likely that a number of documents or elements will make up the overall construction EMP for Tillegra Dam. Similarly, it is likely that the construction EMP for the Project may need to be broken down into specific construction sequences, project components (eg dam wall, relocation of Salisbury Road, pipeline construction, etc) given the emphasis on different issues and aspects of construction.

3.2 Structure of the construction EMP

Figure 1 illustrates the general elements that would likely comprise the EMP. These are described as follows.

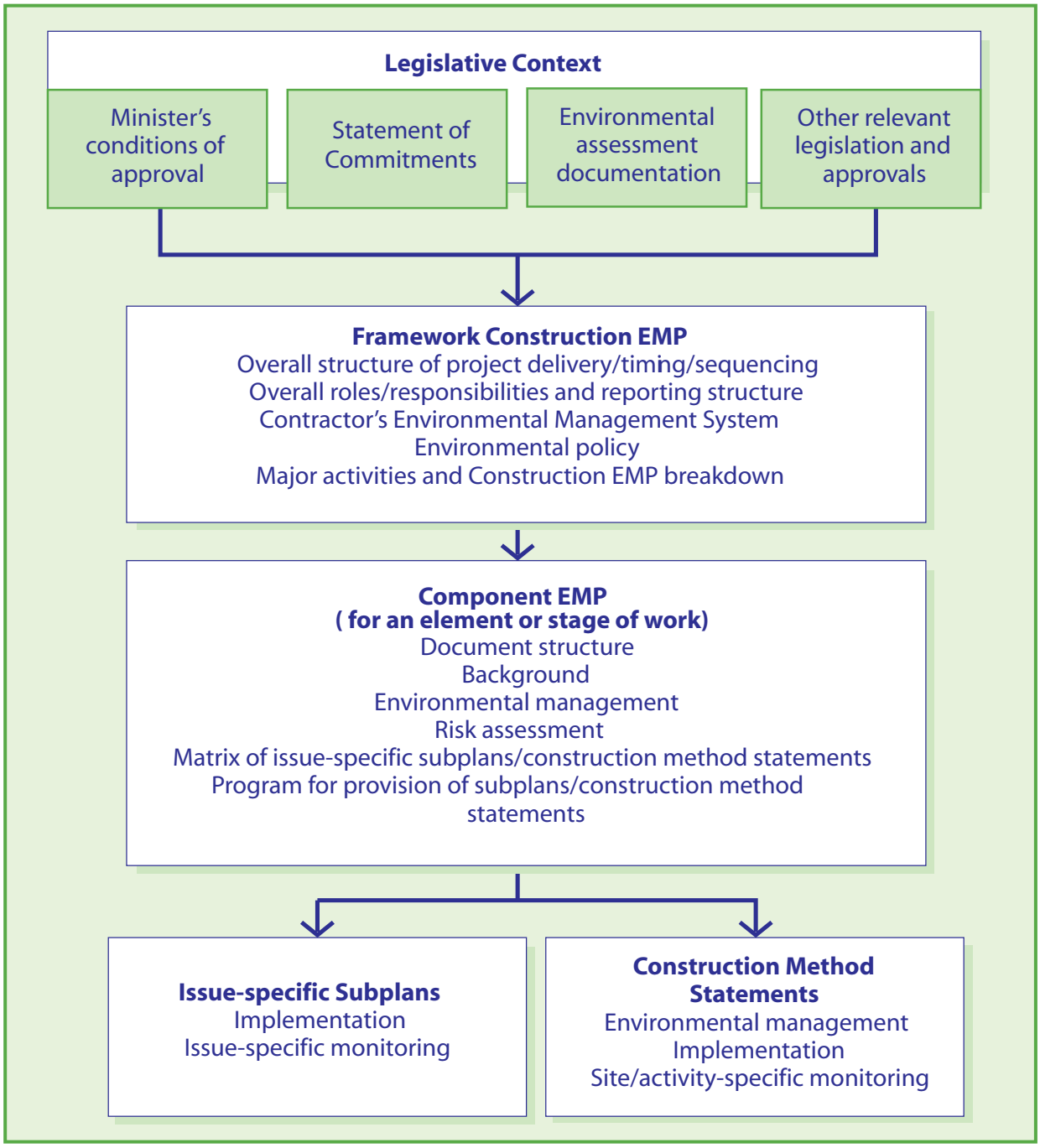


FIGURE 3.1 STRUCTURE OF THE CONSTRUCTION EMP

3.2.1 Legislative context

The intention of the legislative context for the EMP is to assist compliance with the conditions of approval, the ultimate objective being to avoid or minimise construction-related impacts on the environment to the greatest extent practicable. Requirements for the content of the EMP would accordingly be driven by:

- relevant conditions of approval
- relevant commitments from the SOCs
- the EA Report
- other licences/approvals required under other relevant legislation
- stakeholder input and involvement.

