

# **OBERON WASTE DEPOT**

## LANDFILL ENVIRONMENTAL MANAGEMENT PLAN

PREPARED FOR:

**OBERON COUNCIL**

AUGUST 2013

**VERSION 2**



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Geolyse Pty Ltd and the authors responsible for the preparation and compilation of this report declare that we do not have, nor expect to have a beneficial interest in the study area of this project and will not benefit from any of the recommendations outlined in this report.

The preparation of this report has been in accordance with the project brief provided by the client and has relied upon the information, data and results provided or collected from the sources and under the conditions outlined in the report.

All maps and plans contained within this report are prepared for the exclusive use of Oberon Council to accompany this report for the land described herein and are not to be used for any other purpose or by any other person or entity. No reliance should be placed on the information contained in this report for any purposes apart from those stated therein.

Geolyse Pty Ltd accepts no responsibility for any loss, damage suffered or inconveniences arising from, any person or entity using the plans or information in this study for purposes other than those stated above.

# Foreword

This Landfill Environmental Management Plan (LEMP) is a living document and sections of it will be periodically updated. The operational controls used to meet the Environmental Goals will continue to grow and be modified as new initiatives are implemented and new procedures and responsibilities emerge.

For these reasons, document control is an important part of the environmental management system. It is critical that it is always known who has copies of the LEMP (or individual sections of it), and that only the latest version is in use. Details on the version, the date of issue, are recorded on each page of the LEMP in the bottom left hand corner.

Revised and updated versions of the LEMP will always be issued with a covering memo summarising the changes. When a new insert is received, the old version is to be replaced.

In summary, this LEMP is a functional document; it is designed to help personnel at the Oberon Waste Depot undertake their tasks with minimal environmental risk and understand their environmental responsibilities.

The structure and scope of this LEMP reflects the requirements of the Environment Protection Authority's *Environmental Guidelines: Solid Waste Landfills*, and in doing so, embodies the principals of best practice environmental management.

Through using this LEMP, it will be possible to improve, monitor and demonstrate the environmental performance of the landfilling operations. If you have any suggestions for amendments, additions or improvements, please discuss these with your supervisor.

.....  
**Oberon Council**  
**Director Works and Engineering**

Date:.....

# Abbreviations

ARA	Appropriate Regulatory Authority
DP	Deposited Plan
EPA	Environment Protection Authority
GAP	Groundwater Assessment Program
GTA	General Terms of Approval
LEMP	Landfill Environmental Management Plan
OC	Oberon Council
OTC	Oberon Timber Complex
OWD	Oberon Waste Depot
PIRMP	Pollution Incident Response Management Plan
SWAP	Surface Water Assessment Plan

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# **Section 1**

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## **INTRODUCTION**

# Introduction

## 1.1 BACKGROUND

Oberon Council (OC) proposes to expand landfilling at its Oberon Waste Depot (OWD), located off Lowes Mount Road, approximately 4 kilometres north of Oberon (refer **Drawing 05B\_EV01**).

The cumulative footprint of all past and current waste management and landfilling related activity over the site is approximately 11 ha. It is Council's intent to continue waste management at this locality and it is now looking to laterally expand the landfill footprint over an additional ~6 ha of the site. In doing so, this would provide an operational life of approximately 63 years.

The development site includes the following parcels of land, all owned by Oberon Council; located within the Parish of Oberon, County of Westmoreland (refer **Drawing 05B\_EV01**).

- Lot 1 DP 350774;
- Lot 1 DP 598525;
- Lot 1 DP 844887 and
- Lot 36 DP 263034.

A review of the potential to extend the operational life of landfilling at the OWD was undertaken in 2012 (Geolyse, 2012). The results of this review demonstrated that there is capacity to significantly extend the operational life of the OWD, with a four stage filling plan proposed.

It is noted that the operational life of each stage would be subject to some variance based on changes in population/waste generation. During the review, it was assumed that approximately 10,000 cubic metres of landfill space would be filled per annum, 20% of which is allocated to daily cover.

During Stage 1, a one-off specific waste stream associated with past activities at the Oberon Timber Complex (OTC) is likely to be disposed of at the OWD. This includes up to 50,000m<sup>3</sup> (approximately 35,000 tonnes) of wood fibre product located at the OTC that is to be disposed of at the landfill.

## 1.2 PURPOSE

Subject to Clause 7 of the *Operational Conditions of Development Approval* for Development Application Number 10.2012.35.1, dated 19 February, 2013 (refer to **Attachment B**), a Landfill Environmental Management Plan (LEMP) must be approved by council, developed and implemented prior to commencing the construction of Stage 1 of the OWD.

This LEMP addresses the environmental management and operational controls of Stage 1 of the landfill only. The future lateral expansion of the landfilling (Stages 2 to 4) will be addressed in succeeding versions of this LEMP.

Landfill operations proposed in Stage 1 would be undertaken within areas previously used for landfilling. Stage 1 does not entail any lateral expansion into areas not previously used as landfill.

Pursuant to Clause 35 of Schedule 3 of the *Environmental Planning and Assessment Regulation 2000* the expansion is not designated development and can be declared as so. Notwithstanding, OC has determined that the proposed alteration/addition does not require development consent.



## 1.3 DOCUMENT CONTROL

This LEMP, and the attached Pollution Incident Response Management Plan (PIRMP), in **Attachment C** for the Oberon Waste Depot are living documents and reviews and updates are expected to ensure accuracy and effectiveness. For this reason, document control is an important part of the environmental management system. A register (**Form 1.1**) must be maintained which records who holds controlled copies (or individual sections) of the LEMP and PIRMP. Any updates to the LEMP are recorded on **Form 1.2**, and any testing or updates to the PIRMP are recorded on **Form 1.3**.

Each updated version of the LEMP or PIRMP will replace all prior versions in their entirety.

## 1.4 SCOPE

### 1.4.1 ENVIRONMENTAL GUIDELINES

The format, structure and scope of this LEMP has been prepared cognizant of the Environment Protection Authority's *Environmental Guidelines: Solid Waste Landfills* (the *Guidelines*). These *Guidelines* identify the four environmental issues of primary concern to the community and the EPA in relation to landfilling. These are:

- **Water Pollution:** ie discharges of pollutants to groundwater and surface waters;
- **Air Pollution:** ie emissions of pollutants to the atmosphere;
- **Land Management and Conservation;** and
- **Hazards and Loss of Amenity.**

The *Guidelines* then identify the 17 primary environmental goals for managing these core environmental issues. This LEMP identifies the operating procedures and responsibilities for achieving these 17 primary environmental goals. The EPA uses the benchmark techniques as a point of reference when assessing LEMPs and licence applications. **Table 1.1** provides an assessment of proposed compliance against the benchmark techniques for Stage 1 of the landfilling operations.

**Table 1.1 – Compliance with Benchmark Techniques – Stage 1**

No.	Benchmark Technique	Compliance	LEMP Section	How Compliance Achieved or Why Technique has not Been Adopted
1	Leachate Barrier System	No	3.1.1	Not required in Stage 1 where landfilling is over existing landfill. A minimum 1.5 mm thick HDPE liner will be installed in Stage 2 to 4.
2	Leachate Collection System	No	3.1.2	Not required in Stage 1 where landfilling is over existing landfill. A leachate collection system will be installed in Stage 2 to 4.
3	Surface Water Controls	Yes	3.1.3	Surface water drainage will be provided to capture and direct clean water away from exposed areas.
4	Groundwater Monitoring Network	Yes	3.2.2	Groundwater monitoring piezometers have been installed
5	Groundwater Monitoring Program	Yes	3.2.3	Monitoring program proposed
6	Groundwater Assessment Program	Yes	3.2.4	Program to be as per C.M. Jewell & Associates Report and as specified in the LEMP
7	Surface Water Monitoring Program	Yes	3.2.5	System to be installed as part of the landfill licence

**Table 1.1 – Compliance with Benchmark Techniques – Stage 1**

No.	Benchmark Technique	Compliance	LEMP Section	How Compliance Achieved or Why Technique has not Been Adopted
8	Leachate Monitoring Program	Yes	3.2.6	System to be installed as part of the landfill licence
9	Water Contamination Remediation Plan	Yes	3.3	Detailed in the LEMP
10	Landfill Gas Containment System	No	3.4.1	Only small quantities expected therefore not considered necessary
11	Extraction and Disposal of Landfill Gas	No	3.4.2	Only small quantities expected therefore not considered necessary
12	Fire Prevention	Yes	3.4.3	The storage of flammable wastes and fuel would be at designated locations.
13	Controlled Burning	Yes	3.4.4	No burning of waste would be permitted at OWD
14	Site Closure	Yes	3.4.5	A phytocap would be installed on all completed landfill areas
15	Subsurface Gas Monitoring Devices	No	3.5.1	Program to be as per C.M. Jewell & Associates Report and as specified in the LEMP, to be implemented Stage 2 to 4
16	Subsurface Gas Monitoring Program	No	3.5.2	To be detailed in updated version of the LEMP for Stages 2 to 4
17	Surface Gas Emission Monitoring	Yes	3.5.3	Part of landfill licence on capped areas
18	Gas Accumulation Monitoring	Yes	3.5.4	As required by the landfill licence
19	Remediation of Uncontrolled Gas Emissions	Yes	3.6.1	Detailed in the LEMP
20	Assurance of Quality	Yes	3.7.1	Detailed in the LEMP
21	Screening of Wastes Received	Yes	3.8.1	Waste acceptance and screening procedures detailed in the LEMP
22	Measurements of the quantities of wastes received	No	3.9.1	Detailed in the LEMP
23	Recording of the quantities, types and sources of wastes received	Yes	3.9.1 & 3.9.2	Quantities, types and sources of waste will be recorded, as detailed in the LEMP
24	Compaction of wastes	Yes	3.10.1	Compaction will be achieved to a minimum of 650kg/m <sup>3</sup>
25	Recycling	Yes	3.11	Recycling bins will continue to be provided at the site
26	Financial Assurance	No	3.12.2	To be developed in later years
27	Filling Plan/Contours	Yes	3.10.2	The filling plan would be as per the provided drawings
28	Site Capping and Vegetation	Yes	3.12.3	A phytocap will be installed on all completed landfill areas
29	Landfill Closure and post-closure monitoring and maintenance	Yes	3.12.1	To be prepared as landfill is nearing its completion
30	Security of site	Yes	3.13.1	Detailed in the LEMP
31	Litter Control	Yes	3.14.1	Detailed in the LEMP
32	Cleaning of vehicles	No	3.14.2	Few vehicle numbers expected and no facilities on site
33	Covering of waste	Yes	3.10.3	Cover of exposed waste material will be provided and adequate supplies of cover material kept on site.

Table 1.1 – Compliance with Benchmark Techniques – Stage 1

No.	Benchmark Technique	Compliance	LEMP Section	How Compliance Achieved or Why Technique has not Been Adopted
34	Dust controls	Yes	3.14.3	Dust suppression will be carried out using a water truck. Cover will also reduce dust generation
35	Pest, vermin and noxious weed controls	Yes	3.14.4	Detailed in the LEMP
36	Odour controls	Yes	3.14.5	Detailed in the LEMP
37	Noise controls	Yes	3.15	Detailed in the LEMP
38	Fire Fighting Capacity	Yes	3.16	Detailed in the LEMP
39	Staffing and training capacity	Yes	3.17	Detailed in the LEMP

### 1.4.2 REGULATORY LICENCE

Whilst the development is not designated it is integrated pursuant to Schedule 1 of the *Protection of the Environment Operations Act 1997*, and therefore requires an Environment Protection Licence (EPL), refer **Attachment A**.

The facility is regulated through Environmental Protection Licence No. 20289 issued to Oberon Shire Council by the Office of Environment and Heritage (formerly the Department of Environment and Conservation), under this *Act*.

The landfill is a scheduled activity, as it is assumed the OWD receives from off-site more than 5,000 tonnes per year of general solid waste (putrescible), general solid waste (non-putrescible), clinical and related waste, asbestos waste, grease trap waste and waste tyres (and any combination of them); and because the activity undertaken at the site includes the application of waste to land.

The development is therefore integrated and the EPA is an Appropriate Regulatory Authority (ARA).

### 1.4.3 STRUCTURE

This LEMP is structured as follows:

- **Section 2** provides a facility overview;
- **Section 3** details the operational techniques to be employed to meet environmental goals; and
- **Section 4** provides a Schedule of Drawings.

Form 1.1 – LEMP Distribution Register

Copy No.	Date of Issue	Document	Registered Holder
1	August, 2013	LEMP Version 2	Director of Works and Engineering, OC
2	August, 2013	LEMP Version 2	Waste Manager, OC
3	August, 2013	LEMP Version 2	Administration Manager, OC
4	August, 2013	LEMP Version 2	Environment Protection Authority, Bathurst Region
5	August, 2013	LEMP Version 2	Geolyse Pty Ltd, Orange
1	August, 2013	PIRMP Version 2	Director of Works and Engineering, OC
2	August, 2013	PIRMP Version 2	Waste Manager, OC
3	August, 2013	PIRMP Version 2	Administration Manager, OC
4	August, 2013	PIRMP Version 2	Environment Protection Authority, Bathurst Region
5	August, 2013	PIRMP Version 2	Geolyse Pty Ltd, Orange

Approved: .....

**Director of Works and Engineering**

Date: .....

**Form 1.2 – LEMP Updates Register**

<b>Update No.</b>	<b>Section of LEMP</b>	<b>New Version No.</b>	<b>Date Issued</b>	<b>Sign-Off</b>
1	Section 1	Version 2	2 August 2013	
1	Section 3.10.3	Version 2	2 August 2013	
1	Section 3.14.1	Version 2	2 August 2013	
1	Section 3.14.3	Version 2	2 August 2013	
1	Section 3.15	Version 2	2 August 2013	
1	Section 3.16	Version 2	2 August 2013	
1	Section 3.17	Version 2	2 August 2013	
1	Attachment A	Version 2	2 August 2013	

**Approved:** .....

**Director of Works and Engineering**

**Date:** .....

## **Section 2**

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### **WASTE FACILITY OVERVIEW**

## 2.1 SITE SETTING AND DESCRIPTION

The OWD landfill is set in a rural area where grazing is the predominant agricultural activity, approximately four kilometres north of Oberon. There is also some cropping, and extensive timber production. The OTC is located 2.5 kilometres south of the landfill.

The development site is zoned No.1 (a) (Rural 'A' Zone) under the Oberon *Local Environmental Plan 1998*. The proposed development is permissible with consent in the 1 (a) zone under this environmental planning instrument.

Land to the east, Hills Estate is zoned No.1 (c) (Rural 'C' Zone) and comprises small rural holdings. The proposed landfill extension is in a direction away from this land use.

The landfill site is a roughly rectangular area 650 metres north-south by 460 metres east-west, that narrows towards the north (refer **Drawing 05B\_EV02**).

The existing landfill is currently screened by rows of established native trees. The trees are well established providing a visual screen on the northern, eastern and southern boundaries of the landfill. Rows of native trees have also been planted on the western side of the area for future lateral expansion.

## 2.2 TOPOGRAPHY AND DRAINAGE

The landfill is located on a watershed. Most of the landfill drains west into the catchment of Wisemans Creek. The south-east corner of the landfill drains south into the headwaters of Kings Stockyard Creek, and the north-east corner of the landfill drains into Hazelgrove Creek (CMJA, 2012).

Wisemans Creek discharges into Chifley Dam on the Macquarie River while Kings Stockyard Creek and Hazelgrove Creek are tributaries of the Fish River, and ultimately the Macquarie River.

## 2.3 CLIMATE

Records collected by the Bureau of Meteorology (BOM) from the Jenolan Caves Road, Oberon station (#063293) indicate an average annual rainfall of 730.7mm (from the past 23 years of data). Rainfall is shown to be highest in the summer months (November to February), and lowest in the autumn months (Lowest in April – May). February has the highest average rainfall (81.1mm), and April has recorded the lowest average rainfall (40.1mm).

January and February are the hottest months with mean monthly maximum temperatures of 24.0°C and 23.2°C and mean minimum temperatures of 11.9°C and 12.0°C. June and July are the coldest months with mean monthly maximum temperatures of 9.5°C and 8.4°C and mean monthly minimum temperatures of 0.5°C and 0.8°C respectively.

## 2.4 EXISTING OPERATION

Whilst it is speculated that landfilling at this location extends as far back as the 1940s, the formal paper trail extends only to the 1960s.

The OWD services the town of Oberon, which has a population of approximately 2,500 people. The landfill receives municipal kerbside waste, municipal delivered waste, commercial and industrial waste and building and demolition waste. It also has facilities for recycling drop off and green waste separation.

