

# Environmental Program

## SOIL AND WATER MANAGEMENT

### BBA-ENP-1000-1400-0002

Revision	Date	Revision Description	Prepared	Reviewed	Approved
A0	27 April 2007	Draft for BBA review	IW		
A1	9 May 2007	Draft for DTAE review	IW		
B0	31 Oct 2007	Revised after audit and issued for DTAE approval	IW	JD	JC
B2	7 Jan 2008	Revised after DTAE comment	IW	JD	JC
B3	30 Jan 2008	Revised following DTAE comment	JRD	JD	JC

### Table of Contents

1.	PURPOSE AND SCOPE	2
2.	OBJECTIVES	2
3.	TARGETS	2
4.	REGULATORY AND CONTRACTUAL REQUIREMENTS	3
5.	KEY ENVIRONMENTAL ISSUES	4
6.	OPERATIONAL CONTROLS	5
7.	SITE ENVIRONMENTAL PLANS	5
8.	CONTINGENCY MANAGEMENT	5
9.	EVALUATING PERFORMANCE	6
10.	REPORTING	6
11.	ATTACHMENTS	6

### Operational Control Tables

Table OCO 2.1      Soil and Water Management

## 1. Purpose and Scope

This Environmental Program describes the Soil and Water Management measures to minimise the impact of the design and construction of the Gunns pulp mill.

This Environmental Program forms part of the Bell Bay Alliance (BBA) Construction Environmental Management Plan (CEMP) and must be read in conjunction with the CEMP.

## 2. Objectives

1. Maintain the integrity and flow characteristics of streams that need to be temporarily disturbed for the construction of infrastructure
2. Maintain existing levels of flood protection and maintain the amenity of the riparian environment.
3. Maintain or improve existing surface water quality during construction, consistent with the requirements of the Tasmanian State Policy on Water Quality Management 1994.
4. Design stormwater drainage systems to ensure that water quality objectives are not breached in the event of a major spill of potentially contaminating material.
5. Protect the beneficial uses of groundwater consistent with the requirements of the Tasmanian State Policy on Water Quality Management 1994.

## 3. Targets

### Design-Related

1. Protect wetland areas by managing the volume, velocity and quality of water entering them.
2. Maintain or reduce existing flood levels, maintain flood storage and maintain or reduce waterway velocities for all runoff events up to and including the 1 in 100 year ARI event.
3. Avoid adverse impacts on existing urban areas or other critical private or public asset for a 1 in 200 year ARI event.
4. Ensure that flow rates from the site and easements are maintained at rural runoff rates, up to 1 in 2 year ARI, to protect the bank-full conditions and in-stream ecology of the receiving waterways.
5. Ensure that there is no generation of increased afflux upstream of waterway and floodplain crossings. Where this is unachievable, a minor afflux of up to 30 mm may be acceptable, provided that it can be demonstrated that property flooding would not result.
6. Maintain dry weather surface flows in situations where flood flows need to be placed underground.
7. Where works must occur within the waterway riparian environment, ensure overall final protection of the impacted areas through considered soft engineering treatments, revegetation and other measures as required.
8. Ensure that waterway and drainage operations and maintenance access is not compromised as a result of new infrastructure.

**SOIL AND WATER MANAGEMENT**

9. Toxic material to be prevented from infiltrating into surface waters or the groundwater system.
10. Interception and/or drainage of groundwater must not impact or diminish the existing flow regime in nearby waterways nor impact on the use of groundwater as a resource.
11. Existing groundwater recharge to wetlands must not be reduced as a result of the construction.

Construction-Related

12. Ensure that vehicle access routes are controlled and avoid environmentally sensitive areas and that use of heavy machinery within waterways and riparian areas is minimised.
13. Ensure that there is no diversion or pumping of water from the waterways for construction purposes, unless otherwise agreed by DTAE and DPIW.

**4. Regulatory and Contractual Requirements**

Refer to:

- CEMP Appendix B – Environmental Legislation Register
- CEMP Appendix C – Approvals Matrix
- CEMP Appendix D - Environmental Licences Register
- CEMP Appendix F – Environmental Commitments
- CEMP Environmental Obligations Register: GNS-OBL-1000-1400-001.