3.2.2 Framework construction EMP

The framework construction EMP would typically include:

- the contractor's environmental policy and relevant matters relating to their environmental management system (EMS)
- an outline of the construction sequencing for the entire Project including timing of key work elements
- reference and proposed timeframes for implementation of all component EMPs, construction method statements (CMSs) and subplans (refer Sections 3.2.3-3.2.5)
- definition of the roles, responsibilities, authorities, accountability and reporting of key personnel relevant to implementation of the construction EMP
- a matrix of subplans and CMSs required for construction of the Project, including an assessment of the predicted level of risk and potential level of public interest posed by each CMS and indicative timeframes for completion
- details of the community communication and consultation process.

3.2.3 Component EMPs

The construction EMP would be the primary environmental management document for the Project's construction. Its preparation and approval are typically prerequisites to construction. In this regard it is often more practical to prepare separate management plans for discrete components for a project of this scale and diversity (eg dam construction, road construction, pipeline construction, etc). The need or otherwise, for preparation of multiple component EMPs, would ultimately depend upon the work/contract packaging, staging and prioritisation.

While component EMPs would essentially draw on information provided in the framework construction EMP, they would be more focussed on a particular element and tailored accordingly.

3.2.4 Construction method statements

Construction method statements are prepared for specific activities associated with each of the key components. For example, CMSs would be typically prepared for site clearing and preparation, earthworks and stabilisation works, installation of structures etc.

The content of a CMS would typically include:

- a description of construction activities and processes associated with the relevant construction site(s), including staging and timing of the proposed works
- length (time) of construction
- specific hours of operation for all key elements including off-site movements
- specific environmental management objectives and strategies for the main environmental impacts associated with that activity (ie noise and vibration; air quality; flora and fauna, riparian management, water quality; erosion and sedimentation; access and traffic; property acquisition and/or adjustments; heritage and archaeology; groundwater; acid sulphate soils; spoil stockpiling and disposal; waste/resource management; weed management; flooding and stormwater control; geotechnical issues; visual screening, landscaping and rehabilitation; hazards and risks; energy use, resource use and recycling; and utilities).

The CMS would include relevant maps and plans, and would typically address the following:

- statutory and other obligations to fulfil during construction, including all approvals and consultations/agreements required from other authorities and stakeholders, and key legislation and policies which control the construction of the Project
- measures to avoid and/or control the occurrence of environmental impacts
- measures to provide positive environmental offsets to unavoidable environmental impacts
- definition of the role, responsibility, authority, accountability and reporting of personnel relevant to compliance with the CMS
- site-specific environmental management techniques and processes for all construction in respect of permanent and/or temporary works
- site-specific monitoring, inspection and test plans for all activities and environmental qualities which are important to the environmental management of the Project, including performance criteria, tests, and protocols (eg frequency and location)
- identification of affected residents and consultation/notification requirements
- location details of important elements such as temporary noise barriers, erosion and sediment controls, offices and amenities; truck, plant and materials storage; access locations, etc
- instructions for all complex environmental control processes which do not follow common practice or where the absence of such instructions could be potentially detrimental to the environment
- steps to be undertaken to monitor compliance with all issue-specific subplans
- safety and security measures
- consultation requirements with relevant government agencies
- community communication, consultation and notification strategy (including local community, businesses, relevant government agencies, and the relevant local authorities), and complaint handling procedures.

3.2.5 Issue-specific subplans

As implied, subplans relate to the environmental management of specific issues. For a project like Tillegra Dam this would typically include:

- erosion and sediment control
- terrestrial flora and fauna
- aquatic flora and fauna
- greenhouse and energy use
- contemporary heritage
- Aboriginal heritage
- air quality and dust management
- traffic and infrastructure
- water quality and groundwater
- noise and vibration
- landscape and rehabilitation
- sustainable resource use
- spoil and fill management
- waste and contamination
- hazards and risks

The subplans would provide details of specific control measures that would be undertaken during construction and would provide the framework for management of that specific issue. Each subplan would include a detailed analysis and assessment of potential impacts and mitigation measures to be undertaken for each construction site.