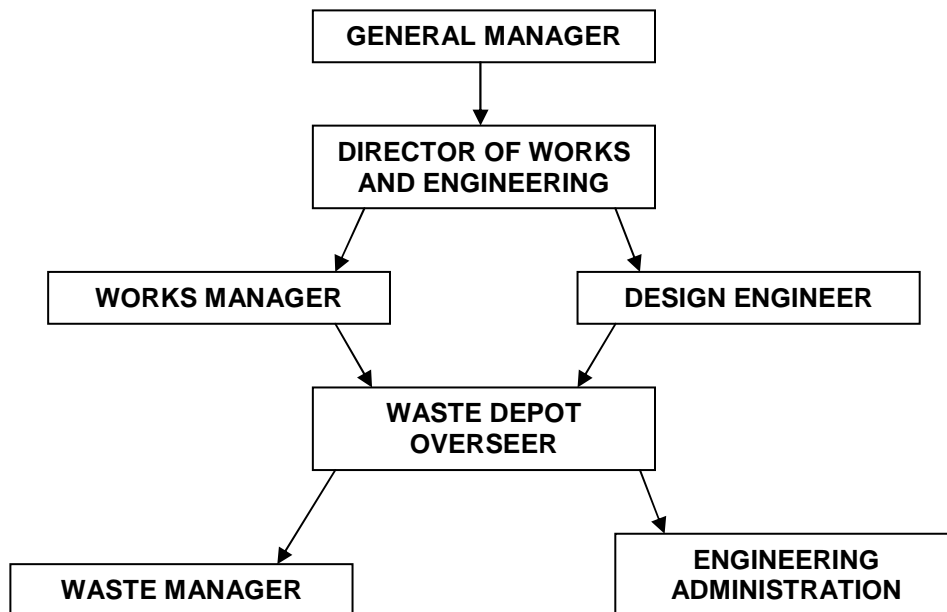
## 2.5 PERMITTED WASTES

The OWD is permitted to dispose of the following waste types:

- Special wastes (meaning clinical waste, asbestos and waste tyres);
- General solid waste (putrescible); and
- General solid waste (non-putrescible).

Liquid waste, restricted solid waste and hazardous waste will not be disposed of at the OWD.

## 2.6 RESPONSIBILITIES





## **Section 3**

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### **ENVIRONMENTAL GOALS**

# Operational Controls – TOC

		<b>VERSION</b>	<b>DATED</b>
3.1	PREVENTING POLLUTION OF WATER BY LEACHATE	Version 2	August 2013
3.2	DETECTING WATER POLLUTION	Version 2	August 2013
3.3	REMEDIATING WATER POLLUTION	Version 2	August 2013
3.4	PREVENTING LANDFILL GAS EMISSIONS	Version 2	August 2013
3.5	DETECTING LANDFILL GAS EMISSIONS	Version 2	August 2013
3.6	REMEDIATING LANDFILL GAS EMISSIONS	Version 2	August 2013
3.7	ASSURING QUALITY OF DESIGN, CONSTRUCTION AND OPERATION	Version 2	August 2013
3.8	ASSURING QUALITY OF INCOMING WASTES	Version 2	August 2013
3.9	RECORDING OF WASTES RECEIVED	Version 2	August 2013
3.10	MINIMISING LANDFILL SPACE USED	Version 2	August 2013
3.11	MAXIMISATION OF RECYCLING	Version 2	August 2013
3.12	REMEDIATION OF LANDFILL AFTER CLOSURE	Version 2	August 2013
3.13	PREVENTING UNAUTHORISED ENTRY	Version 2	August 2013
3.14	PREVENTING DEGRADATION OF LOCAL AMENITY	Version 2	August 2013
3.15	PREVENTING NOISE POLLUTION	Version 2	August 2013
3.16	ADEQUATE FIRE FIGHTING CAPACITY	Version 2	August 2013
3.17	ADEQUATE STAFFING AND CONTROLS	Version 2	August 2013

# Environmental Goal

## 3.1 PREVENTING POLLUTION OF WATER BY LEACHATE

### 3.1.1 LEACHATE BARRIER

Stage 1 of the landfill expansion does not entail lateral expansion over any area that has not previously been used as landfill. Accordingly, no new liner system is required to form a barrier between groundwater, soil and substrate, and the waste.

The proposed landfill expansion site was subject to a detailed hydrogeological investigation and assessment in 2012. This study concluded that because there are human and ecological receptors down gradient from the landfill, moderately short minimal travel times to these receptors and the detection of low-level groundwater quality impact resulting from previous activities, there would appear to be no grounds for relaxing the benchmark technique for a leachate barrier system for the lateral expansion of the landfill, ie a liner system that forms a barrier between groundwater, soil and substrata, and the waste.

Landfilling beyond Stage 1 will require installation of a suitable liner (ie. re-compacted clay or modified soil liner, overlaid with a flexible membrane liner) and will be subject to securing approval from the EPA.

### 3.1.2 LEACHATE COLLECTION AND DISPOSAL

The existing landfill does not have a constructed leachate collection system, and given that Stage 1 of the expansion is over the existing landfill there are no plans to develop a leachate collection system. Stages 2 to 4 will however include a constructed leachate collection, storage and disposal system, which will be documented in a revised version of the LEMP prior to reaching the final landform of Stage 1.

### 3.1.3 SURFACE WATER CONTROLS

#### 3.1.3.1 Stormwater Ponds

It is important to prevent surface water from mixing with waste to avoid the generation of excess leachate, erosion of cover material and/or waste from the landfill, and sediment or contaminants from being carried off the landfill site. This is particularly important at the OWD given the close proximity to Wisemans Creek, which is listed in Schedule 1 of the *Oberon Local Environmental Plan 1998*.

In general all stormwater entering the site will be captured in grassed swales and directed around the landfilling operation to a stormwater pond on the western side of the site (refer to **Drawing 05B\_EV03**). It is proposed to use the existing dam on the western side of the site as the stormwater pond.

#### 3.1.3.2 Sedimentation Pond

Stormwater runoff generated on the operational area of Stage 1 of landfilling operations would be directed to a sedimentation pond via diversion banks and swales to avoid exposed landfilling areas and to minimise erosion (refer to **Drawing 05B\_EV03**).

The sedimentation pond which will capture all westward directed runoff will be a minimum of 2.3 ML. The sedimentation basin will be comprised of two zones, a sediment settlement zone and a sediment storage zone (upper and lower portions of the water body). 1.52 ML of runoff would be generated from 44 mm of rainfall on the site (using an area of 5ha where runoff would be directed westward and a runoff co-efficient of 0.69 - as defined by *Managing Urban Stormwater Soils and Construction*, Landcom, 2004).

The sediment settling zone would require a volume of 1.52 ML in order to capture all runoff generated from up to 44 mm of rainfall. The sediment storage zone can be 50% of the settling zone capacity making the total sedimentation basin size  $1.52 \text{ ML} + (0.5 * 1.52 \text{ ML}) = \sim 2.3 \text{ ML}$ . This equates to a conceptual sedimentation basin size of 55 m (L) by 18 m (w) by 3 m (d).

The sedimentation basin will be constructed to be a minimum of 2.3 ML in accordance with *Managing Urban Stormwater Soils and Construction* (Landcom, 2004) and DECCW's *Managing Urban Stormwater: Soils and Construction- Volume 2B-Waste Landfills* (DECC,2008) to ensure appropriate stormwater treatment volumes required for sediment removal and storage are provided.

If levels permit the area at the eastern edge of the site (~1 ha) will drain east to an existing pond (the current survey does not cover this area). The existing pond will be converted to a type D sedimentation pond if levels permit.

Using the above described methodology a sedimentation pond capturing runoff from a 1 ha area would need to have a total volume of 0.45 ML. This equates to a conceptual sedimentation basin size of 25 m (L) by 8 m (w) by 3 m (d). The existing pond is ~70 m (L) by ~10 m (w) by depth unknown. The depth would need to be determined prior to converting this pond to a sedimentation pond to ensure a volume of 0.45 ML can be achieved.

If levels do not permit a type D sedimentation pond will be constructed in accordance with *Managing Urban Stormwater Soils and Construction* (Landcom, 2004) to capture flows from this area.

The sedimentation pond is to be drawn down to a following a storm to ensure that the basin can subsequently retain runoff from the next storm. This drawdown can be achieved by reusing the water within the site, for example for irrigation or dust suppression, or reticulation back through the landfill.

### **3.1.4 EROSION AND SEDIMENT CONTROL PLAN**

An erosion and sedimentation control plan has been developed for the site in accordance with *Managing Urban Stormwater Soils and Construction* (Landcom, 2004) and DECCW's *Managing Urban Stormwater: Soils and Construction- Volume 2B-Waste Landfills* (DECC,2008). This plan is provided in the attached **Drawing 05B\_EV05** and **05B\_EV06**.

### **3.1.5 RESPONSIBILITIES**

**Waste Manager:**

- Inspecting and maintaining the surface water drainage system to ensure it remains free of waste and effective at diverting clean runoff around the landfill site.

### **3.1.6 BENCHMARK COMPLIANCE**

<b>Relevant Benchmark Technique</b>	<b>Compliance</b>
Leachate Barrier System (1)	No
Leachate Collection System (2)	No
Surface Water Controls (3)	Yes

# Environmental Goal

## 3.2 DETECTING WATER POLLUTION

### 3.2.1 MONITORING RECORDS

The results of any monitoring required to be conducted as per the EPA's general terms of approval (GTA), or a licence under the *Protection of the Environment Operations Act 1997*, must be recorded and retained as follows:

- Details and results from the monitoring programs outlined in this section should be recorded and documented in the annual report (refer to **Section 3.9**); and
- Records are to be retained for at least four years after the monitoring or event to which they relate took place.

The following records must be kept in respect of any samples required to be collected:

- The date(s) on which the sample was taken;
- The time(s) at which the sample was collected;
- The point at which the sample was taken; and
- The name of the person who collected the sample.

### 3.2.2 GROUNDWATER MONITORING NETWORK

The groundwater monitoring network was designed by CMJA (2012) and comprises six shallow (screened 3.5 to 5.0 metres) and four deep (screened 24 to 30 metres) monitoring wells. **Drawing 05B\_EV02** shows the configuration of the groundwater monitoring network.

The four deep monitoring wells are installed as twins to the correspondingly numbered shallow wells, and are screened in the upper part of the interval used by stock and domestic wells in the area.

### 3.2.3 GROUNDWATER MONITORING PROGRAM

The groundwater monitoring program includes monitoring all ten piezometers for the suite analytes as detailed below, consistent with the recommendations of CMJA (2012).

**Table 3.2.1 – Ground Water Monitoring Program – Shallow Monitoring Wells**

Pollutant	Units of Measure	Frequency	Sampling Method
Total Dissolved solids	mg/L	6 monthly	Grab Sample
pH	pH	6 monthly	Grab Sample
Conductivity	Microsiemens per cm	6 monthly	Grab Sample
Standing Water Level	m AHD	6 monthly	In situ
Calcium	mg/L	6 monthly	Grab Sample
Magnesium	mg/L	6 monthly	Grab Sample
Potassium	mg/L	6 monthly	Grab Sample
Sodium	mg/L	6 monthly	Grab Sample
Chloride	mg/L	6 monthly	Grab Sample
Sulphate	mg/L	6 monthly	Grab Sample

**Table 3.2.1 – Ground Water Monitoring Program – Shallow Monitoring Wells**

<b>Pollutant</b>	<b>Units of Measure</b>	<b>Frequency</b>	<b>Sampling Method</b>
Alkalinity (as Calcium Carbonate)	mg/L	6 monthly	Grab Sample
Total Organic Carbon	mg/L	6 monthly	Grab Sample
Nitrogen – Ammonia	mg/L	6 monthly	Grab Sample
Nitrogen – Nitrate	mg/L	6 monthly	Grab Sample
Nitrogen – Nitrite	mg/L	6 monthly	Grab Sample
Total Phosphorus	mg/L	6 monthly	Grab Sample
Aluminium	mg/L	Annually	Grab Sample
Arsenic	mg/L	Annually	Grab Sample
Barium	mg/L	Annually	Grab Sample
Cadmium	mg/L	Annually	Grab Sample
Chromium (total)	mg/L	Annually	Grab Sample
Cobalt	mg/L	Annually	Grab Sample
Copper	mg/L	Annually	Grab Sample
Iron	mg/L	Annually	Grab Sample
Mercury	mg/L	Annually	Grab Sample
Manganese	mg/L	Annually	Grab Sample
Lead	mg/L	Annually	Grab Sample
Zinc	mg/L	Annually	Grab Sample
Fluoride	mg/L	Annually	Grab Sample
Benzene	mg/L	Annually	Grab Sample
Toulene	mg/L	Annually	Grab Sample
Ethylbenzene	mg/L	Annually	Grab Sample
Xylene	mg/L	Annually	Grab Sample
Total phenolics	mg/L	Annually	Grab Sample
Total Petroleum Hydrocarbons	mg/L	Annually	Grab Sample
Organochlorine pesticides	mg/L	Annually	Grab Sample
Organophosphate pesticides	mg/L	Annually	Grab Sample
Polycyclic aromatic hydrocarbons	mg/L	Annually	Grab Sample

**Table 3.2.2 – Ground Water Monitoring Network – Deep Monitoring Wells**

Pollutant	Units of Measure	Frequency	Sampling Method
Total Dissolved solids	mg/L	Annually	Grab Sample
pH	pH	Annually	Grab Sample
Conductivity	Microsiemens per cm	Annually	Grab Sample
Standing Water Level	m AHD	Annually	In situ
calcium	mg/L	Annually	Grab Sample
Magnesium	mg/L	Annually	Grab Sample
Potassium	mg/L	Annually	Grab Sample
Sodium	mg/L	Annually	Grab Sample
Chloride	mg/L	Annually	Grab Sample
Sulphate	mg/L	Annually	Grab Sample
Alkalinity (as Calcium Carbonate)	mg/L	Annually	Grab Sample
Total Organic Carbon	mg/L	Annually	Grab Sample
Nitrogen – Ammonia	mg/L	Annually	Grab Sample
Nitrogen – Nitrate	mg/L	Annually	Grab Sample
Nitrogen – Nitrite	mg/L	Annually	Grab Sample
Total Phosphorus	mg/L	Annually	Grab Sample
Aluminium	mg/L	Annually	Grab Sample
Arsenic	mg/L	Annually	Grab Sample
Barium	mg/L	Annually	Grab Sample
Cadmium	mg/L	Annually	Grab Sample
Chromium (total)	mg/L	Annually	Grab Sample
Cobalt	mg/L	Annually	Grab Sample
Copper	mg/L	Annually	Grab Sample
Iron	mg/L	Annually	Grab Sample
Mercury	mg/L	Annually	Grab Sample
Manganese	mg/L	Annually	Grab Sample
Lead	mg/L	Annually	Grab Sample
Zinc	mg/L	Annually	Grab Sample
Fluoride	mg/L	Annually	Grab Sample
Benzene	mg/L	Annually	Grab Sample
Toulene	mg/L	Annually	Grab Sample
Ethylbenzene	mg/L	Annually	Grab Sample
Xylene	mg/L	Annually	Grab Sample
Total phenolics	mg/L	Annually	Grab Sample
Total Petroleum Hydrocarbons	mg/L	Annually	Grab Sample
Organochlorine pesticides	mg/L	Annually	Grab Sample
Organophosphate pesticides	mg/L	Annually	Grab Sample
Polycyclic aromatic hydrocarbons	mg/L	Annually	Grab Sample

### 3.2.4 GROUNDWATER ASSESSMENT PROGRAM

If the groundwater monitoring program detects a possible failure of the leachate containment system, a Groundwater Assessment Program (GAP) should be established to determine the extent of that failure.

Any impact on groundwater is detected through exceeding provisional limits, which will be defined following the first 12 months of collecting background data through routine monitoring, as detailed in **Section 3.2.3**. Currently groundwater pollution is detected through checking monitoring results against recorded historical ranges and ANZECC guidelines (livestock drinking water, crop irrigation and drinking water). If the established control range is substantially exceeded and monitoring results indicate potential pollution, groundwater at the affected monitoring point will be sampled and tested again as soon as possible to confirm the results. If re-sampling confirms the anomaly, the EPA will then be notified as soon as practicable after it becomes known, by telephone, and in writing within 14 days of confirmation.

Contingent on requirements of the EPA, a GAP will then be prepared.

The GAP would be expected to:

- Identify the groundwater contaminants;
- Establish the extent of the pollution;
- Provide a justified list of proposed analytes for evaluation;
- Assess the impacts of the groundwater pollution; and
- Outline a proposed sampling plan to obtain sufficient information to prepare a Water Remediation Plan.

### 3.2.5 SURFACE WATER MONITORING

The surface water storage pond (refer to **Drawing 05B\_EV02**) will be monitored routinely, using the parameters in **Table 3.2.3** below.

**Table 3.2.3 – Surface Water Monitoring**

Pollutant	Units	Limit (100% concentration limit)	Sample Frequency	Sample Type
pH	pH	6.5-8.5	Monthly on Discharge	Grab Sample
Total Suspended Solids (TSS)*	mg/L	50	Monthly on Discharge	Grab Sample
Oil and Grease	mg/L	10	Monthly on Discharge	Grab Sample
Conductivity	Microsiemens per centimetre		Monthly on Discharge	Grab Sample

\* the TSS limit specified in the table above do not apply when the discharge occurs solely as a result of rainfall at the premises which exceeds a total of 44mm of rainfall over any consecutive 5 day period.

If the established control range is substantially exceeded and/or monitoring results indicate pollution, surface water will be sampled and tested again as soon as possible to confirm the results. If re-sampling confirms the anomaly, the EPA will be notified as soon as practicable after it becomes known, by telephone and in writing within 14 days of confirmation.

Contingent on the requirements of the EPA a Surface Water Assessment Plan (SWAP) will then be prepared. The SWAP would be expected to:

- Identify the specific surface water contaminants;
- Establish the extent of the pollution;



- Provide a justified list of proposed analytes for evaluation;
- Assess the impacts of the surface water pollution; and
- Outline a proposed sampling plan to obtain sufficient information to prepare a Surface Water Contamination Remediation Plan.

