

Environmental Program

CONTAMINATED SOIL MANAGEMENT

BBA-ENP-1000-1400-0003

Revision	Date	Revision Description	Prepared	Reviewed	Approved
A0	27 April 2007	Draft for BBA review	IW		
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Operational Control Tables

Table OCO 3.1 Contaminated Soil Management

1. Purpose and Scope

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

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. Protect the beneficial uses of land by preventing and managing contamination of land.

3. Targets

1. Avoid risk to human health and ecosystems from exposure to contaminated soil.
2. Maintain and where appropriate and practicable improve the condition of land to protect current and future beneficial uses of land from the detrimental impacts of contamination.
3. All unsuitable soil that is removed from the project area sent for another beneficial use or to a licensed waste receiver.

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.

The beneficial uses of the land and therefore the criteria applied for contamination evaluation shall be determined by the National Environmental Protection Measure “NEPM for Assessment of Site Contamination” December 1999.

5. Technical Documents

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

Reference	Document Title
http://www.gunnspulpmill.com.au/iis/	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
National Environmental Pollution Council (NEPC)	National Environmental Protection Measure "NEPM for Assessment of Site Contamination" December 1999.
EPA Victoria	Information Bulletin No. 878 - IWMP (Prescribed Industrial Waste) Classification for Contaminated Soil
DTAE	Information Bulletin No. 105 – Classification and Management of Contaminated Soil for Disposal.

6. Key Issues

Refer to:

- CEMP Appendix G – Environmental Risk Assessment.

The technical documents and the environmental risk assessment have identified the following areas of potential soil contamination:

- No known land uses within the Bell Bay site have resulted in land contamination. A representative surface soil sample was collected and analysed, and all parameters returned concentrations below the limit of recording (LOR) except for metal concentrations that returned concentration below the NEMP Environmental Investigation Levels (EILs).
- A detailed investigation to identify potential contaminated soils along the water supply pipeline route has not been conducted. During the Alinta pipeline investigations (Hydro Tasmania, 2001) DPIWE highlighted a number of potentially contaminating activities that could affect the construction of the gas pipeline corridor, including horticulture and agriculture (agricultural chemicals), the presence of power station, refuse sites and petrol stations (Hydro Tasmania, 2001). These activities are relevant to the proposed water supply pipeline, which follows a route through and past similar activities.
- The workers' accommodation camp site is adjacent to a former municipal landfill that ceased operation in the early 1960s. Due to the potential for contaminants to migrate from the former landfill area into the site, a site investigation was undertaken to identify any risks to human health or the environment arising from the development. The investigation did not reveal any contamination on the site that would present a risk to human health or the environment during the construction, operation or decommissioning of the workers accommodation facility. The site is also considered suitable for industrial use. Full details of the assessment is provided in Appendix 37, Volume 14 of the DIIS.
- During the Alinta pipeline investigations (Hydro Tasmania, 2001), DPIWE highlighted a number of potentially contaminating activities that could affect the construction of the pipeline corridor including horticulture, agriculture (including agricultural chemicals), the presence of power station, refuse sites and petrol stations (Hydro Tasmania, 2001). These activities are relevant to the proposed effluent pipeline. A desktop survey undertaken by Hydro Tasmania (2001) identified two sites within or near the Alinta pipeline corridor that may have contaminated soil: Donovans Bay, and industrial sites around Bell Bay (Hydro Tasmania, 2001). Sediments in the Tamar Estuary may also

contain contaminants related to industrial activities in the area. As with the construction of the Alinta pipeline, the proposed effluent pipeline will require the trenching of Tamar River sediments, where the corridor passes through the tidal zone at Donovans Bay. The Bell Bay Power Station site may have soils contaminated with hydrocarbons and other chemicals associated with power generation (Hydro Tasmania, 2001).

7. Operational Controls

Environmental outcomes to be achieved include:

- Contaminated soil identified and classified
- Reuse or disposal of contaminated soil approved by DTAE.

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

Table	Title
OCO 3.1	Contaminated Soil 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.

8. 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. In general, the process described in Flowchart 1 should be followed for the management of both known and unexpected contaminated soil.

9. Contingency Management

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

- Unexpected discovery of suspected contaminated soil, liquid or waste during construction.

- Unexpected discovery of suspected contaminated groundwater.