By way of example, a noise and vibration management subplan could include:

- identification of each work area, site compound and construction depot
- identification of general activities that would be carried out and associated noise sources for each work area, site compound and construction depot
- identification of the appropriate construction noise objective for the Project
- identification of appropriate construction vibration objectives establishment of procedures for the assessment of noise and vibration impacts from each work site
- details of overall management methods and procedures that would be implemented to control construction noise and vibration
- proactive and reactive strategies for dealing with complaints including compliance with the construction noise and vibration goals, particularly with regard to verbal and written responses
- noise and vibration monitoring, reporting and response procedures
- internal audits of compliance of all plant and equipment
- construction timetabling, in particular works outside standard hours, to minimise noise impacts
- procedures for notifying residents of construction activities likely to affect their noise and vibration amenity
- contingency plans to be implemented in the event of non-compliances and/or noise.

An issue-specific subplan could be prepared for the entire Project, for each component EMP or depending on the specific nature of the potential impacts, for each CMS.

3.3 Contents of the construction EMP

A draft table of contents for the construction EMP is provided as Appendix B. Key elements are discussed in the following sections.

3.3.1 Introduction

This section should include a brief description of the Tillegra Dam project including background and justification. Sufficient detail should be provided to define the nature and scope of the Project as it relates to the activities covered by the EMP.

Much of this information would be obtained from the EA Report, however consideration should be given to possible design changes. Plans and diagrammatic layouts are useful to define areas of work activities and can be used to illustrate work activities and mitigation measures alike.

Location

General plans or maps should be provided indicating the location of activities covered by the construction EMP, along with a general description of the environment of the site and surrounds.

Construction activities

This should outline the construction activities that would be covered under the EMP. Likely matters could include (but not be limited to):

- a brief description of the construction process
- working hours, including any activities that may be required to be undertaken outside of these hours
- employment numbers and type
- plant and equipment to be used
- location of site facilities and work/storage compounds.

Timing and scheduling

Anticipated start and completion dates should be included for each of the activities being undertaken. Details of any staged construction phases should also be outlined.

3.3.2 Construction EMP context

This section should describe how the EMP fits into the overall planning process for the Project. Examples of the information to be detailed include:

- relevant environmental studies, such as those carried out for the Part 3A process
- Part 3A approval and relevant conditions of approval
- relevant matters from the Statement of Commitments
- other approvals and conditions, such as under the EPBC Act
- a summary of consultation undertaken with government agencies and other stakeholders, including how the consultation outcomes have been incorporated into the construction EMP
- comment on how the construction EMP relates to HWC's *Environmental Management Plan 2008-2013*.

3.3.3 Construction EMP objectives

The objectives may form a bullet list outlining what the construction EMP is trying to achieve. Objectives need to be specific to the Tillegra Dam project rather than broad environmental policy statements and should relate to:

- general site management
- special site features
- best practice environmental management.

3.4 Environmental management

3.4.1 Environmental management structure and responsibility

The EMP should provide a clear organisation structure for the Project including the names, positions and contact details for personnel responsible for environmental management. A description of the roles and responsibilities of each identified person should be documented, including the roles and responsibilities of subcontractors.

The EMP should identify the person nominated to oversee implementation and maintenance of the EMP. If an Environmental Management Representative (EMR) is required under the Minister's conditions of approval, the role of the EMR should be outlined.

3.4.2 Approval and licensing requirements

The EMP should identify the regulatory requirements that pertain to the construction of the Project including:

- a list of licenses, approvals and permits obtained, their expiry dates, etc
- a list of the relevant Minister's conditions of approval with a cross reference to where in the construction EMP the conditions are addressed
- a list of conditions from other permits or licences (eg EPBC) with a cross reference to where in the construction EMP the conditions are addressed
- a list of subsequent licenses, approvals or permits that may be required
- identification of the person (or position) responsible for obtaining the licences, approvals and permits and when they should be obtained and renewed
- a description of any other requirements that apply to the project eg voluntary agreements, stakeholder agreements, etc.