### 3.2.6 LEACHATE MONITORING

The proposed leachate pond, as shown in **Drawing 05B\_EV02** will be monitored routinely using the parameters in **Table 3.2.4** below. Stage 1 does not demand leachate monitoring.

**Table 3.2.4 – Leachate Monitoring**

Pollutant	Units of Measure	Frequency	Sampling Method
Total Dissolved solids	Mg/L	Annually	Grab Sample
pH	pH	Annually	Grab Sample
Conductivity	Microsiemens per cm	Annually	Grab Sample
calcium	Mg/L	Annually	Grab Sample
Magnesium	Mg/L	Annually	Grab Sample
Potassium	Mg/L	Annually	Grab Sample
Sodium	Mg/L	Annually	Grab Sample
Chloride	Mg/L	Annually	Grab Sample
Sulphate	Mg/L	Annually	Grab Sample
Alkalinity (as Calcium Carbonate)	Mg/L	Annually	Grab Sample
Total Organic Carbon	Mg/L	Annually	Grab Sample
Nitrogen – Ammonia	Mg/L	Annually	Grab Sample
Nitrogen – Nitrate	Mg/L	Annually	Grab Sample
Nitrogen – Nitrite	Mg/L	Annually	Grab Sample
Total Phosphorus	Mg/L	Annually	Grab Sample
Aluminium	Mg/L	Annually	Grab Sample
Arsenic	Mg/L	Annually	Grab Sample
Barium	Mg/L	Annually	Grab Sample
Cadmium	Mg/L	Annually	Grab Sample
Chromium (total)	Mg/L	Annually	Grab Sample
Cobalt	Mg/L	Annually	Grab Sample
Copper	Mg/L	Annually	Grab Sample
Iron	Mg/L	Annually	Grab Sample
Mercury	Mg/L	Annually	Grab Sample
Manganese	Mg/L	Annually	Grab Sample
Lead	Mg/L	Annually	Grab Sample
Zinc	Mg/L	Annually	Grab Sample
Fluoride	Mg/L	Annually	Grab Sample
Benzene	Mg/L	Annually	Grab Sample
Toulene	Mg/L	Annually	Grab Sample

**Table 3.2.4 – Leachate Monitoring**

Pollutant	Units of Measure	Frequency	Sampling Method
Ethylbenzene	Mg/L	Annually	Grab Sample
Xylene	Mg/L	Annually	Grab Sample
Total phenolics	Mg/L	Annually	Grab Sample
Total Petroleum Hydrocarbons	Mg/L	Annually	Grab Sample
Organochlorine pesticides	Mg/L	Annually	Grab Sample
Organophosphate pesticides	Mg/L	Annually	Grab Sample
Polycyclic aromatic hydrocarbons	Mg/L	Annually	Grab Sample

### 3.2.7 RESPONSIBILITIES

**Waste Manager:**

- Protect the integrity of the monitoring network; and
- Undertake required monitoring.

**Waste Depot Overseer/Works Manager:**

- Liaise with EPA in the event that the need for either a Groundwater or Surface Water Assessment Program is triggered.

### 3.2.8 BENCHMARK COMPLIANCE

Relevant Benchmark Technique	Compliance
Groundwater Monitoring Network (4)	Yes
Groundwater Monitoring Program (5)	Yes
Groundwater Assessment Program (6)	Yes
Surface Water Monitoring Program (7)	Yes
Leachate Monitoring (8)	Yes

# Environmental Goal

## 3.3 REMEDIATING WATER POLLUTION

### 3.3.1 GROUNDWATER CONTAMINATION REMEDIATION PLAN

If required, as determined by a Groundwater Assessment Program, a Groundwater Contamination Remediation Plan will be prepared.

The Groundwater Contamination Remediation Plan will need to describe the process to protect the groundwater resource from further contamination, and nominate a means to return the resource to the original quality down hydraulic gradient from the landfill.

The Groundwater Contamination Remediation Plan will be submitted to the EPA for approval prior to implementation.

### 3.3.2 SURFACE WATER POLLUTION CONTAINMENT

If surface water is detected, immediate action should be undertaken to contain the pollution.

### 3.3.3 SURFACE WATER CONTAINMENT REMEDIATION PLAN

Contingent on the requirements of the EPA and any surface water assessment plan (SWAP), a Surface Water Contamination Remediation Plan will be submitted to the EPA for approval prior to implementation.

When the future actions are approved by the EPA, these should be carried immediately.

### 3.3.4 RESPONSIBILITIES

**Waste Manager:**

- Containment of a surface water pollution event and immediate notification to Council.

**Waste Depot Overseer/Works Manager**

- EPA notification and coordinating and implementing any water remediation plan.

### 3.3.5 BENCHMARK COMPLIANCE

Relevant Benchmark Technique	Compliance
Water Contamination Remediation Plan (9)	Yes

# Environmental Goal

## 3.4 PREVENTING LANDFILL GAS EMISSIONS

### 3.4.1 LANDFILL GAS CONTAINMENT SYSTEM

Small quantities of landfill gas are expected, and therefore an active landfill gas containment system is not considered necessary at the OWD. Landfill gas generated in the landfill is controlled by limiting the amount of water entering the active landfill area through surface water drainage and, upon closure in the future the progressive capping and revegetation of completed landfill stages, and covering of the active landfill cell.

### 3.4.2 EXTRACTION AND DISPOSAL OF LANDFILL GAS

The landfill does not provide for a gas extraction system and/or the controlled combustion of landfill gas.

### 3.4.3 FIRE PREVENTION

- The storage of flammable wastes and fuel would be at designated locations; gas and oil are stored in a locked drum cage near the site entrance (refer to **Drawing 05B\_EV02**). No plant or equipment fuel is stored on site;
- Stockpiles of combustible materials for recycling (for example mulch) will be divided into small piles, and stockpiled immediately to the east of the site access road (refer to **Drawing 05B\_EV02**); and
- Signage will be installed at the site entrance advising that flammable liquids are not permitted in the landfill.

### 3.4.4 CONTROLLED BURNING

No controlled burning will be undertaken without the permission of the EPA and the Rural Fire Service.

### 3.4.5 SITE CLOSURE

When appropriate, the Closure Plan prepared for the landfill will incorporate measures to reduce to a minimum the emission of landfill gas, as detailed in **Section 3.12**.

### 3.4.6 RESPONSIBILITIES

#### **Waste Manager:**

- Divide stockpiles of combustible materials for recycling into small piles; and
- Construct and compact the active waste cell in a manner conducive to the prevention of a landfill fire.

#### **Waste Manager/Engineering Administration:**

- Erecting signage advising that flammable liquids are not permitted in the landfill.

### 3.4.7 BENCHMARK COMPLIANCE

Relevant Benchmark Technique	Compliance
Landfill Gas Containment System (10)	No
Extracting and Disposal of Landfill Gas (11)	No
Fire Prevention (12)	Yes
Controlled Burning (13)	Yes
Site Closure (14)	Yes

# Environmental Goal

## 3.5 DETECTING LANDFILL GAS EMISSIONS

The Groundwater investigation conducted by CMJA has shown that the water table around the western perimeter of the site is close to the surface, which significantly reduces the potential for lateral expansion of landfill gas in that direction. The closest buildings on the western side of the site (ie not within the facility itself) are in excess of 500 metres from the closest proposed filled areas. The water table on the eastern side of the site is deeper, with the closest occupied buildings located 200 metres north east and 200 metres south-southeast of the site.

### 3.5.1 SUB-SURFACE GAS MONITORING DEVICES

It is recommended by CMJA that six landfill gas monitoring wells be installed at the south-east and north-east corners of the site, and along the eastern boundary, before final capping of the old (eastern) areas of the site is completed. Sub-surface gas monitoring is not considered for Stage 1, but will be revisited for Stage 2 to 4, with the LEMP updated accordingly.

Sub-surface monitoring is not considered for Stage 1 due to the small quantities of landfill gas that are expected to be generated (refer **Section 3.4.1**).

### 3.5.2 SUB-SURFACE GAS MONITORING PROGRAM

For Stage 2 to 4, the sub-surface gas monitoring wells should be monitored for methane and carbon dioxide on a quarterly basis. If methane concentrations above 0.5% v/v or carbon dioxide concentrations above 1% v/v are detected, then gas flow rates should be measured.

**Table 3.5.1 – Sub-surface Gas Monitoring Program**

Pollutant	Units of Measure	Frequency	Upper Acceptable Limit (1%)
Methane	v/v	Quarterly	0.5
Carbon Dioxide	v/v	Quarterly	1

Source: CMJA, 2012

### 3.5.3 SURFACE GAS EMISSION MONITORING

Surface gas monitoring is required as a condition of the General Terms of Approval for the Expansion of the Oberon Waste Management Facility. Specifically, all buildings within 250 metres of deposited waste or areas having the potential to have methane concentrations greater than 1.25% (v/v) in the subsurface must be tested on a monthly frequency using a tested and calibrated methane detector. If any buildings are to be built within this area they must be designed so as not to accumulate methane gas. The closest residential receptors are displayed in **Drawing 05B\_EV07**.

### 3.5.4 GAS ACCUMULATION MONITORING

Buildings on the premises within 250 metres of waste filled areas are monitored for gas accumulation on a monthly basis in conjunction with the surface gas monitoring.

Permanent gas monitors, programmed to alarm at methane concentrations above 1.25% should be installed in all buildings on the site (ie the site office).

If methane is detected above this limit, daily testing will be required until ventilation or other measures have controlled the methane concentration.

### 3.5.5 NOTIFICATION OF GAS EMISSIONS

The EPA will be notified within 24 hours if the surface and building gas monitoring detects methane concentrations exceeding the threshold level.

A written assessment of the emissions and management controls implemented or proposed to be implemented to prevent further emissions will be provided to the DEC within 14 days of the incident.

### 3.5.6 RESPONSIBILITIES

**Waste Depot Overseer:**

- Implementation of procedures detailed in this LEMP so as to minimise the generation of landfill gas.

**Works Manager/Director Works and Engineering:**

- Commission monitoring and instigate corrective action if the thresholds are exceeded; and
- Notify the EPA in the event of an exceedence.

### 3.5.7 BENCHMARK COMPLIANCE

Relevant Benchmark Technique	Compliance
Sub-Surface Gas Monitoring Devices	No
Sub-Surface Gas Monitoring Program (16)	No
Surface Gas Emission Monitoring	Yes
Gas Accumulation Monitoring	Yes

# Environmental Goal

## 3.6 REMEDIATING LANDFILL GAS EMISSIONS

### 3.6.1 REMEDIATION OF UNCONTROLLED LANDFILL GAS EMISSIONS

The EPA must be notified within 24 hours of detection of methane at concentrations greater than 1.25% (v/v) in the landfill surface or buildings within 250 metres of the landfill.

A written assessment of the emissions and management controls implemented or proposed to be implemented to prevent further emissions will be provided to the EPA within 14 days of the incident.

### 3.6.2 RESPONSIBILITIES

*Director Works and Engineering:*

- Notify the EPA if required and coordinate written assessment.

### 3.6.3 BENCHMARK COMPLIANCE

Relevant Benchmark Technique	Compliance
Remediation of Uncontrolled Landfill Gas Emissions (19)	Yes



# Environmental Goal

## 3.7 QUALITY OF DESIGN, CONSTRUCTION & OPERATION

### 3.7.1 QUALITY SYSTEM

To minimise the risk of the landfill having detrimental effects on the surrounding environment, the OWD will be constructed and operated consistent with requirements specified within this LEMP and in compliance with all 'General Terms of Approval'. Once an Environment Protection Licence has been issued, the LEMP will be updated to conform to the requirements of the licence if not already detailed in this LEMP.

### 3.7.2 RESPONSIBILITIES

***Director Works and Engineering:***

- Constructing and operating the OWD consistent with the requirements specified within this LEMP and in compliance with the General Terms of Approval.

### 3.7.3 BENCHMARK COMPLIANCE

Relevant Benchmark Technique	Compliance
Assurance of Quality (20)	Yes

# Environmental Goal

## 3.8 ASSURING QUALITY OF INCOMING WASTE

### 3.8.1 SCREENING OF WASTES RECEIVED

Waste is delivered to the OWD by:

- Council's garbage collection service vehicles;
- Residents;
- Oberon Timber Complex;
- Commercial and Industrial businesses; and
- Approved waste service providers.

#### 3.8.1.1 Permitted Wastes

The Oberon council and any contractors must not cause, permit or allow any waste to be received at the premises, except the wastes expressly referred to in the column titled "waste" and meeting the definition, if any, in the column titled "description" in **Table 3.8.1** below.

**Table 3.8.1 – Permitted Wastes at the OWD**

Waste	Description	Activity	Other Limits
General Solid Waste (putrescible)	As defined in Schedule 1 of the POEO Act, in force from time to time	Waste Disposal (application to land)	The total amount of general solid waste (putrescible and non-putrescible), asbestos and waste tyres disposed of at the premises must not exceed 10,000 tonnes per annum 1.
General solid waste (non-putrescible)	Wastes assessed as General Solid Waste which are also subject to general or specific immobilisation approvals which have a restriction that they may only be disposed of at waste facilities which have currently operating leachate collection systems	Waste disposal (application to land)	The total amount of general solid waste (putrescible and non-putrescible), asbestos and waste tyres disposed of at the premises must not exceed 10,000 tonnes per annum 1.
Asbestos Waste	As defined in Schedule 1 of the POEO Act, in force from time to time.	Waste disposal (application to land)	The total amount of general solid waste (putrescible and non-putrescible), asbestos and waste tyres disposed of at the premises must not exceed 10,000 tonnes per annum 1.
Waste Tyres	As defined in Schedule 1 of the POEO Act, in force from time to time	Waste disposal (application to land)	The total amount of general solid waste (putrescible and non-putrescible), asbestos and waste tyres disposed of at the premises must not exceed 10,000 tonnes per annum 1.

**General Solid Waste (putrescible)**

Defined as waste (other than special waste, hazardous waste, restricted solid waste or liquid waste) that includes any of the following:

- (a) *Household waste containing putrescible organics*
- (b) *Waste from litter bins collected by on behalf of local councils*
- (c) *Manure and nightsoil*
- (d) *Disposable nappies, incontinence pads or sanitary napkins*
- (e) *Food waste*
- (f) *Animal waste*
- (g) *Grit of screenings from sewage treatment systems that have been dewatered so that the grit or screenings do not contain free liquids*
- (h) *Anything that is classified as general solid waste (putrescible) pursuant to an EPA Gazettal notice*
- (i) *Anything that is general solid waste (putrescible) within the meaning of the Waste Classification Guidelines*
- (j) *A mixture of anything referred to in (a)-(i) above*

**General Solid Waste (non-putrescible)**

Defined as waste (other than special waste, hazardous waste, restricted solid waste, general solid waste (putrescible) or liquid waste) that includes the following:

- (a) *Glass, plastic, rubber, plasterboard, ceramics, concrete or metal*
- (b) *Paper or cardboard*
- (c) *Household waste from municipal clean-up that does not include food waste*
- (d) *Waste collected by or on behalf of local councils from street sweeping*
- (e) *Grit, sediment, litter and gross pollutants collected in, and removed from, stormwater treatment devices or stormwater management systems, that has been dewatered so that it does not contain free liquids*
- (f) *Grit and screenings from potable water and water reticulation plants that has been dewatered so that it does not contain free liquids*
- (g) *Garden waste*
- (h) *Wood waste*
- (i) *Waste contaminated with lead (including lead paint waste) from residential premises or educational or child care institutions*
- (j) *Containers, having previously contained dangerous goods, from which residues have been removed by washing or vacuuming*
- (k) *Drained oil filters (mechanically crushed), rags and oil absorbent materials that only contain non-volatile petroleum hydrocarbons and do not contain free liquids*

- (l) *Drained motor oil containers that do not contain free liquids*
- (m) *Non-putrescible vegetative waste from agriculture, silviculture or horticulture*
- (n) *Building cavity dust removed from residential premises, or educational or child care institutions, being waste that is packaged securely to prevent dust emissions and direct contact*
- (o) *Synthetic fibre waste (from materials such as fibre glass, polyesters or other plastics) being waste that is packaged securely to prevent dust emissions, but excluding asbestos waste*
- (p) *Virgin excavated natural material*
- (q) *Building and demolition waste*
- (r) *Asphalt waste (including asphalt resulting from road construction and waterproofing works),*
- (s) *Biosolids categorised as unrestricted use, or restricted use 1,2, or 3, in accordance with the criteria set out in the Biosolids Guidelines*
- (t) *Cured concrete waste from batch plant*
- (u) *Fully cured and set thermosetting polymers and fibre reinforcing resins*
- (v) *Fully cured and dried residues of resins, glues, paints, coatings and inks,*
- (w) *Anything that is classified as general solid waste (non-putrescible) pursuant to an EPA Gazettal notice*
- (x) *Anything that is general solid waste (non-putrescible) within the meaning of the Waste Classification Guidelines,*
- (y) *Any mixture of anything referred to in (a) to (x)*

### **Asbestos Waste**

The disposal of asbestos is restricted to a dedicated area at the OWD and requires immediate covering with 300mm soil and establishment of a final cover of 2 metres. The dedicated area for asbestos disposal is shown on the filling plan **Drawing 05B\_EV04**.