Contamination may be identified by discoloured or odorous soils, underground fuel storage tanks, pipelines, drums or filling with foreign matter.

If these circumstances occur, the process of managing contaminated soil as described in Flowchart 1 will be initiated. This will be undertaken in consultation with the Project Occupational Health and Safety Manager or their representative.

DTAE will be informed within 5 working days when newly discovered contamination is encountered.

10. 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-1000-1400-003A Contaminated Soil Management.

11. Reporting

Refer to:

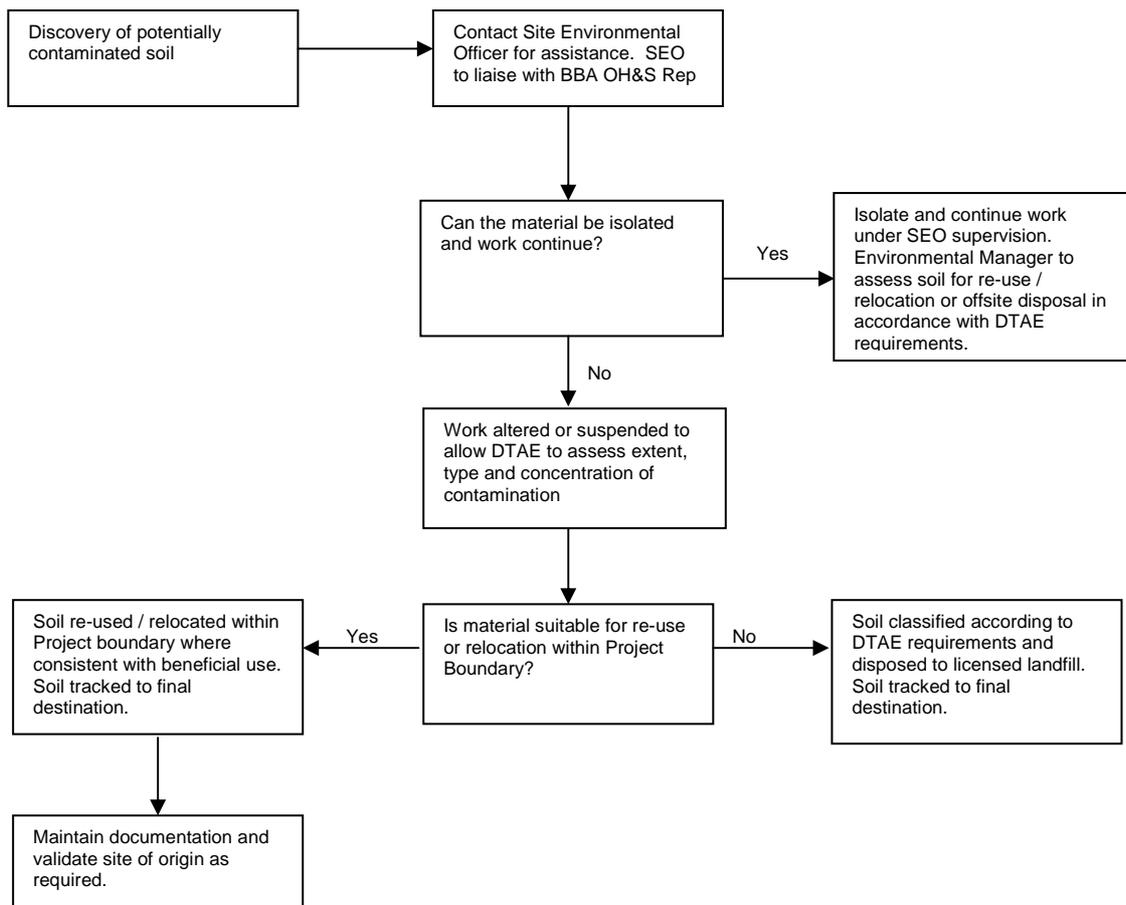
- CEMP Appendix K – Environmental Reporting Program.

12. Attachments

Not used.

Flowchart 1 Process of managing contaminated soil¹

Contamination is either previously known or recently discovered and reported to appropriate parties in accordance with Section 9.



¹ Also see National Environment Protection (Assessment of Site Contamination) Measure, 1999; EPA flowchart in EPA Publication 860, Figure 1: Outline of the recommended environmental audit process where clean-up is anticipated and EPA Publication 878, Figure 1 – Contaminated Soils Management Flow Chart.