3.4.3 Reporting

A description of the reporting requirements for the Project should be provided and include the following:

- a list of reports required (eg construction monitoring, non-compliance, corrective action, complaints management, auditing, pre-construction and pre-operation compliance, any reports required by government agencies)
- a description of a typical report content
- personnel responsible for preparing the reports and when they are to be prepared
- communications protocols establishing who is responsible for distributing information, what is to be distributed and to whom, and the frequency of communication
- document control procedures.

3.4.4 Training

All employees should undergo general environmental awareness training which should also advise them of their responsibilities under the construction EMP. The purpose of such training is so all employees understand their obligation to exercise due diligence for environmental matters. Employees in this instance means all people working on-site including contractors and subcontractors.

Environmental training should include the following:

- a site induction
- familiarisation with the requirements of the construction EMP
- environmental emergency response training
- familiarisation with site environmental controls
- targeted environmental training for specific personnel.

The need for additional or revised training should be identified and implemented from the outputs of monitoring and reviewing the EMP.

Records of all training should be kept and should include:

- a general description of the training content
- the trainers name
- the names of participants (including a signed attendance sheet)
- the date, time and location of the training.

3.4.5 Emergency contacts and response

The EMP should nominate a contact person(s) for emergencies who would be available 24 hours a day, seven days a week, and who has the authority to stop or direct works if, in their judgment, there is likely to be significant harm to the environment.

The EMP should also document the procedures to be followed in the event of an environmental emergency. An environmental emergency is any event that causes or has the potential to cause material harm to the environment. These procedures should include:

- the names and contact details (including all-hours telephone numbers) for emergency response personnel
- response personnel responsibilities
- contact details for emergency services (ambulance, fire brigade, spill clean-up services)
- maps showing the location of on-site information on hazardous materials, including Material Safety Data Sheets and spill containment materials
- steps to follow to minimise damage and control an environmental emergency
- instructions and contact details for notifying relevant government agencies, local councils and, if necessary, nearby residents.

3.5 Implementation

3.5.1 Structure and layout

For each of the items outlined in Sections 3.4.2-3.4.5, it may be pertinent to develop component EMPs that cover a particular component/stage/environment issue as outlined in Section 3.1.

3.5.2 Risk assessment

Information of relevance to managing environmental risks may be contained in the following documents or investigations:

- EA Report
- submissions report
- assessment or decision report
- conditions of approval or consent
- detailed design
- construction methodology

Their relevance to the construction EMP risk assessment would vary according to the Project's stage. There are also several Australian standards that discuss risk assessment and should be considered.

This section of the EMP should generally cover the following activities:

	ACTIVITY
1	Provide a list of the activities to be carried out. This should describe all Project activities including those undertaken by subcontractors or suppliers together with ancillary works such as materials transport to and from the site and site establishment
2	Identify the actual and potential environmental impacts associated with each activity
3	Identify which environmental impacts are significant. Methods for risk assessment should be selected that are appropriate to the Project and the existing EA Report
4	Use this information to design the environmental management activities, controls and monitoring to prevent or minimise those environmental impacts appropriately
5	State how often, and when, this risk assessment would be carried out.

To facilitate identification of potential environmental risks, it may be useful to prepare drawings identifying environmentally sensitive areas (eg adjacent to a watercourse), and to colour code the associated level of risk. These should be made available to relevant Project personnel, and should be reviewed regularly as revised as appropriate.

This risk assessment builds upon preceding risk assessments, the main purpose being to confirm that the level of risk assigned to a specific environmental aspect of issue is appropriate. This is turn facilitates the development of appropriate management responses.

3.5.3 Environmental management activities and controls

The EMP should specify all the environmental management activities, mitigation and control measures that would be used to prevent or minimise environmental impacts. It should include the detailed mitigation measures identified from the risk assessment. This is usually the largest section of an EMP.

This section must assign responsibility for control measures to specific personnel and provide timeframes for their implementation. It may also specify the monitoring measures associated with the control measure. Where monitoring measures are identified, the EMP should state the minimum performance level or criterion to be achieved. Quantitative criteria are preferred but this may not always be possible.

Typically this would address each impact issue and include information on the existing situation, objectives and performance criteria. An example for dust management is provided as Appendix C.

3.5.4 Environmental control plans and maps

Environmental control plans or maps are a particularly useful on-site reference tool and, where appropriate, should be included in the EMP. An example is a plan (or plans) indicating the location of the following:

- environmentally sensitive areas on and adjacent to the site
- waterways including the Williams River, its tributaries and drains
- erosion and sediment control measures
- works areas, machinery or vehicle parking, spoil dumps, fuel and chemical stores
- vegetation that requires protection
- restrictions on traffic movement
- monitoring locations etc.