### **Waste Tyres**

- (a) *The total quantity of used, rejected or unwanted tyres (including shredded tyres and tyre pieces) stockpiled at the premises must not exceed 50 tonnes*
- (b) *The landfill occupier must ensure that stockpiles of used, rejected or unwanted tyres (including shredded tyres or tyre pieces) are located in a clearly defined area (point to a drawing)*
- (c) *The landfill occupier must ensure that stockpiles of used, rejected or unwanted tyres (including shredded tyres or tyre pieces) are managed so as not to create or be likely to cause the harbouring of vermin*
- (d) *The landfill occupier must ensure that measures are taken to prevent stockpiles of used, rejected or unwanted tyres (including shredded tyres and tyre pieces) from catching on fire.*

Currently the OWD only accepts shredded waste tyres, which are disposed within the main landfill cell.

### 3.8.2 ONE OFF DISPOSAL

The total yearly tonnage of 10,000 tonnes per annum excludes the 'one off' disposal of a wood fibre waste stream associated with past activities at the OTC that are permitted to be disposed of at the OWD in Stage 1 of landfilling. This includes:

- **Wood Fibre:** There is up to 50,000m<sup>3</sup> (35,000 tonnes) of wood fibre product located at the OTC that is permitted to be disposed of at the OWD. This material has been classified as general solid waste (non-putrescible). The wood fibre will be trucked from the OTC and disposed of at the OWD in the designated area displayed on filling plan **Drawing 05B\_EV04**. The management plan for transporting and disposing of the wood fibre waste is detailed in **Section 3.8.2.1**.

#### 3.8.2.1 Haulage of Wood Fibre

As per the Operational Conditions of Development Approval (**Attachment B**), the LEMP is to detail the proposed management of the transportation of the wood fibre from the OTC to the OWD.

##### ***Timing and Movements Required***

It is estimated that in order to transport the 50,000 m<sup>3</sup> of wood fibre a total of 5,760 truck movements (including return journey) is required. The landfill is capable of receiving 96 truck loads per day (ie 192 movements per day). With the capacity to accept 96 loads per day, it is estimated that the time required to haul the wood fibre is 30 working days. The haulage of the wood fibre is planned to occur between 15 June and 30 August 2013.

Wood fibre will be hauled during 7.00am to 5.00pm, Monday to Friday, along the 2.3 kilometre stretch of Lowes Mount Road between the OTC and the OWD.

##### ***Plant and Machinery:***

The wood fibre will be hauled along Lowes Mount Road using a 12 tonne truck with a 20 tonne trailer, due to the relative low density of the wood fibre, this equates to approximately 13 m<sup>3</sup> capacity in the truck, and 17 m<sup>3</sup> capacity in the trailer.

An excavator and two trucks will be used at the OWD to accept and spread the wood fibre and also to place cover material over the waste.

##### ***Public Consultation and Complaints Handling:***

Adjoining landowners along Lowes Mount Road will be notified by mail with the details of the proposed wood fibre haulage, which will include a telephone number for complaints handling. Signage will be installed at either end of the subject section of Lowes Mount Road, warning motorists of "Trucks Turning".

Each truck is to clearly display the complaints handling telephone number at the rear of the trailer:

- (02) 6329 8100 – between 8.30 am and 4.30 pm; and
- 0428 698 036 – afterhours

##### ***Maintaining Road Condition***

All truck and trailer loads will be covered when en-route to the OWD to avoid wood fibre waste being deposited on or near the road.

Daily road inspections will be undertaken by the OWD staff and/or Roads Inspector to assess the impact of hauling the wood fibre on the road surface. If the surface of the road is compromised due to the increased heavy vehicle movements, immediate action will be taken to rectify any defects identified.

### 3.8.3 CONTROLS

The following waste reception procedures will be implemented:

- Signs will be maintained at the site entrance clearly indicating the types of wastes that are accepted and those that are not;
- A program of inspection will be implemented for wastes received;
- Records of all load inspections will be kept for at least four years;
- Staff will be adequately trained to recognise and handle hazardous and unapproved wastes; and
- Incoming waste will be measured and recorded by the volume of the vessel carrying the waste.

### 3.8.4 SCREENING

The following practices apply to screening of incoming wastes:

- The OWD is manned by council staff during opening hours;
- Public access is only permitted during opening hours;
- Drivers will be asked to describe their waste load to be deposited on entry to the facility;
- An inspection of waste loads will be made as required;
- Drivers will be directed to the correct area of the depot for disposal of specific loads (eg recyclables, waste oil, tyres, scrap metal etc);
- Wastes will be monitored and inspected as they are being discharged to ensure excluded non-approved wastes are not being disposed of; and
- For vehicles suspected of containing excluded wastes the vehicle will be refused permission to deposit waste until the waste is verified as being acceptable.

### 3.8.5 EPA REPORTING

The Bathurst Regional Office of the EPA should be notified if any unauthorised hazardous wastes are found on-site.

### 3.8.6 RESPONSIBILITIES

***Waste Manager:***

- Ensuring all wastes are deposited in the correct area;
- Monitoring and inspecting wastes as they are being discharged, spread and compacted, to ensure excluded non-approved wastes are not being disposed;
- Advising supervisors if excluded wastes are identified at the active tipping area;
- Ensuring an operator is present at the active tipping face at all times;
- Asking drivers to describe the type of waste until the waste is verified as being acceptable (if necessary);
- Directing vehicles to the appropriate area; and
- Ensuring signs defining excluded wastes and penalties for the deposition of excluded wastes are prominently displayed

***Director Engineering and Works:***

- Ensure adequate training of landfill staff to recognise and handle hazardous or other unapproved wastes.



**Waste Depot Overseer:**

- Approving access to the depot outside of normal hours; and
- In the event that excluded wastes have been identified during compaction or spreading make all practicable efforts to identify the source of the wastes, contacting the EPA for advice on the proper disposal, or in the event that the EPA cannot be contacted, instructing the operators to temporarily relocate wastes to the nominated area.

**3.8.7 BENCHMARK COMPLIANCE**

Relevant Benchmark Technique	Compliance
Screening of Wastes Received (21)	Yes

# Environmental Goal

## 3.9 QUANTITY OF WASTES RECEIVED

### 3.9.1 WASTE RECORDING

OC are required to provide the EPA with information on the quantity of waste received at the facility and the quantity of waste transported from the facility each year. This information is detailed in the Annual Return (see **Section 3.9.2**)

The OWD does not have a weighbridge so assumptions about waste quantities have been estimated by Council counting and classifying waste loads. Daily waste quantities are to be recorded on the **Daily Checklist - Form 3.9**.

There are no imminent plans for the installation of a weighbridge at the OWD.

As per **Section 3.4.2** of the *Guidelines* OC are required to send to the EPA a report on the total tonnage of waste received and tonnages of specific source-separated wastes. This report is due by the 14<sup>th</sup> day of the following month.

### 3.9.2 ANNUAL RETURN

OC are required to provide an annual return to the EPA in relation to the Landfilling as required by the licence under the *Protection of the Environment Operations Act 1997* in relation to the development. In the annual return, OC must report on the following:

- Annual monitoring undertaken (where the activity results in pollution discharges);
- Provide a summary of complaints relating to the development, as recorded on **Form 3.14b**;
- Report on compliance with licence conditions, including achieving the compaction rate of 650 tonnes per cubic metre and tonnage of total wastes received, and;
- Provide a calculation of licence fees (administrative fees and, where relevant, load based fees) that are payable.

OC must complete and supply to the EPA the Annual Return in the approved form comprising:

- a) A Statement of Compliance; and
- b) A Monitoring and complaints Summary.

At the end of each reporting period, the EPA will provide to OC a copy of the form that must be completed and returned to the EPA. The Annual Return must be supplied to the EPA by registered post not later than 60 days after the end of each reporting period, and copies of the Annual Return supplied to the EPA must be retained for a period of at least four years.

### 3.9.3 ANNUAL SURVEY

On an annual basis a survey of the site, compiled by a registered surveyor, should be undertaken to confirm the volume of landfill space consumed in the preceding 12 months.

### 3.9.4 RESPONSIBILITIES

#### **Waste Manager:**

- Ensuring controls are in place that prevents vehicles from entering and exiting the site without generating a permanent record.



**Engineering Administrator:**

- Reporting waste quantities to the EPA.

**Director Works and Engineering:**

- Commissioning the annual survey.

### 3.9.5 BENCHMARK COMPLIANCE

Relevant Benchmark Technique	Compliance
Measurement of Quantities Received (22)	Yes
Recording of Quantities, Types and Sources of Wastes Received (23)	Yes



Form 3.9 – Daily Checklist

OBERON WASTE DEPOT

DAILY CHECKLIST

DAY: [ ] DATE: [ ]

To be completed by the Waste Manager on a daily basis.

- 1. Security gates locked
- 2. Site opened to waste receival vehicles on time
- 3. No additional waste deposited on-site since closing previous day
- 4. Daily cover applied
- 5. Minimum of one operational staff on-site during opening hours
- 6. Any litter collected and disposed of appropriately
- 7. Were there any incidents?
- 8. Were any complaints received?
- 9. Machinery shut down/stored
- 10. Do site conditions comply with LEMP
- 11. Waste receival recorded

YES	NO

Reasons for Non-Compliance with Checklist

.....  
.....

Incident/Complaint Report Prepared Yes/No No.: .....

Action to be Taken for Non-Compliance to be rectified

.....  
.....

Weather Conditions

Wind Speed (circle) light medium strong  
Wind Direction N NE E SE S SW W NW  
Rainfall (mm) .....

Certified Correct (signed)

.....  
.....

Waste Manager

Note: This original checklist is to be kept by the Waste Manager at the Oberon Waste Depot and a copy sent to the Engineering Administrator weekly.

# Environmental Goal

## 3.10 MINIMISING LANDFILL SPACE USED

### 3.10.1 COMPACTION OF WASTE

The amount of landfill space used to dispose of waste can be minimised by proper compaction. Compaction also improves the stability of the landfill and minimises voids that can encourage vermin, fires and excess generation of leachate.

Landfill occupiers are expected to ensure that the maximum compaction is achieved for the capacity of the machines used. For landfills receiving less than 50,000 tonnes annum, the waste compaction goal is 650 kg/m<sup>3</sup>, excluding cover material, as specified in the EPL.

### 3.10.2 FILLING PLAN

The filling plan and finished contours will be undertaken consistent with the details provided in **Drawing 05B\_EV03** and **Drawing 05B\_EV04**. Waste disposal will begin in the north with the disposal of the OTC wood fibre, and move south as the landfill reaches its final capping levels. Intermediate cover will be placed over the landfill cell as areas reach their final levels.

The filling plan must be maintained and updated at intervals of no greater than 12 months.

### 3.10.3 COVERING OF WASTE

Landfill space will also be protected through minimal application of cover material. It is recognised that there is a balance to be maintained using this technique, and that it requires improved monitoring and application by the operators. It is the responsibility of the operational staff to identify when conditions warrant the covering of wastes, for example in windy conditions, or when odorous waste is disposed. Cover material must be virgin excavated material either won on the premises or imported to the premises.

Covering of waste helps to protect the full range of environmental management objectives by limiting run-on and infiltration of water, controlling and minimising risk of fire, minimising emission of landfill gas, suppressing site odour, reducing fly propagation and rodent attraction, and decreasing litter generation.

At least two weeks cover material must be available at the premises under all weather conditions. This material may be won on site, or alternatively a cover stockpile must be maintained adjacent to the tip face.

An earthen and/or non-putrescible waste windrow is proposed around the active tipping area to minimise the potential for windblown litter leaving the site. Furthermore the active tipping face area will be kept to a minimum to discourage pest and vermin, litter and odour presenting a problem.

It is important to note that Council are obligated to cover special wastes. Specifically:

- Hospital wastes will be placed at the base of the face of the active tipping area and covered immediately with cover material (ie 300 millimetres of soil or 600 millimetres of compacted garbage);
- Animal carcasses will be placed in a designated pit in the landfill area and covered immediately with 600 millimetres of cover material (refer **Drawing 05B\_EV04**); and

- Asbestos will be placed in the special waste disposal area and covered immediately with 300 millimetres of cover (refer **Drawing 05B\_EV04**).

Intermediate cover is to be placed over areas within a cell that have reached their final levels. The intermediate cover material must be clean earthen material applied to a depth of 300 mm over surfaces of the Landfilled waste at the premises, which are exposed for more than 90 days.

When the completed landfill cell has reached its final level, it is to be capped as per **Section 3.12.3**.

### **3.10.4 RESPONSIBILITIES**

***Waste Manager:***

- Compacting waste to achieve an effective density of at least 650 kg/m<sup>3</sup> ;
- Actively monitoring site litter generation and, as required, compacting and covering waste to prevent localised litter beyond the active landfill cell;
- Immediate covering of all special wastes; and
- Ensuring a stockpile of cover material is readily accessible on-site.

***Design Engineer:***

- Commission annual surveys to validate consumed landfill space and remaining capacity.

### **3.10.5 BENCHMARK COMPLIANCE**

<b>Relevant Benchmark Technique</b>	<b>Compliance</b>
Compaction of Waste (24)	Yes
Filling Plan/Contours (27)	Yes

# Environmental Goal

## 3.11 MAXIMISATION OF RECYCLING

### 3.11.1 DEDICATED DROP-OFF AREAS

Dedicated areas within the facility have been nominated for the receipt and storage of recyclable/reusable materials, refer to **Drawing 05B\_EV04**. These include:

- The multi-purpose recycling facility established near the entry to the facility;
- Green waste drop-off facility;
- Dedicated locations for the drop-off of whitegoods, car bodies and scrap metal; and
- An 8,000 L used oil collection station is also located at the OWD for depositing used motor oil for recycling.

No kerbside recycling service is available to residents. Rather, the recycling drop-off facility is made available to residents at no cost, provided the items are separated and that the items fit into the following categories: glass, cardboard and newspaper, aluminium, car batteries and scrap metal including cars and white goods.

Council participates in the federally funded DrumMuster program which is designed to accept empty chemical drums from agricultural operations and treat and dispose of them in a safe and environmentally responsible manner.

Whitegoods, derelict car bodies and other scrap metals will be regularly removed from the landfill. The Council may remove and sell recyclables deposited at the tipping face.

### 3.11.2 RESPONSIBILITIES

**Waste Manager:**

- Ensuring recyclable materials are directed to recyclable drop-off locations on-site;
- Ensuring regular removal or recyclable materials stockpiled on-site; and
- Monitoring and inspecting wastes as they are being discharged spread and compacted, to ensure excluded non-approved wastes are not being disposed

### 3.11.3 BENCHMARK COMPLIANCE

Relevant Benchmark Technique	Compliance
Recycling (25)	Yes

# Environmental Goal

## 3.12 REMEDIATION OF LANDFILL AFTER CLOSURE

### 3.12.1 CLOSURE PLAN

Council will monitor the filling that occurs at the landfill on an annual basis (as detailed in **Section 3.9**), and will also provide the EPA with a closure plan for approval within six months of completion of landfilling activities on the premises.

The closure plan, as required, will include a post-closure monitoring and maintenance program to ensure the long-term integrity of the landfill. Specifically the plan will:

- Specify the steps taken or to be taken in closing and stabilising premises concerned and the time frame for doing so;
- Ensure that all leachate collection, gas collection and stormwater sediment controls, monitoring and reporting practices, are maintained at a standard equivalent to that employed during the operational life of the landfill;
- Ensure the neighbouring residents are advised of contact persons to discuss any problems (e.g. odour emissions). Records of these complaints should be kept in the same manner as approved during operation;
- Ensure that waste materials are not received for disposal by the facility after landfill operations cease. Waste materials that are intended for use in the remediation should be documented and reported in the same manner as for an operating facility; and
- Include a system and contact numbers for neighbouring residents to discuss any problems.

The Closure Plan must also address the following closure targets:

- Gas concentration levels in all perimeter gas wells have fallen to less than 1% methane (v/v) and less than 1.5% carbon dioxide for a period of 24 months;
- Waste stabilisation has been completed, including documentation of the composition of the leachate changing to a low level of contamination and posing no hazard to the environment;
- Groundwater monitoring has been assessed over some years and found to be stable with acceptable surface water drainage;
- Documentation to demonstrate that all functions in the closure planning segment of the LEMP and written confirmation of procedures have been completed; and
- The need for appropriate notation on the respective s.149 certificates of each Lot associated with the former landfill.

The operational life of the landfill is estimated to be approximately 63 years.

### 3.12.2 FINANCIAL ASSURANCE

Financial assurance is the means of ensuring that Council adequately plans for the closure, remediation and post closure care, by providing specific mechanism to accumulate requisite funding during the life of the landfill. If required, Council will consult with the EPA on the matter of financial assurance.

### 3.12.3 SITE CAPPING AND REVEGETATION

Site capping and revegetation should ensure that the final surface provides a barrier to the migration of water into the waste; controls emissions to water and the atmosphere; promotes sound land management; prevents hazards; and protects amenity.

Capping of each completed landfill cell is to commence within 30 days of completion of landfilling (weather permitting). As the waste reaches its final levels, which is displayed on **Drawing 05B\_EV03**, it is to be capped as per **Figure 3.12.1**. This includes a seeded 100 millimetre topsoil layer over a 900 millimetres revegetation soil layer.