In particular, the following requirements are relevant:

- Environmental Management and Pollution Control Act 1994
- State Policy on Water Quality Management 1994
- Environmental Management Goals for Tasmanian Surface Waters – Tamar Estuary and North Esk Catchments December 2005 Technical Documents.

The following background studies, research documents and assessments have been used to identify the key environmental aspects:

Reference	Document Title
<a href="http://www.gunnspulpmill.com.au/iis/">http://www.gunnspulpmill.com.au/iis/</a>	Bell Bay Pulp Mill Draft IIS and Appendices

The following technical documents have been used to assist in identifying appropriate operational controls:

Availability	Document Title
EPA Victoria	Environment Protection Authority Publication 480 – Environmental Guidelines for Major Construction Sites

**SOIL AND WATER MANAGEMENT**

<b>Availability</b>	<b>Document Title</b>
EPA Victoria	Environment Protection Authority Publication 275 – Construction Techniques for Sediment Pollution Control
EPA NSW	Landcom – Managing Urban Stormwater, Soils and Construction Volume 1 (Blue Book)
Victoria Stormwater Committee	Victoria Stormwater Committee – Urban Stormwater: Best Practice Environmental Management Guidelines
DPIW	Waterways & Wetlands Works Manual 2003
Hobart Regional Councils	Guidelines for Soil and Water Management 1999
Hobart Regional Councils	The Soil and Water Management Code of Practice for Hobart Regional Councils 1999
Launceston City Council	The Soil and Water Management Code of Practice for Launceston City Council 2000
Board of Environmental Management and Pollution Control	Environmental Management Goals for Tasmanian Surface Waters – Tamar Estuary and North Esk Catchments December 2005

## 5. Key Environmental Issues

Refer to:

- CEMP Appendix G – Environmental Risk Assessment

The technical documents and the environmental risk assessment have identified the following key environmental issues:

- Existing waterway realignment.
- Protection of existing water quality and habitat.
- Control of surface water run off.
- Avoiding or minimising impacts on groundwater.

Areas of general sensitivity relating to soil and water management, include:

- Pipeline crossings of creeks.
- Pipeline crossing of the Tamar estuary.

## 6. Operational Controls

The operational controls for management of soil and water during design and construction are set out below:

Table	Title
OCO 2.1	Soil and Water Management

The operational controls include requirements and responsibilities for:

- Consultation
- Approval requirements
- Design of permanent works
- Design of temporary works
- Construction activities
- Commissioning and handover.

## 7. Site Environmental Plans

- Refer to SEP Register.

Site Environmental Plans (SEPs) detail practical environmental management measures to be implemented at specific worksites to minimise potential impacts of construction activity on the environment and community. They are designed to provide more site specific detail than is included in the Environmental Program and Operational Control tables.

The information contained in the SEPs is presented in tabular drawing format. This is to make them easy for use by all BBA site personnel, consultants and subcontractors.

The controls set out in the SEPs are drawn from the Environmental Programs.

## 8. Contingency Management

The environmental risk assessment has identified the following circumstances that could occur outside normal operating conditions:

- Contamination of existing waterways resulting from a storm event greater than the one in two year storm event.
- Design of temporary sediment controls is insufficient for the maximum exposed area.
- Unforeseen water and soil contamination due to fuel or oil spill.

If these circumstances occur, the following contingency measures will be implemented:

- The cause of the breach will be modified or stopped.
- If required, the DTAE will be informed.
- The construction method and control measures will be reviewed and improved if necessary.
- The modified methods and controls will be monitored to ensure compliance has been achieved.

- Contingency measures shall be undertaken in accordance with the Emergency Response Plan, where applicable.

## 9. Evaluating Performance

The Operational Controls, together with the SEPs are used as the basis for evaluating performance.

Refer to:

- CEMP Appendix H – Construction Monitoring Plan
- CEMP Appendix I – Internal Environmental Audit Schedule
- CEMP Appendix J – External Environmental Audit Schedule.

Environmental Checklists are used for evaluating performance.

Refer to:

- BBA-CKL-1000-1400-002A Soil and Water Management.

## 10. Reporting

Refer to:

- CEMP Appendix K – Environmental Reporting Program.

## 11. Attachments

Not used.