Plans may also form the basic implementation section of the construction EMP for a specific site. Plans should be designed to portray information quickly and be easy to interpret. Such plans are often more useful than pages of text and can be used during environmental training and staff briefing sessions.

3.5.5 Environmental schedules

Environmental management schedules are copies of forms, reports or registers used during a project's day-to-day environmental management. Examples include:

- site inspection checklist
- non-compliance and corrective action report
- complaints report
- environmental incident report
- environmental training register
- waste register
- monitoring checklist.

Relevant schedules must be included in the EMP.

3.6 Monitoring and review

3.6.1 Environmental monitoring

This section of the EMP should provide details on how environmental management activities and controls would be monitored.

A monitoring checklist should be developed specifying when the environmental control activities need to be carried out, who is responsible and what methods would be used to measure effectiveness. It should include space for sign-off to verify that the control action was undertaken and is working effectively.

The checklist should also specify if, and when, follow-up action is required and who is responsible. A

series of checklists may be necessary to address specific activities or impacts.

Details of how monitoring records would be collated, distributed and stored should also be provided.

3.6.2 Environmental auditing

The EMP should describe the program and procedures for periodic auditing of implementation and effectiveness of the EMP. The audits should determine whether or not the EMP is being properly implemented and maintained, and provide information for the EMP review.

The audit program and procedures should cover both internal and external auditing requirements including scope, frequency and methods, as well as the responsibilities and requirements for conducting audits and reporting results.

The frequency of audits should reflect the level of environmental risks and the results of previous audits.

3.6.3 Corrective action

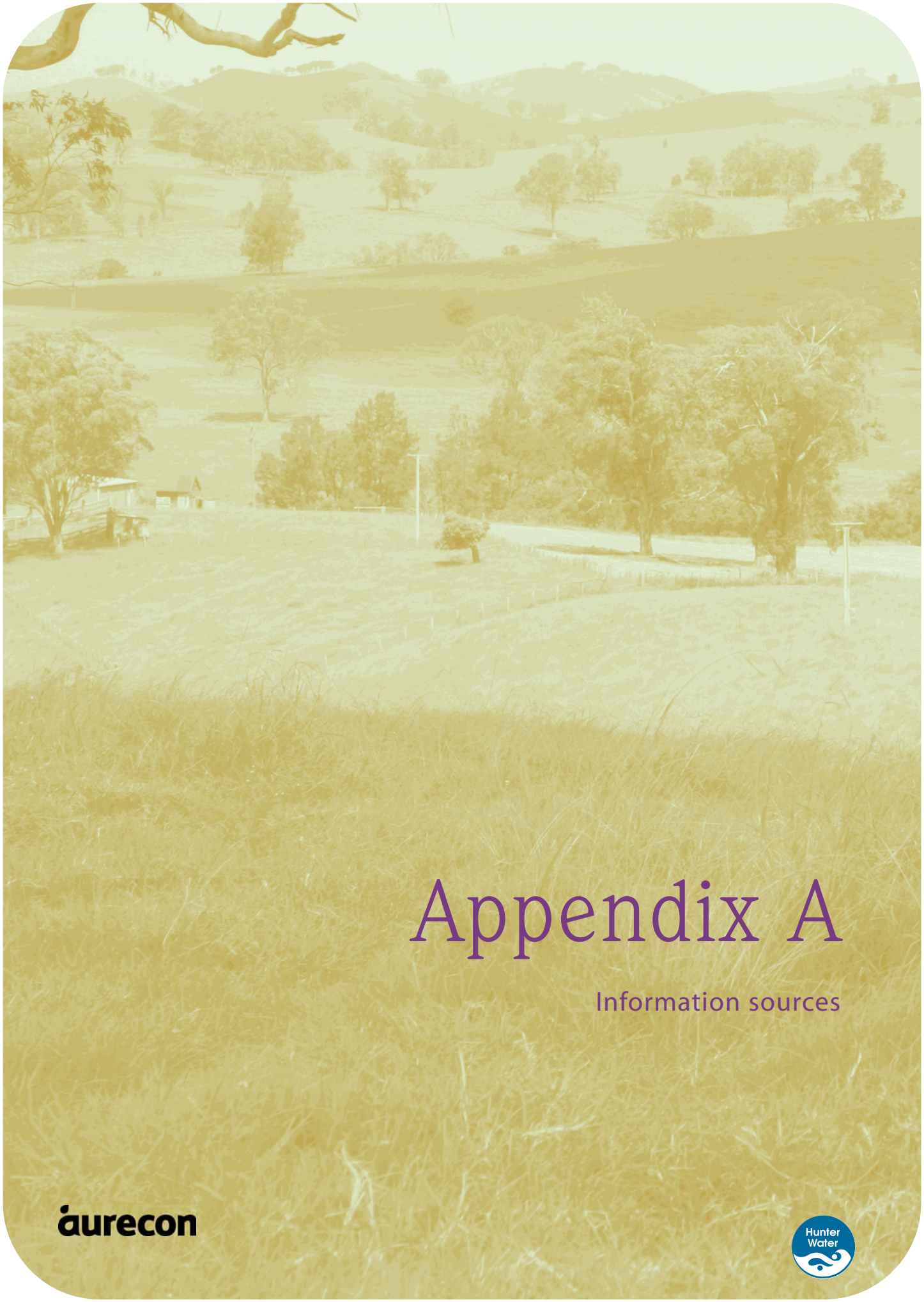
The EMP should define procedures for dealing with non-compliance with environmental management controls, environmental incidents and emergencies. The procedures should also define who is responsible and has authority for handling and investigating non-compliance, taking action and completing corrective and preventative action.