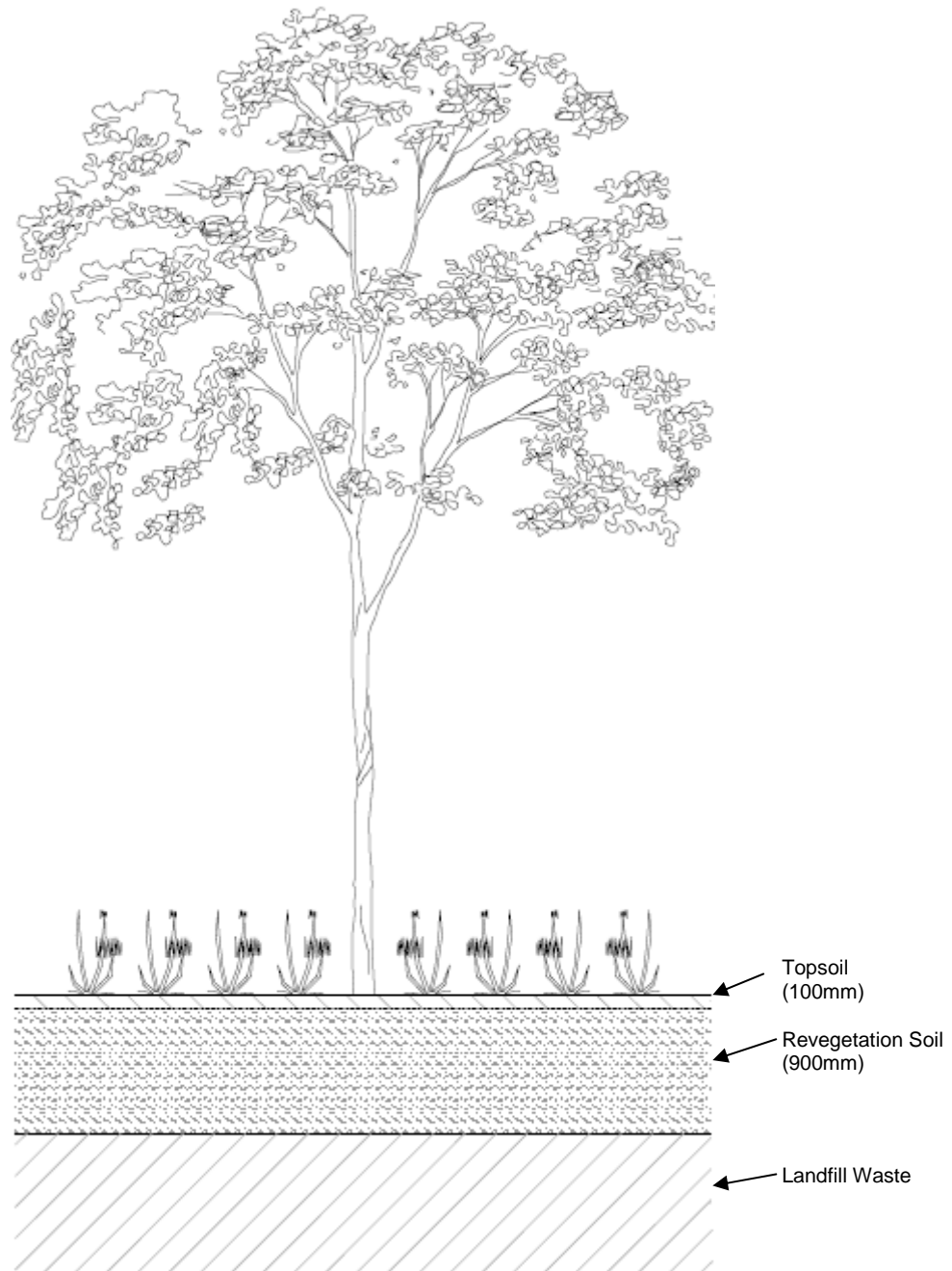


Figure 3.12.1: Typical final capping profile

### 3.12.4 RESPONSIBILITIES

#### *Director Works and Engineering*

- Responsible for the preparation, submission and implementation of the Closure Plan.

### 3.12.5 BENCHMARK COMPLIANCE

Relevant Benchmark Technique	Compliance
Financial Assurance (26)	No
Site Capping and Revegetation (28)	Yes
Landfill Closure and Post Closure Monitoring and Maintenance	Yes



# Environmental Goal

## 3.13 PREVENTING UNAUTHORISED ENTRY

### 3.13.1 SITE SECURITY

Unauthorised access to the site is discouraged through the presence of a perimeter stock fence and a lockable security gate at the site entrance.

### 3.13.2 OPERATING HOURS

The OWD will continue to maintain the current operating hours. This includes

- 8.00am to 10.00am and 3.00pm to 5.00pm Monday to Friday
- 1.00pm to 5.00pm Weekends

Outside of these operating hours when the premises are unattended the security gate will be locked.

### 3.13.3 PUBLIC SAFETY

The facility must be supervised at all times when open for the receipt of wastes.

Landfill equipment engaged in the movement, spreading, compacting and covering of compacted waste will be operated in such a way as to minimise risk to persons disposing of waste or vehicles delivering waste.

Barricades and/or signs will be placed in order to meet the above requirements at all times. All signs required to inform the public or for direction for the operation of the OWD will be subject to the approval of the supervisor.

### 3.13.4 RESPONSIBILITIES

*Waste Manager:*

- Locking facility gates when the facility is closed to the public;
- Providing site supervision while the facility is open; and
- Ensuring the integrity of the perimeter fence and access gates.

### 3.13.5 BENCHMARK COMPLIANCE

Relevant Benchmark Technique	Compliance
Security of Site (30)	Yes

# Environmental Goal

## 3.14 PREVENTING DEGRADATION OF LOCAL AMENITY

### 3.14.1 LITTER CONTROL

In the absence of daily cover Council must implement procedures to prevent windblown litter escaping the active landfill cell. These procedures include:

- Appropriate compaction of waste material on a daily basis;
- Use of litter control fencing around the active landfill cell; currently the eastern side of the site has three metre high litter fencing;
- Construction of an earthen or bulky inert waste windrow around active cell areas; and
- Daily litter patrols to retrieve windblown litter.

All litter fences, perimeter fences and diversion drains must be inspected daily and cleaned of litter as required, as per the requirements of completing the **Daily Checklist – Form 3.9**.

### 3.14.2 CLEANING OF VEHICLES

The limited number of vehicles anticipated at the site does not demand provisions for a vehicle cleaning station.

### 3.14.3 DUST CONTROLS

Dust generation will be controlled by:

- Maintaining gravel seals on unsealed internal access roads;
- Posting speed restrictions within the site;
- Trucks entering and leaving the premises that are carrying loads must be covered at all times, except during loading and unloading;
- Minimising exposed areas; and
- Watering unsealed roads as required (in hot/dry/windy conditions); the water is sourced from the local town supply, and transported using a water tanker.

Dust will be monitored by recording any dust complaints received on **Form 3.14**.

### 3.14.4 PEST, VERMIN & NOXIOUS WEED CONTROLS

- Intermediate cover will be applied to compacted waste to keep the amount of exposed waste to a minimum;
- Supervision of waste disposal at the active tipping face to minimise the area of exposure;
- Surface water controls will be maintained as a designed and approved to ensure surfaces are adequately drained to prevent ponds of water forming on the site;
- Noxious weeds will be reported to Council for treatment; and
- Pest and vermin numbers will be routinely monitored and any spike in numbers will be reported to Council.

### 3.14.5 ODOUR

Landfilling operations must not cause or permit the emission of offensive odour beyond the boundary

of the premises. Prompt covering of particularly odorous wastes (as required) will be employed.

### 3.14.6 COMPLAINTS HANDLING

OC must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant. OC must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint. This does not apply until three months following the issuing of the Environment Protection Licence for the premises. The complaints line is the same number for Oberon Council general enquiries: **(02) 6329 8100**.

Any complaint received will be investigated and options for avoiding recurrence will be considered. Any complaint received by an outside party must be reported immediately to the Waste Depot Overseer. Complaints and any subsequent investigation are to be recorded on the **Form 3.14**. Details of the nature of the complaint, who made the complaint, and any unusual circumstances (such as equipment malfunction, weather conditions) should be noted.

Records will be kept for at least four years, and will be recorded in the Annual Report as detailed in **Environmental Goal 3.9**.

### 3.14.7 RESPONSIBILITIES

#### **Waste Manager:**

- Ensure appropriate compaction of waste material on a daily basis;
- Use litter control fencing around the active landfill cell;
- Retrieve windblown litter;
- Inspect and maintain all litter fences, perimeter fences and diversion drains and clear these of litter as required;
- Maintaining gravel seals on access roads;
- Posting speed restrictions within the site;
- Minimising exposed areas;
- Watering unsealed roads as necessary;
- Maintain surface water controls to ensure surfaces are adequately drained to prevent ponds of water forming on the site;
- Report and treat noxious weeds; and
- Routinely monitor pest and vermin numbers and report any spike in numbers to council.

#### **Works Manager/Director Works and Engineering:**

- Undertake routine inspections to evaluate the effectiveness of litter management controls; and
- Monitor spikes in vermin/pest numbers and, if required, formulate an eradication program.

### 3.14.8 BENCHMARK COMPLIANCE

Relevant Benchmark Technique	Compliance
Litter Control (31)	Yes
Cleaning of Vehicles (32)	No
Covering of Wastes (33)	Yes
Dust Control (34)	Yes



OBERON COUNCIL

<b>Relevant Benchmark Technique</b>	<b>Compliance</b>
Pest, Vermin and Noxious Weed Controls (35)	Yes
Odour Controls (36)	Yes

Form 3.14 – Pollution Complaint Form

**POLLUTION COMPLAINT**

DATE:

TIME:

COMPLAINT NO:

**HOW COMPLAINT WAS LODGED:**

**COMPLAINT DETAILS:**

**NATURE OF COMPLAINT:**

**CAUSE:**

**CORRECTIVE ACTION?**

**FOLLOW-UP CONTACT REQUIRED?**

SIGNATURE:

DATE:

# Environmental Goal

## 3.15 PREVENTING NOISE POLLUTION

### 3.15.1 DAYTIME ACTIVITIES

All construction work at the premises must only be conducted between 7.00 to 6.00pm, Monday to Friday (except on public holidays), and 8.00am to 5.00pm on Saturdays.

All operational work at the premises, other than construction work, may only be carried out between 7.00am to 5.00pm Monday to Sunday (except Good Friday and Christmas Day).

The above conditions do not apply to the delivery of material outside the hours of operation permitted by the conditions above, if that delivery is required by police or other authorities for safety reasons; and/or the operation or personnel or equipment are endangered. In such circumstances, prior notification is provided to the EPA and affected residents as soon as possible, or within a reasonable period in the case of an emergency.

Noise pollution will be limited through the appropriate maintenance of plant and equipment on site. All plant and equipment installed at the premises or used in connection with the licensed activity:

- Must be maintained in a proper and efficient condition; and
- Must be operated in a proper and efficient manner.

### 3.15.2 NOISE LIMITS

The level of noise emanating from the landfill must not exceed:

- An  $L_{A10}$  (15 minute) noise emission criterion of 45 dB(A) during the daytime (7.00am to 10.00pm); and
- An  $L_{A10}$  (15 minute) noise emission criterion of 35 dB(A) during the night time (10.00pm to 7.00am).

The closest sensitive receivers to the landfill are approximately 175 metres to the south east, and 225 meters to the north east.

### 3.15.3 MONITORING

Noise will be monitored by recording complaints received. In the event that a noise complaint is received more than once, then field monitoring will be undertaken to quantify off-site impacts. Complaints are to be recorded on **Form 3.14** – Complaints register, and also on **Form 3.9** – Daily Checklist.

### 3.15.4 RESPONSIBILITIES

**Waste Manager:**

- Ensure use of appropriately maintained plant and equipment in approved hours of operation;
- Report any complaints regarding noise; and
- Undertake monitoring of compliance with noise if required.

Relevant Benchmark Technique	Compliance
Noise Control (37)	Yes

# Environmental Goal

## 3.16 ADEQUATE FIRE FIGHTING CAPACITY

### 3.16.1 PREVENTATIVE MEASURES

The potential for fires to occur at the site will be minimised by:

- A security fence to prevent unauthorised access;
- Maintaining machinery in good working order to minimise risk of sparks;
- Adequately compacting and covering waste;
- Regular litter patrols;
- Ensuring fire breaks are maintained around any temporary stockpile of combustibles;
- Access to on-site fire fighting equipment;
- Accepting only permitted wastes; and
- No controlled burning to be undertaken at the OWD, unless under consultation with the EPA and the Rural Fire Service.

In addition to the above preventative measures, an on-call arrangement with the local fire service is in place to deal with any fires that cannot be extinguished with on-site equipment.

### 3.16.2 RESPONDING TO A FIRE

In the event that a fire occurs on site, the first action to be taken is a determination by either the site supervisor, or in their absence his/her nominee, as to whether facility operators can contain and extinguish the fire without compromising their safety,

In the event that a fire can be safely handled by facility operators, the fire will be smothered by covering it with soils. If there is any doubt as to the ability to safely deal with the fire, then the OWD supervisor (or their nominee) must take the following actions:

- Step 1:** Immediately call 000 – follow the operators prompts to detail the emergency
- Step 2:** Listen to and act on the instructions issued by the Fire Service
- Step 3:** Organise for the evacuation from the facility of all members of the public. To this end, an operator will man the access gate to expedite a quick but safe exit, as well as divert any more vehicles from entering the facility.
- Step 4:** Prepare for the arrival of the Fire Service by:
- Extracting the latest plan of the facility that identifies the location of different waste types; and
  - Mobilising the earth moving equipment and water tanker such that it is readily available for use, as directed by the Rural Fire Service.
- Step 5:** Immediately contact the Director Works and Engineering – Aruna Wickramasinghe on phone number **0407 214 534** or **6329 8127** if Aruna Wickramasinghe cannot be contacted, The (24 hour) Council Emergency contact number should be used: **0428 698 036**.
- Step 6:** On the Fire Service's arrival at the facility, follow all instructions issued by the *Officer in Charge*.

Full details are included in **Attachment C** – Pollution Incident Response Management Plan.

### 3.16.3 POST CONTAINMENT ACTION

After a fire has been contained, the Waste Manager is responsible for preparing an Incident Report (refer to **From 3.16**) and submitting this to the Works Manager within 48 hours of the fire. It is the responsibility of the Works Manager (or in their absence the Director Works and Engineering) to notify the EPA that there has been a fire at the facility.

### 3.16.4 RESPONSIBILITIES

**Waste Manager:**

- Implementing preventative measures; and
- Responding to a fire event.

**Works Manager/Director Works and Engineering:**

- Ensuring that the fire has been reported to the EPA.

Relevant Benchmark Technique	Compliance
Fire Fighting Capacity (38)	Yes



FORM 3.16: Incident Report Form (Extracted from PIRMP, Attachment D)

# INCIDENT REPORT FORM

**INCIDENT No:**

**TIME:**

**DATE:**

**DURATION OF INCIDENT:**

**NATURE OF INCIDENT:**

.....

.....

.....

TEMPERATURE: .....°C                      WIND DIRECTION & SPEED: .....KM/HR

RELATIVE HUMIDITY: ..... %              RAINFALL SINCE 9AM:.....MM

FIRE DANGER RATING: .....

**THE LOCATION OF THE PLACE WHERE POLLUTION IS OCCURRING OR IS LIKELY TO OCCUR:**

.....

.....

**THE NATURE, THE ESTIMATED QUANTITY OR VOLUME AND THE CONCENTRATION OF ANY POLLUTANTS INVOLVED (IF KNOWN):**

.....

.....

.....

**THE CIRCUMSTANCES IN WHICH THE INCIDENT OCCURRED, INCLUDING THE CAUSE OF THE INCIDENT (IF KNOWN):**

.....

.....

.....

**THE CORRECTIVE ACTION TAKEN OR PROPOSED TO BE TAKEN TO DEAL WITH THE INCIDENT AND ANY RESULTING POLLUTION OR THREATENED POLLUTION (IF KNOWN):**

.....

.....

.....

<b>HAS COUNCIL BEEN NOTIFIED?</b>	YES	NO
<b>HAS ENVIRONMENT PROTECTION AUTHORITY (EPA) BEEN NOTIFIED?</b>	YES	NO
<b>HAS NSW MINISTRY OF HEALTH (VIA PUBLIC HEALTH UNITS) BEEN NOTIFIED?</b>	YES	NO
<b>HAS WORKCOVER NSW BEEN NOTIFIED?</b>	YES	NO
<b>HAS LOCAL FIRE AND RESCUE NSW BEEN NOTIFIED?</b>	YES	NO



HAS EPA DIRECTED COUNCIL TO NOTIFY NEIGHBOURS?	YES	NO
IF NOT, HAS COUNCIL VOLUNTARILY NOTIFIED NEIGHBOURS?	YES	NO

Signature: .....	Date: .....
Waste Manager	
Signature: .....	Date: .....
Works Manager, Oberon Council	

# Environmental Goal

## 3.17 ADEQUATE STAFFING AND TRAINING

### 3.17.1 STAFFING

Oberon Council must provide adequate staff to ensure that during operating hours all continuous tasks (including waste reception and security, compaction and covering) are completed in compliance with the EPL and this LEMP.

### 3.17.2 TRAINING

New members of staff at the facility should be inducted. This induction must cover the purpose, requirements and responsibilities detailed in this LEMP.

All staff should receive sufficient training to enable them to carry out their assigned duties in a competent and safe manner. In particular:

- Operators of earth moving equipment are skilled at undertaking the tasks assigned to them;
- Staff must be capable of using the fire fighting equipment in the site office;
- Staff must be capable of identifying excluded wastes;
- Staff must be capable of identifying potential pollution incidents; and
- Staff must be familiar with the requirements and procedures within this LEMP.

A register of staff training can be found in **Form 3.17a** and must be kept on-site and updated regularly.

Regular site briefings and toolbox meetings should be held when considered appropriate to draw attention to potential pollution incidents and identify improvements to on-site safety procedures.

### 3.17.3 INCIDENT REPORTING

#### 3.17.3.1 Pollution Incident Response Management Plan

All operational staff members are to be inducted and trained in incident reporting. In accordance with the *Protection of the Environment Legislation Amendment Act 2011 (POELA Act)* and *The Guidelines* Oberon Council have prepared a Pollution Incident Response Management Plan (PIRMP), which is designed to assist personnel at the OWD to correctly identify pollution incidents and detail the procedures for the response and reporting of a pollution incident.

The PIRMP details:

- Procedures for notifying a pollution incident to relevant persons;
- Actions to be taken to reduce and/or control pollution; and
- Procedures for co-ordinating those notified and any action taken in combating the pollution.

The PIRMP and the PIRMP Supporting Statement are included in **Attachment C**.

#### 3.17.3.2 Definition of a Pollution Incident

A pollution incident is required to be notified if there is a risk of 'material harm to the environment', which is defined in section 147 of the POEO Act:

- “(a) *harm to the environment is material if:*
- It involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or*

- ii) *It results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000, and*
- (b) *loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment."*

### 3.17.3.3 Notification of Relevant Authorities

Where the pollution incident causes or threatens material harm to the environment or human health, all the following authorities must be notified by the Waste Depot Overseer (or the Waste manager in their absence):

#### 1. Emergency Call Services

- Emergency Hotline Number (24 hours) 000\*

\*The operational staff at the OWD should call 000 if the incident presents an immediate threat to human health and/or property and a combat agency is required (i.e. NSW Fire and Rescue, NSW Ambulance Service, NSW Police Force) and then notify all other parties below including NSW Fire and Rescue via a local telephone number.

#### 2. Oberon Council

- Director Works and Engineering, Oberon Council 0407214534  
6329 8127
- Council Emergency contact number (24 hours) 0428 698 036

#### 3. The Environment Protection Authority (EPA)

- Emergency Hotline Number (24 hours) – Primary 131 555
- Bathurst Regional Office – Secondary 02 6332 7600

#### 4. NSW Ministry of Health (via Public Health Units)

- Bathurst Regional Office 02 6339 5601
- Public Health Officer on Call (24 hours) 0428 400 526

#### 5. WorkCover NSW

- Hotline Number 13 10 50

#### 6. Fire and Rescue NSW (Oberon Service)

- Fire Station 000\*\*

\*\*If there is no immediate threat to human health and/or property i.e. a combat agency is not required, then the site supervisor is still required to follow that outlined above except for dialling 000.

A summary of the above pollution incident notification procedure is provided in **Document A – Pollution Incident Decision Flow Chart** in **Attachment C**.

### 3.17.3.4 Information to be Notified

Under section 150 of the *POEO Act 1997*, the information about a pollution incident that must be notified is:

- The time, date, nature, duration and location of the incident;
- The location of the place where pollution is occurring or is likely to occur;
- The nature, the estimated quantity or volume and the concentration of any pollutants involved, if known;

- The circumstances in which the incident occurred, including the cause of the incident, if known;
- The action taken or proposed to be taken to deal with the incident and any resulting pollution or threatened pollution, if known; and
- Other information prescribed by the regulations.

Notification is required by the Site Supervisor immediately after a pollution incident becomes known. Any information required that is not known at the time the incident is notified must be provided when it becomes known.

A Pollution Incident Reporting Form is produced (refer to **Form 3.16** extracted from **Attachment C**) to assist the Site Supervisor in correctly recording and notifying the relevant authorities detailed in **Section 3.17.3.3** above.

An incident register (**Form 3.17b**) documenting a sequential incident number will also be maintained.

### 3.17.4 RESPONSIBILITIES

**Director Works and Engineering:**

- Ensuring that sufficient staff are employed to meet the contract requirements
- Ensuring that all staff are adequately trained and competent to carry out the duties assigned to them

**Works Manager/Waste Depot Overseer:**

- Ensuring the operators meet all obligations relevant to compliance with this LEMP and EPL compliance conditions;
- Responsible for notifying the EPA of any incidents if required; and
- Ensuring that incident reports are completed and acted upon.

**Waste Manager:**

- Ensuring in all cases where an incident may result in an adverse impact on the environment, the Waste Depot Overseer is immediately informed of the relevant details of the incident; and
- Undertaking containment action where and when safe to do so.

### 3.17.5 BENCHMARK COMPLIANCE

Relevant Benchmark Technique	Compliance
Staffing and Training Requirements (39)	Yes





# References

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**C.M. Jewell & Associates (2012)** Preliminary Groundwater Investigation – Oberon Waste Depot

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**Department of Environment Climate Change and Water (2008)** Managing Urban Stormwater: Soils and Construction – Volume 2B – Waste Landfills

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**Environment Protection Authority (1996)** Environmental Guidelines: Solid Waste Landfills

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**Geolyse (2012)** Statement of Environmental Effects, Oberon Landfill Proposed Expansion

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**Landcom (2004)** Managing Urban Stormwater Soils and Construction

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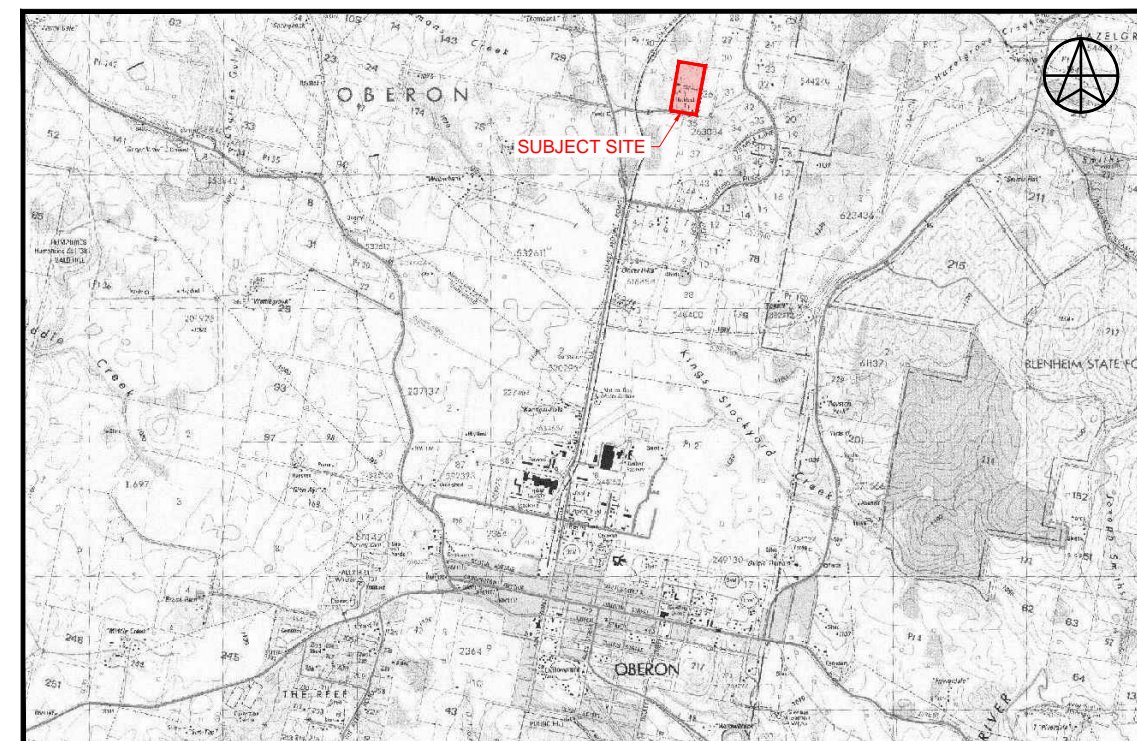
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# OBERON LANDFILL EXTENSION

## LANDFILL ENVIRONMENTAL MANAGEMENT PLAN

SCHEDULE OF DRAWINGS			
SHEET	TITLE	REV.	DATE
EV01	TITLE SHEET, DRAWING LIST, AND SITE LOCALITY	B	16/05/2013
EV02	EXPANSION STAGES AND MONITORING POINTS	B	16/05/2013
EV03	STAGE 1 FINISHED SURFACE	B	16/05/2013
EV04	STAGE 1 FILLING PLAN	B	16/05/2013
EV05	EROSION AND SEDIMENT CONTROL PLAN	B	16/05/2013
EV06	EROSION AND SEDIMENT CONTROL FIGURES	B	16/05/2013
EV07	EXPANSION FOOTPRINT AND RECEPTORS	B	16/05/2013



SITE LOCALITY  
NOT TO SCALE



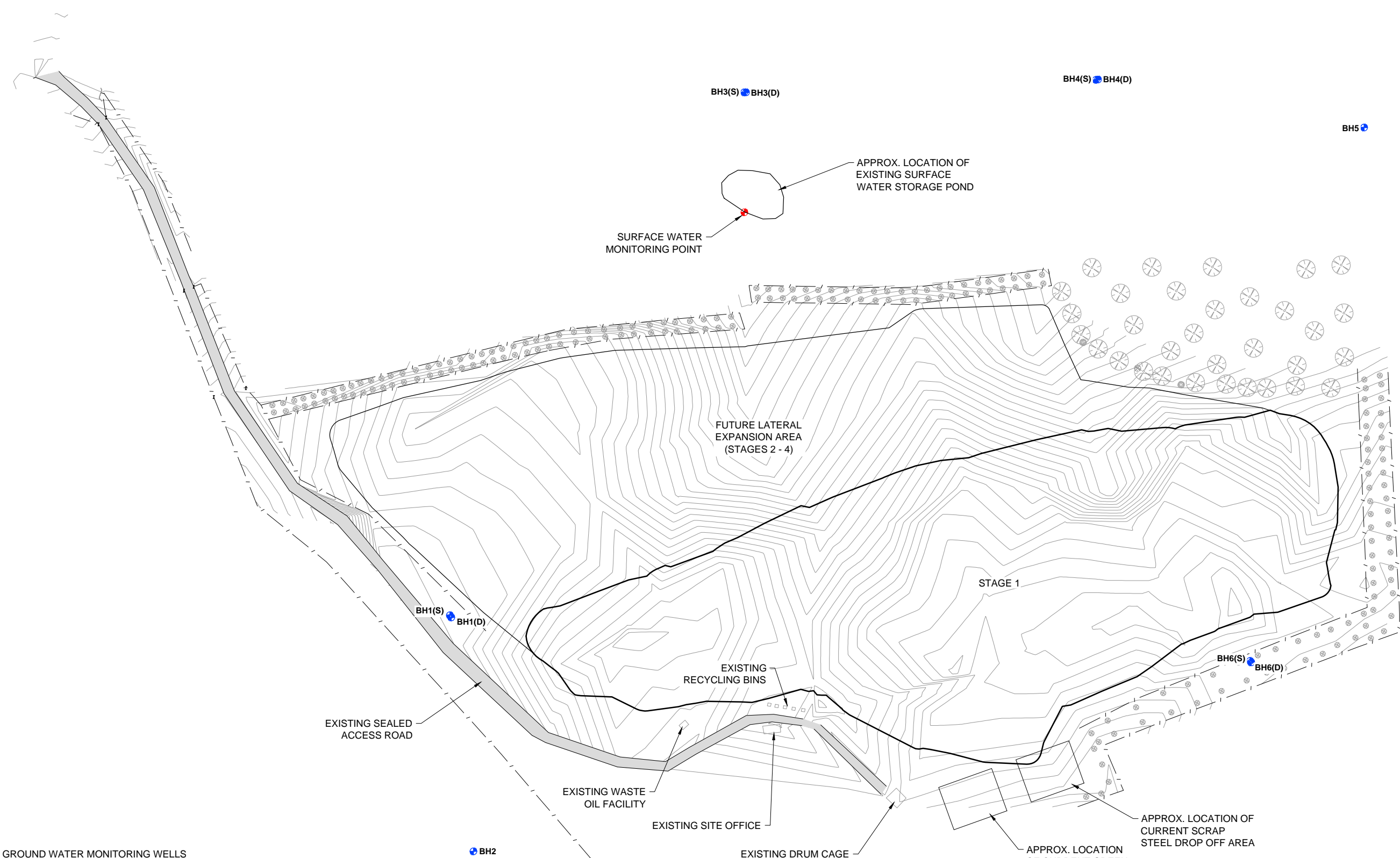
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B	16/05/13	LP	KH	ISSUED

PROJECT
OBERON LANDFILL EXTENSION LANDFILL ENVIRONMENTAL MANAGEMENT PLAN
FILE REFERENCE: 211129_05B_EV01-EV07.dwg

APPROVAL AUTHORITY
OBERON COUNCIL ENVIRONMENT PROTECTION AUTHORITY



DRAWING		
TITLE SHEET, DRAWING LIST, AND SITE LOCALITY		
PROJECT NUMBER: 211129	DRAWING NUMBER: 05B_EV01	REV: B
SOURCE: <a href="http://imagery.nps.nsw.gov.au/">http://imagery.nps.nsw.gov.au/</a>		



APPROX. LOCATION OF EXISTING SURFACE WATER STORAGE POND

SURFACE WATER MONITORING POINT

FUTURE LATERAL EXPANSION AREA (STAGES 2 - 4)

STAGE 1

EXISTING SEALED ACCESS ROAD

BH1(S) BH1(D)

EXISTING RECYCLING BINS

EXISTING WASTE OIL FACILITY

EXISTING SITE OFFICE

EXISTING DRUM CAGE

APPROX. LOCATION OF CURRENT SCRAP STEEL DROP OFF AREA

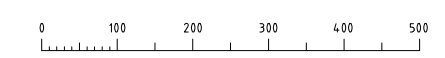
APPROX. LOCATION OF CURRENT GREEN WASTE DROP OFF AND STORAGE AREA

**GROUND WATER MONITORING WELLS**

BOREHOLE ID	EASTING	NORTHING	ELEVATION (m AHD)	SCREEN LENGTH (m)
BH1(S)	765448.70	6270701.64	1114.97	1.5
BH1(D)	765447.11	6270701.61	1114.81	0.0
BH2	765577.81	6270836.72	1113.52	1.5
BH3(S)	765270.91	6271025.90	1136.14	1.5
BH3(D)	765271.53	6271026.85	1136.10	6.0
BH4(S)	765379.42	6271213.28	1136.15	1.5
BH4(D)	765379.35	6271214.43	1136.16	6.0
BH5	765411.35	6271337.41	1137.75	1.5
BH6(S)	765732.53	6271103.63	1123.07	1.5
BH6(D)	765733.70	6271103.79	1123.20	6.0

**LEGEND:**

- GROUND WATER MONITORING POINT
- SURFACE WATER MONITORING POINT
- EXISTING LANDFORM CONTOURS (0.5m INTERVAL)



SCALE 1:10000 (A3)

**GEOLYSE**  
**ORANGE**  
 154 PELSLEY STREET  
 P.O. BOX 1963  
 ORANGE, NSW 2800  
 Ph. (02) 6393 5000  
 Fx. (02) 6393 5050  
[orange@geolyse.com](mailto:orange@geolyse.com)  
[www.geolyse.com](http://www.geolyse.com)