Schedules should be developed to record environmental incidents, non-compliances, and corrective and preventative actions.

3.6.4 Construction EMP review

This section should describe how the EMP would be reviewed including reviewing environmental controls and procedures to make sure they are still applicable to the activities being carried out. It should detail:

- when/how often this would be done
- who would be responsible for reviewing the construction EMP, recording decisions and the reasons for them, and making subsequent changes
- how the site/project team would be informed of those changes
- when and if the reviewed construction EMP should be submitted to the approval or consent authority.



Appendix A

Information sources

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Appendix A – Information sources

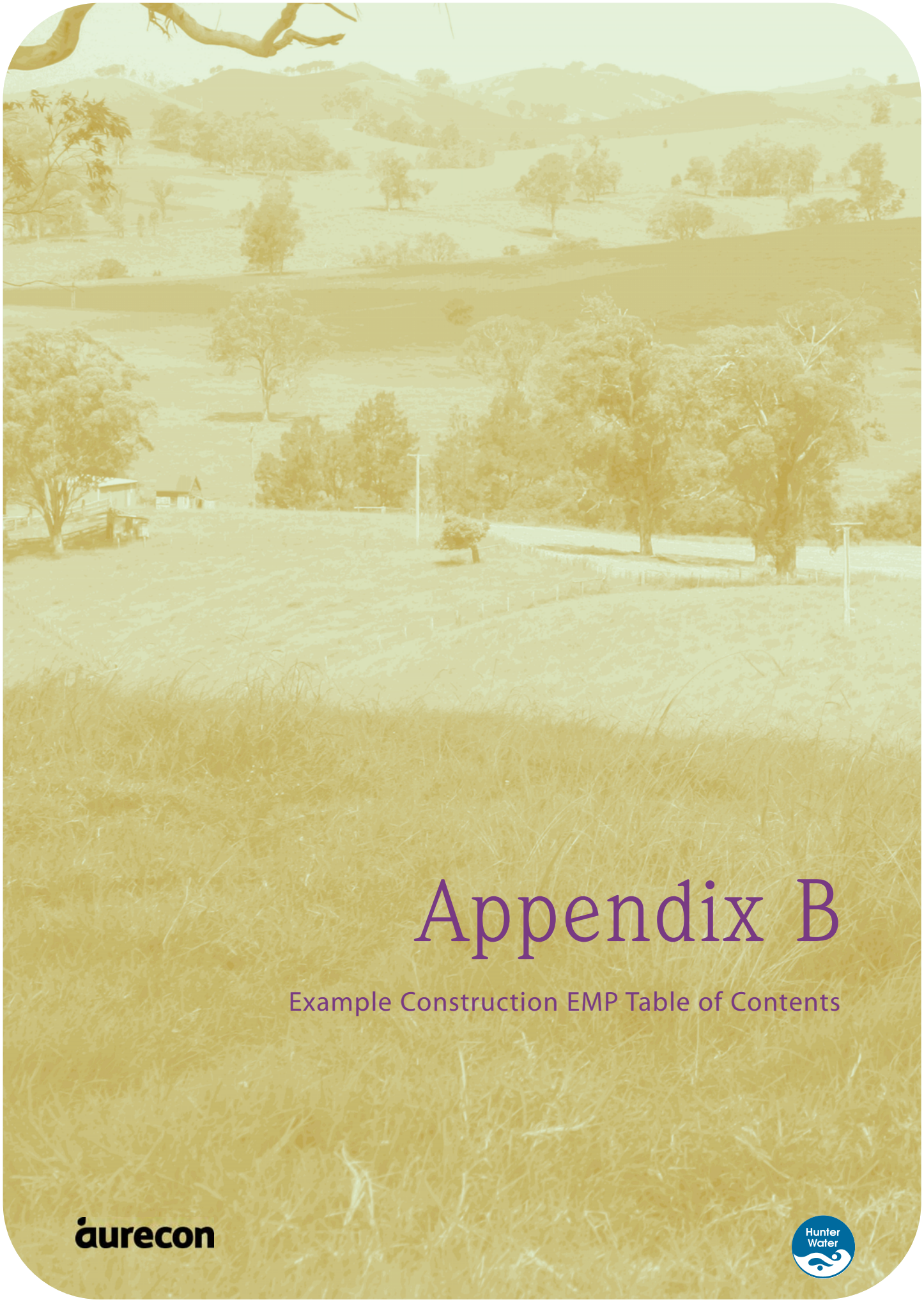
In addition to the two key references listed in Section1, there is a wide variety of information available to assist with preparation of an EMP. The details of some relevant websites are provided in the following table.