No	DATE	DRAFTING CHECK	APPROVED BY	DETAILS
A	02/05/13	LP	KH	DRAFT
B	16/05/13	LP	KH	ISSUED

PROJECT

**OBERON LANDFILL EXTENSION  
 LANDFILL ENVIRONMENTAL MANAGEMENT PLAN**

FILE REFERENCE: 211129\_05B\_EV01-EV07.dwg

APPROVAL AUTHORITY

**OBERON COUNCIL  
 ENVIRONMENT  
 PROTECTION AUTHORITY**

CLIENT

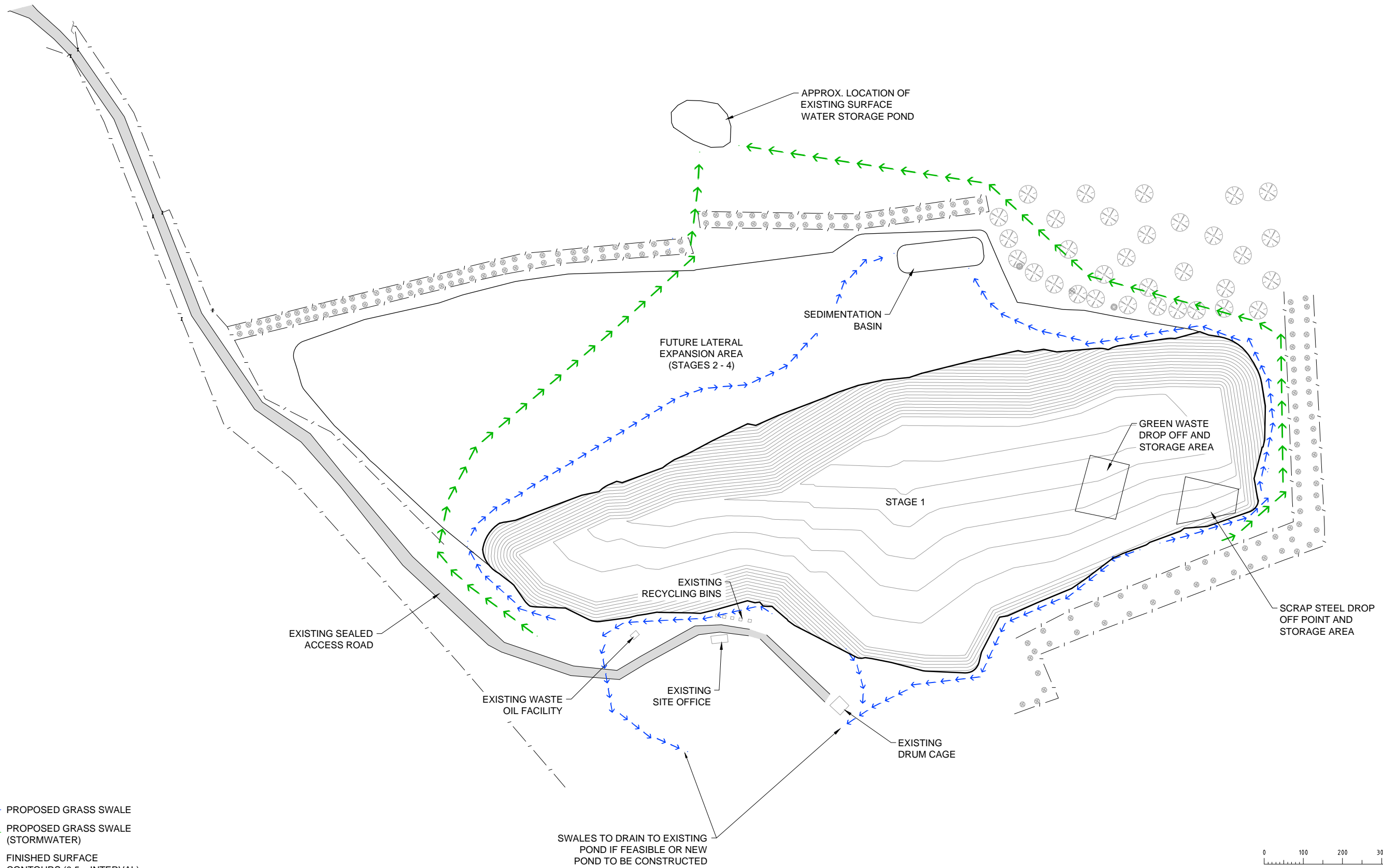
**OBERON COUNCIL**

DRAWING

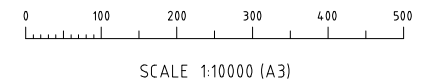
**EXPANSION STAGES AND  
 MONITORING POINTS**

PROJECT NUMBER: 211129 DRAWING NUMBER: 05B\_EV02 REV: B

SOURCE: INTERNAL



- LEGEND:**
- PROPOSED GRASS SWALE
  - PROPOSED GRASS SWALE (STORMWATER)
  - FINISHED SURFACE CONTOURS (0.5m INTERVAL)



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[orange@geolyse.com](mailto:orange@geolyse.com)  
[www.geolyse.com](http://www.geolyse.com)

No	DATE	DRAFTING CHECK	APPROVED BY	DETAILS
A	02/05/13	LP	KH	DRAFT
B	16/05/13	LP	KH	ISSUED

PROJECT

**OBERON LANDFILL EXTENSION  
 LANDFILL ENVIRONMENTAL MANAGEMENT PLAN**

FILE REFERENCE: 211129\_05B\_EV01-EV07.dwg

APPROVAL AUTHORITY

**OBERON COUNCIL  
 ENVIRONMENT  
 PROTECTION AUTHORITY**

CLIENT

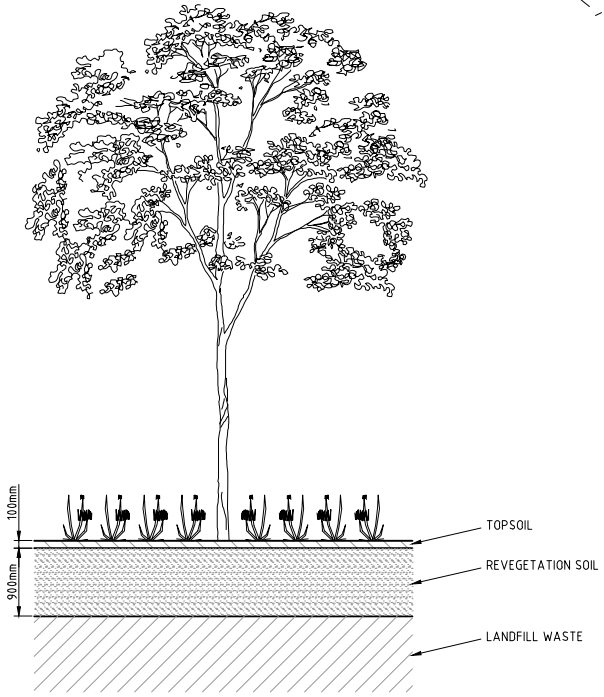
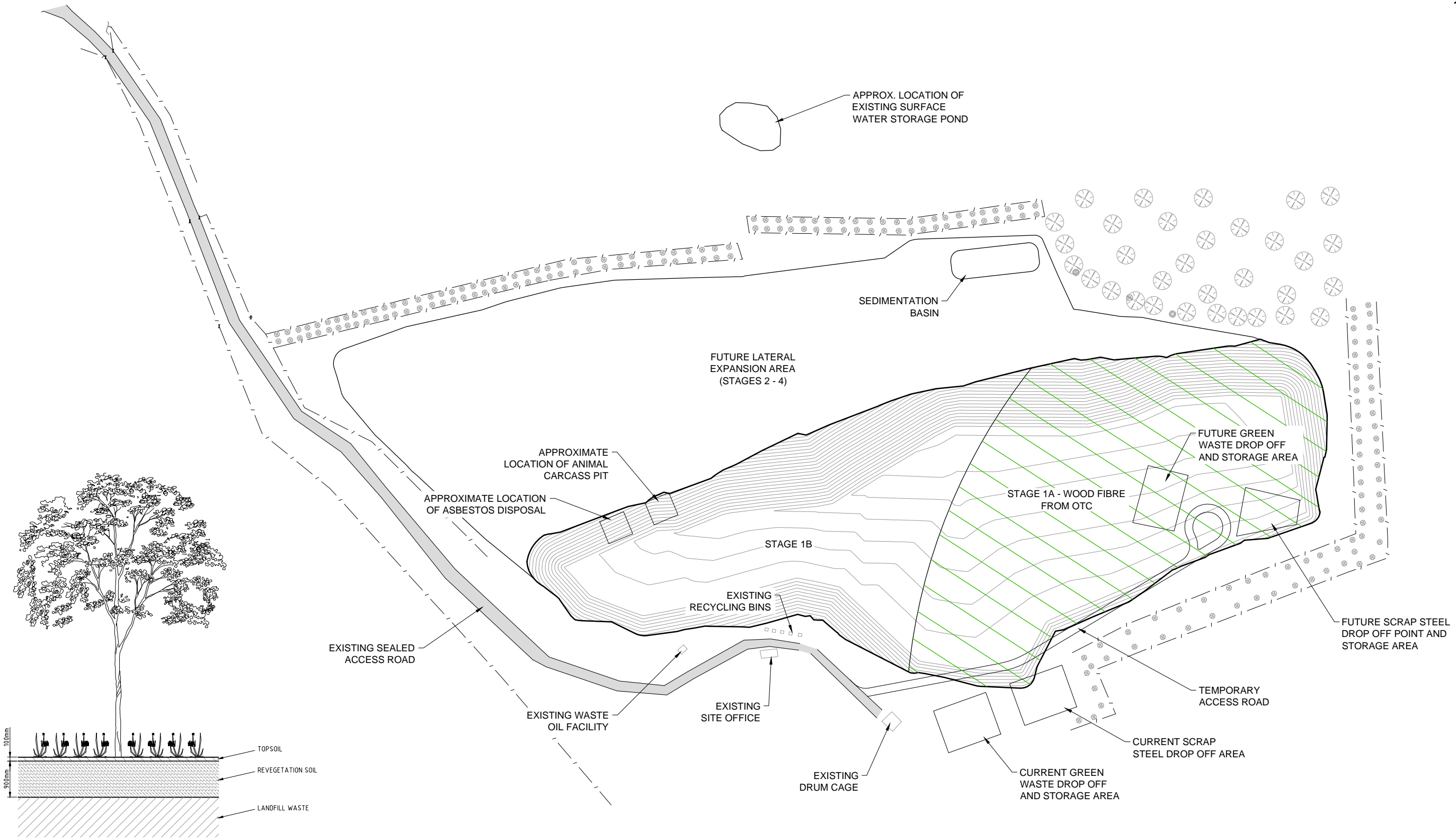
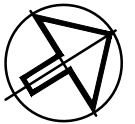
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DRAWING

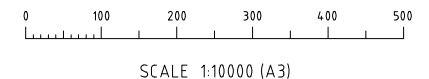
**STAGE 1 FINISHED SURFACE**

PROJECT NUMBER: 211129	DRAWING NUMBER: 05B_EV03	REV: B
SOURCE: INTERNAL		





TYPICAL CAPPING DESIGN  
SCALE 1:100 (A3)



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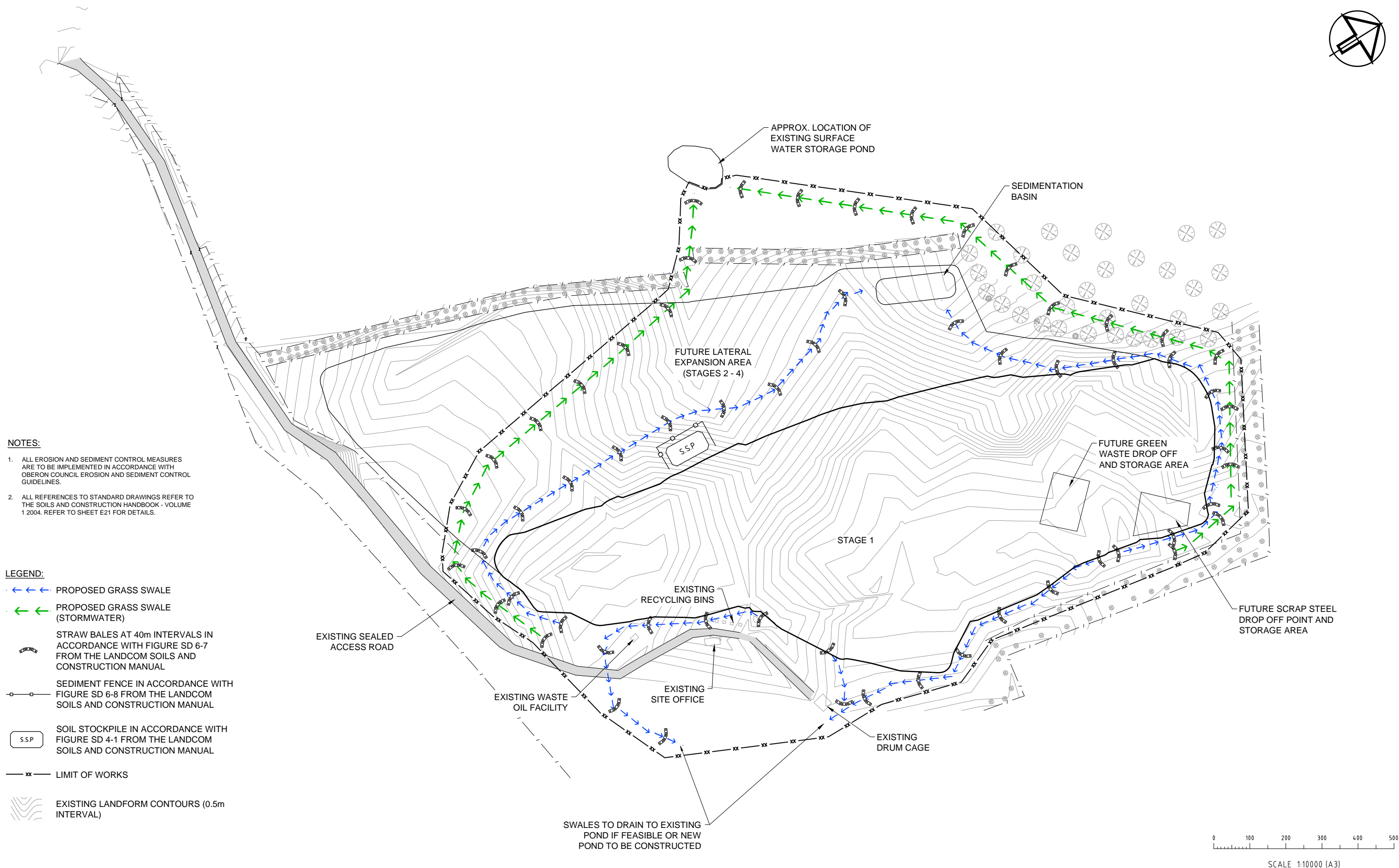
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A	02/05/13	LP	KH	DRAFT
B	16/05/13	LP	KH	ISSUED

PROJECT  
**OBERON LANDFILL EXTENSION  
LANDFILL ENVIRONMENTAL MANAGEMENT PLAN**  
FILE REFERENCE: 211129\_05B\_EV01-EV07.dwg

APPROVAL AUTHORITY  
**OBERON COUNCIL  
ENVIRONMENT  
PROTECTION AUTHORITY**

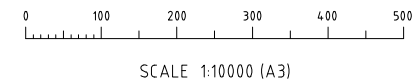
CLIENT  
  
**OBERON COUNCIL**

DRAWING  
**STAGE 1 FILLING PLAN**  
PROJECT NUMBER: 211129 DRAWING NUMBER: 05B\_EV04 REV. B  
SOURCE: INTERNAL



- NOTES:**
1. ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE IMPLEMENTED IN ACCORDANCE WITH OBERON COUNCIL EROSION AND SEDIMENT CONTROL GUIDELINES.
  2. ALL REFERENCES TO STANDARD DRAWINGS REFER TO THE SOILS AND CONSTRUCTION HANDBOOK - VOLUME 1 2004. REFER TO SHEET E21 FOR DETAILS.

- LEGEND:**
- ← ← ← PROPOSED GRASS SWALE
  - ← ← ← PROPOSED GRASS SWALE (STORMWATER)
  - — — STRAW BALES AT 40m INTERVALS IN ACCORDANCE WITH FIGURE SD 6-7 FROM THE LANDCOM SOILS AND CONSTRUCTION MANUAL
  - — — SEDIMENT FENCE IN ACCORDANCE WITH FIGURE SD 6-8 FROM THE LANDCOM SOILS AND CONSTRUCTION MANUAL
  - S.S.P. SOIL STOCKPILE IN ACCORDANCE WITH FIGURE SD 4-1 FROM THE LANDCOM SOILS AND CONSTRUCTION MANUAL
  - — — LIMIT OF WORKS
  - — — EXISTING LANDFORM CONTOURS (0.5m INTERVAL)



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B	16/05/13	LP	KH	ISSUED

PROJECT

**OBERON LANDFILL EXTENSION  
 LANDFILL ENVIRONMENTAL MANAGEMENT PLAN**

FILE REFERENCE: 211129\_05B\_EV01-EV07.dwg

APPROVAL AUTHORITY

**OBERON COUNCIL  
 ENVIRONMENT  
 PROTECTION AUTHORITY**

CLIENT

**OBERON COUNCIL**

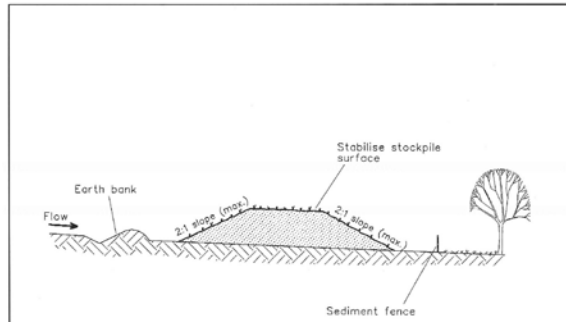
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 CONTROL PLAN**

PROJECT NUMBER: 211129 DRAWING NUMBER: 05B\_EV05 REV: B

SOURCE: INTERNAL



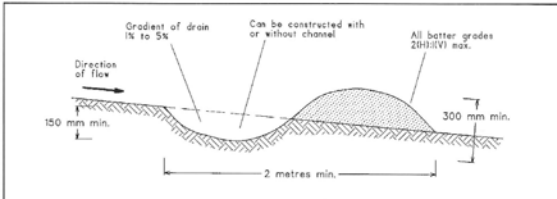


**Construction Notes**

1. Place stockpiles more than 2 (preferably 5) metres from existing vegetation, concentrated water flow, roads and hazard areas.
2. Construct on the contour as low, flat, elongated mounds.
3. Where there is sufficient area, topsoil stockpiles shall be less than 2 metres in height.
4. Where they are to be in place for more than 10 days, stabilise following the approved ESCP or SWMP to reduce the C-factor to less than 0.10.
5. Construct earth banks (Standard Drawing 5-5) on the upslope side to divert water around stockpiles and sediment fences (Standard Drawing 6-8) 1 to 2 metres downslope.