The following Australian Standards may also be of assistance:

TABLE C.1 POTENTIALLY USEFUL SOURCES OF INFORMATION

SOURCE	REFERENCE	WEB REFERENCE
Dept of Environment and Climate Change (NSW)	*Model EMP: Environmental Management Plan for Landscaping Works Environmental Best Management Practice Guideline for Concreting Contractors*	www.environment.nsw.gov.au
Landcom (NSW)	*Managing urban stormwater: soils and construction (the 'Blue Book')*	www.landcom.nsw.gov.au
Roads and Traffic Authority (NSW)	*Environment Protection (Environmental Plan_ Guidelines Specifications G36)*	www.rta.nsw.gov.au
Environment Protection Authority (Victoria)	*Environmental Guidelines for Major Construction Sites*	www.epa.vic.gov.au
Transport SA (South Australia)	*Environmental awareness for civil construction projects*	www.transport.sa.gov.au
Environmental Protection Agency (Queensland)	*Environmental Management of Mining Guideline 10. Preparing an environmental management plan (EM Plan) for a non-standard exploration permit or mineral development licence*	www.epa.qld.gov.au

- AS/NZS ISO 14000 Series (including AS/NZS ISO 14001 *Environmental management systems – Specification with guidance for use*)
- AS/NZS ISO 19011:2003 *Guidelines for quality and/or environmental management systems auditing*
- AS/NZS 4360:1999 *Risk management*
- HB 203-2000: *Environmental risk management – Principles and process.*



Appendix B

Example Construction EMP Table of Contents

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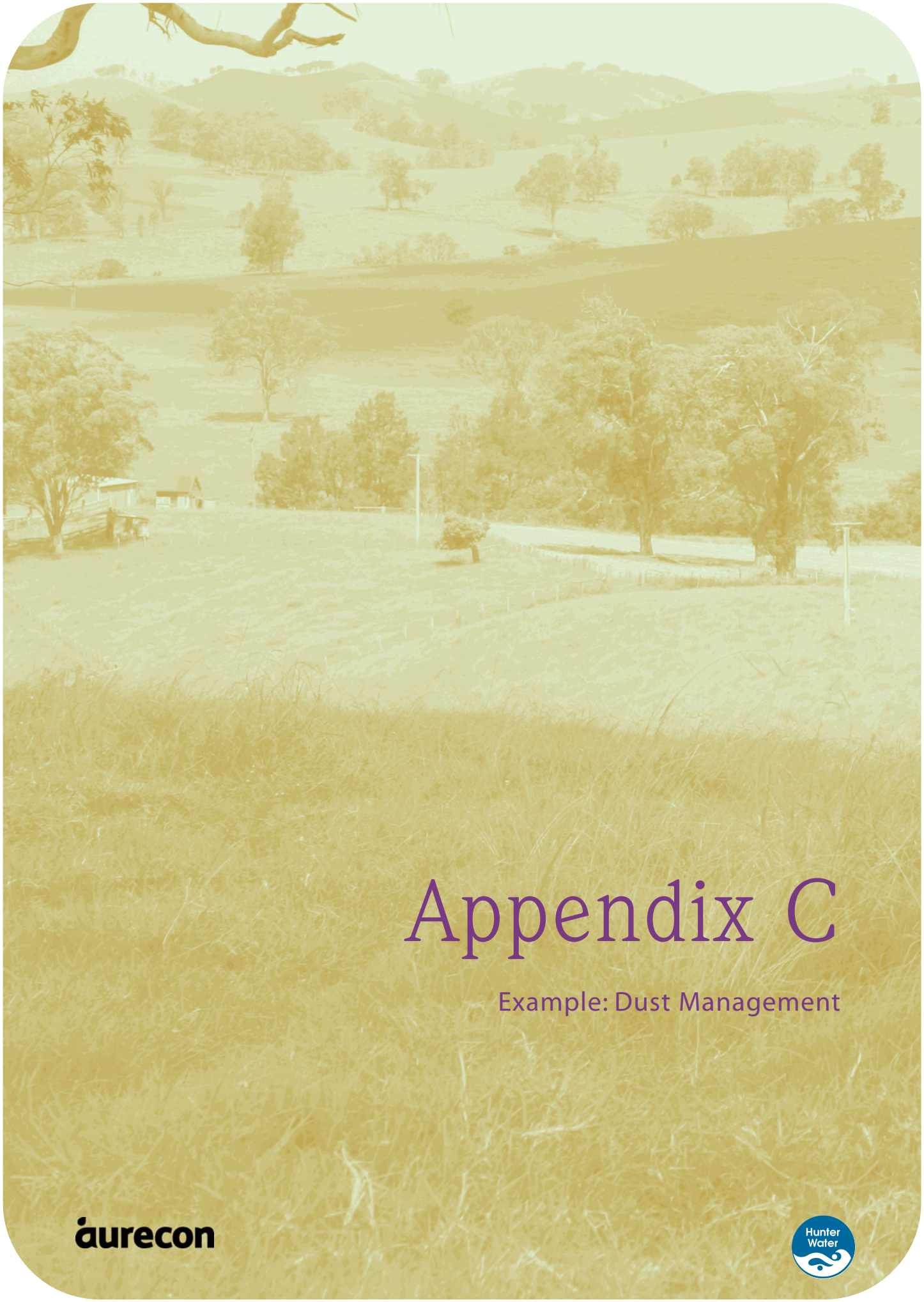
Appendix B – Example Construction EMP Table of Contents

ANNEXURES

Annexure A	Licences/Approvals/Permits/Notifications
Annexure B	Sensitive Area Plans
Annexure C	Standard Procedures and Forms and Checklists
Annexure D	Compliance Tracking
Annexure E	Emergency Procedures and Contacts



Appendix C

Example: Dust Management

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Appendix C – Example: Dust Management

Existing Situation

Objectives

Performance Criteria

ACTIONS	ACTION TIMING	ACTION PERFORMED BY	MONITORING AND REPORTING COMPLIENCE		
			ACTIVITY	ACTIVITY TIMING	ACTIVITY PERFORMED BY
B1 Exposed areas including the base of and adjacent to the proposed transfer towers are to be sprayed with water to minimisedust generation				WR	
B2 Regular watering of site and access roads during dry conditions				Fortnightly	
B3 Relocation of topsoil will not be undertaken during high wind conditions				WR	
B4 Construction vehicles onsite are to observe speed limits				Weekly	
B5 Heavy construction vehicles leaving the site shall go through a shake down area to remove soil				Fortnightly	
B6 Ensure all construction related stockpiles are covered or regularly watered to prevent dust emissions during high wind conditions				Weekly	
B7 Where appropriate, rock drilling equipment will be fitted with dust suppression devices				Weekly	
B8 Confine traffic to defined roads and tracks				Weekly	
B9 All staff to monitor excessive dust generation resulting from construction activities. Report excessive dust generation to their supervisor				WR	
B10 All dust complaints from construction activities shall be recorded and reported to the EMR.				WR	