**STOCKPILES**

**SD 4-1**



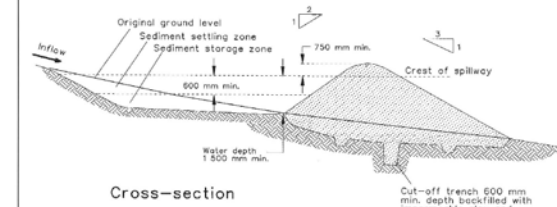
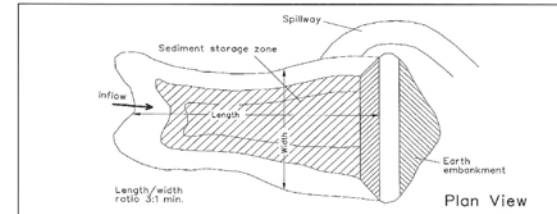
NOTE: Only to be used as temporary bank where maximum upslope length is 80 metres.

**Construction Notes**

1. Build with gradients between 1 percent and 5 percent.
2. Avoid removing trees and shrubs if possible - work around them.
3. Ensure the structures are free of projections or other irregularities that could impede water flow.
4. Build the drains with circular, parabolic or trapezoidal cross sections, not V shaped.
5. Ensure the banks are properly compacted to prevent failure.
6. Complete permanent or temporary stabilisation within 10 days of construction.

**EARTH BANK (LOW FLOW)**

**SD 5-5**

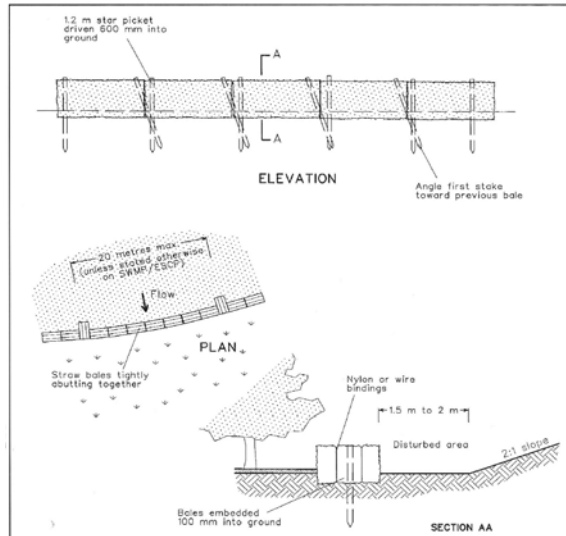


**Construction Notes**

1. Remove all vegetation and topsoil from under the dam wall and from within the storage area.
2. Construct a cut-off trench 500 mm deep and 1,200 mm wide along the centreline of the embankment extending to a point on the gully wall level with the riser crest.
3. Maintain the trench free of water and recompact the materials with equipment as specified in the SWMP to 95 per cent Standard Proctor Density.
4. Select fill following the SWMP that is free of roots, wood, rock, large stone or foreign material.
5. Prepare the site under the embankment by ripping to at least 100 mm to help bond compacted fill to the existing substrate.
6. Spread the fill in 100 mm to 150 mm layers and compact it at optimum moisture content following the SWMP.
7. Construct the emergency spillway.
8. Rehabilitate the structure following the SWMP.

**EARTH BASIN - WET**  
(APPLIES TO TYPE 'G' AND TYPE 'F' SOILS ONLY)

**SD 6-4**

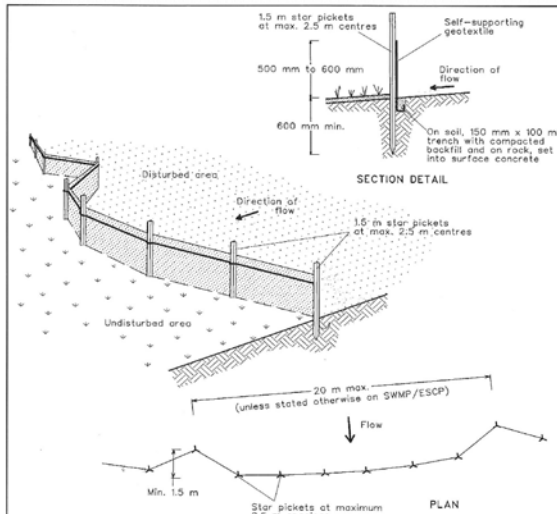


**Construction Notes**

1. Construct the straw bale filter as close as possible to being parallel to the contours of the site.
2. Place bales lengthwise in a row with ends tightly abutting. Use straw to fill any gaps between bales. Straws are to be placed parallel to ground.
3. Ensure that the maximum height of the filter is one bale.
4. Embed each bale in the ground 75 mm to 100 mm and anchor with two 1.2 metre star pickets or stakes. Angle the first star picket or stake in each bale towards the previously laid bale. Drive them 600 mm into the ground and, if possible, flush with the top of the bales. Where star pickets are used and they protrude above the bales, ensure they are fitted with safety caps.
5. Where a straw bale filter is constructed downslope from a disturbed batter, ensure the bales are placed 1 to 2 metres downslope from the toe.
6. Establish a maintenance program that ensures the integrity of the bales is retained - they could require replacement each two to four months.

**STRAW BALE FILTER**

**SD 6-7**

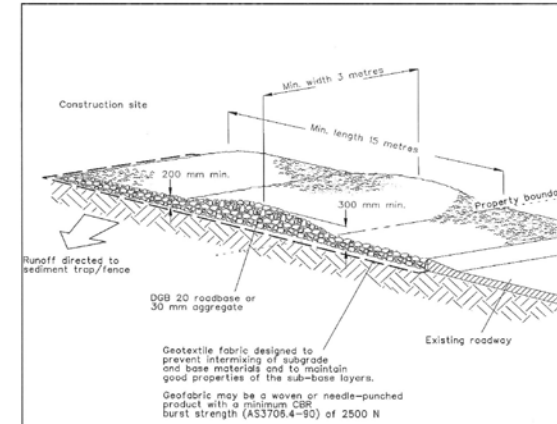


**Construction Notes**

1. Construct sediment fences as close as possible to being parallel to the contours of the site, but with small returns as shown in the drawing to limit the catchment area of any one section. The catchment area should be small enough to limit water flow if concentrated at one point to 50 litres per second in the design storm event, usually the 10-year event.
2. Cut a 150-mm deep trench along the upslope line of the fence for the bottom of the fabric to be entrenched.
3. Drive 1.5 metre long star pickets into ground at 2.5 metre intervals (max) at the downslope edge of the trench. Ensure any star pickets are fitted with safety caps.
4. Fix self-supporting geotextile to the upslope side of the posts ensuring it goes to the base of the trench. Fix the geotextile with wire ties or as recommended by the manufacturer. Only use geotextile specifically produced for sediment fencing. The use of shade cloth for this purpose is not satisfactory.
5. Join sections of fabric at a support post with a 150-mm overlap.
6. Backfill the trench over the base of the fabric and compact it thoroughly over the geotextile.

**SEDIMENT FENCE**

**SD 6-8**



**Construction Notes**

1. Strip the topsoil, level the site and compact the subgrade.
2. Cover the area with needle-punched geotextile.
3. Construct a 200-mm thick pad over the geotextile using road base or 30-mm aggregate.
4. Ensure the structure is at least 15 metres long or to building alignment and at least 3 metres wide.
5. Where a sediment fence joins onto the stabilised access, construct a hump in the stabilised access to divert water to the sediment fence.

**STABILISED SITE ACCESS**

**SD 6-14**

**GEOLYSE**  
ORANGE  
154 PELSLEY STREET  
P.O. BOX 1963  
ORANGE, NSW 2800  
Ph. (02) 6393 5000  
Fx. (02) 6393 5050  
orange@geolyse.com  
www.geolyse.com

No	DATE	DRAFTING CHECK	APPROVED BY	DETAILS
A	02/05/13	LP	KH	DRAFT
B	16/05/13	LP	KH	ISSUED

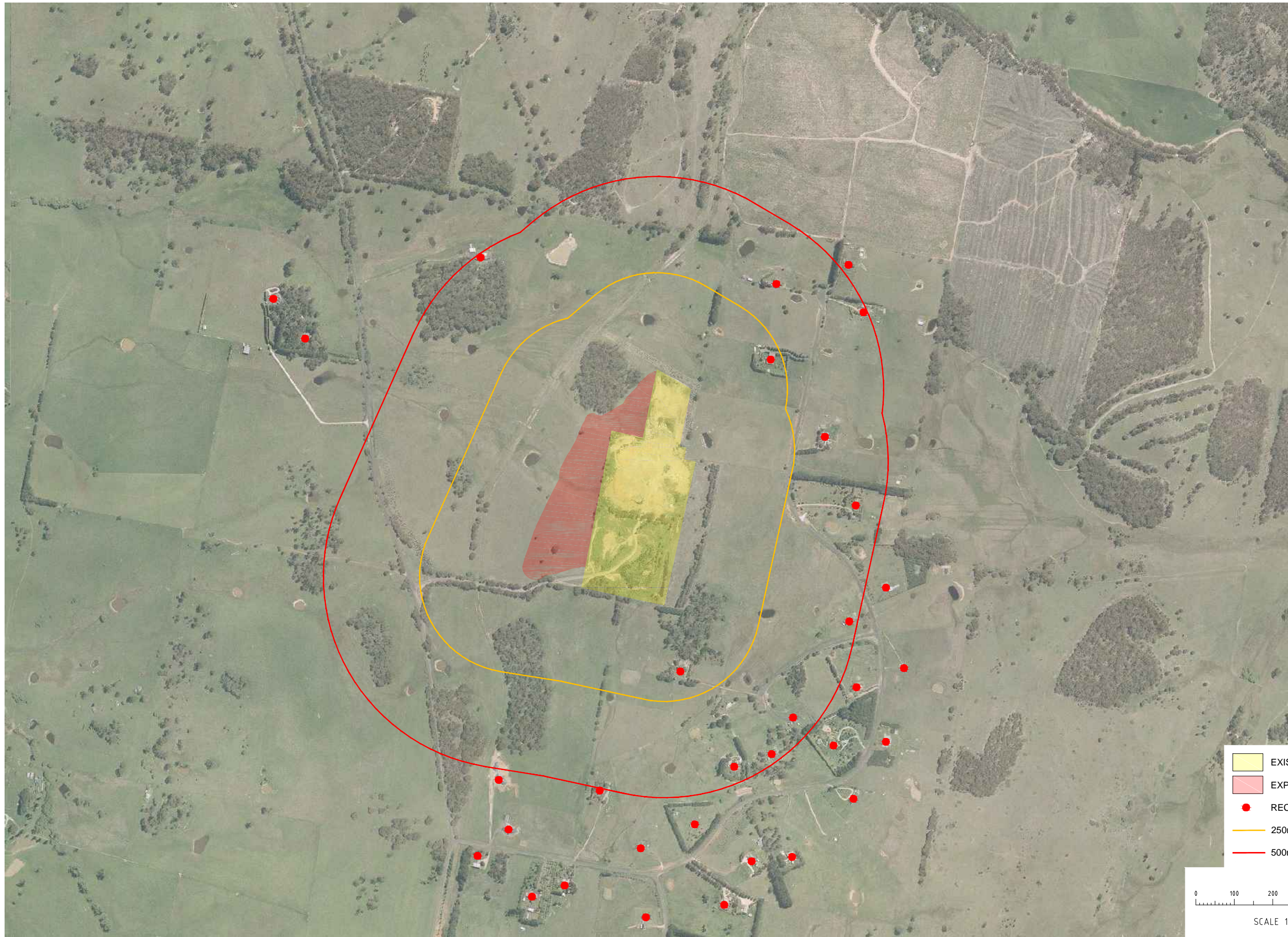
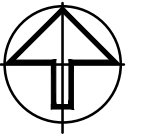
PROJECT  
**OBERON LANDFILL EXTENSION  
LANDFILL ENVIRONMENTAL MANAGEMENT PLAN**  
FILE REFERENCE: 211129\_05B\_EV01-EV07.dwg

APPROVAL AUTHORITY  
**OBERON COUNCIL  
ENVIRONMENT  
PROTECTION AUTHORITY**

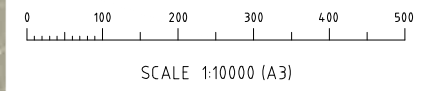
CLIENT  
**OBERON COUNCIL**

DRAWING  
**EROSION AND SEDIMENT CONTROL FIGURES**  
PROJECT NUMBER: 211129 DRAWING NUMBER: 05B\_EV06 REV: B  
SOURCE: SOILS AND CONSTRUCTION HANDBOOK





- EXISTING LANDFILL
- EXPANSION FOOTPRINT
- RECEPTOR
- 250m BUFFER
- 500m BUFFER



**GEOLYSE**  
**ORANGE**  
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No	DATE	DRAFTING CHECK	APPROVED BY	DETAILS
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B	16/05/13	LP	KH	ISSUED

PROJECT

**OBERON LANDFILL EXTENSION  
 LANDFILL ENVIRONMENTAL MANAGEMENT PLAN**

FILE REFERENCE: 211129\_05B\_EV01-EV07.dwg

APPROVAL AUTHORITY

**OBERON COUNCIL  
 ENVIRONMENT  
 PROTECTION AUTHORITY**

CLIENT

**OBERON COUNCIL**

DRAWING

**EXPANSION FOOTPRINT  
 AND RECEPTORS**

PROJECT NUMBER: 211129    DRAWING NUMBER: 05B\_EV07    REV. B

SOURCE: SOILS AND CONSTRUCTION HANDBOOK



## **Section 4**

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**ATTACHMENTS**



# **Attachment A**

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**ENVIRONMENT PROTECTION LICENCE  
NUMBER 20289**

# **Attachment B**

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**OPERATIONAL CONDITIONS OF  
DEVELOPMENT APPROVAL**



# OBERON COUNCIL

PO BOX 84, OBERON NSW 2787  
TELEPHONE (02) 63298100 FAX (02) 63298142  
e-mail:council@oberon.nsw.gov.au

Contact: Jaclyn Burns  
Your Ref:  
Our Ref: PR23.362, PR23.364, PR23.372.

11 July 2012

Mr L R Hargraves  
PO Box 84  
OBERON NSW 2787

Dear Mr Hargraves,

**Application No. 10.2012.35.1 – Expansion of the Oberon waste management facility at Lot 1 in DP 350774, Lot 1 in DP 598525, Lot 36 in DP 263034, Lot 1 in DP 844887, 362 Lowes Mount Road OBERON, 364 Lowes Mount Road OBERON and 372 Lowes Mount Road OBERON**

**Subject to the attached conditions, Council is pleased to advise that your Development Application only has been approved. Enclosed are the relevant determinations and approved plans.**

*Please read the conditions carefully.*

**Please be advised that works cannot commence on site until such time as the conditions attached to the General Terms of Approval (GTO) have been complied with and a license obtained from the EPA.**

Should you have any queries, please do not hesitate to contact Council's Development Department for further clarification.

If you disagree with the decision or any of the conditions and cannot resolve the matter, you have the right of appeal to the Land and Environment Court.

Yours faithfully,

**Gary Wallace**  
**DIRECTOR OF DEVELOPMENT**



# OBERON COUNCIL

PO BOX 84, OBERON NSW 2787  
 TELEPHONE (02) 63298100 FAX (02) 63298142  
 e-mail:council@oberon.nsw.gov.au

## Notice of Determination of Development Application (Section 81(1)(a) - the *Environmental Planning and Assessment Act 1979*)

<b>Development Application No.</b>	<b>10.2012.35.1</b>	<b>Responsible Officer</b>	<b>Jaclyn Burns</b>
<b>Property File No</b>	<b>PR23.362 PR23.364 PR23.372.</b>	<b>Related Files</b>	

<b>Applicant Details</b> Name and Address	Mr L R Hargraves PO Box 84 OBERON NSW 2787
<b>Owner Details</b> Name and Address	Oberon Council Garbage Depot PO Box 84 OBERON NSW 2787
<b>Subject Land Details</b>	L 1 DP 350774, L 1 DP 598525, L 36 DP 263034, L 1 DP 844887 Parish Oberon  362 Lowes Mount Road OBERON, 364 Lowes Mount Road OBERON, 372 Lowes Mount Road OBERON  Parcel number 16751, 14215, 14298, 15337 Assessment No. 12359248, 12360014, 12358658
<b>Proposed Development</b>	<b><u>EXPANSION OF LAND FILL AT OBERON WASTE DEPOT</u></b>
<b>Other Approvals:</b> (granted under Section 68 <i>Local Government Act 1993</i> )	<b>N/A</b>
<b>Determination</b>	The consent is <b>granted</b> subject to the attached conditions. Operational conditions follow this document and the General Terms of Approval follow as Annexure 1.
Date of Determination	<b>19 February, 2013</b>
Consent to Operate from:	<b>19 February, 2013</b>
Consent to Lapse on (date)	<b>19 February, 2018</b>
<b>Signed</b>	on behalf of the consent authority – <b>OBERON COUNCIL</b>
Signature	
	<b>Gary Wallace, DIRECTOR OF DEVELOPMENT</b>



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## IMPORTANT INFORMATION

### **Right of Appeal**

If you are dissatisfied with this decision section 97 of the *Environmental Planning and Assessment Act 1979* gives you the right to appeal to the Land and Environment Court within 12 months after the date on which you receive this notice

\* *Section 97 of the Environmental Planning and Assessment Act 1979 does not apply to the determination of a development application for State significant development or local designated development that has been the subject of a Commission of Inquiry.*

### **Note 1**

*Where the consent is subject to a condition that the consent is not to operate until the applicant satisfies a particular condition the date should not be endorsed until that condition has been satisfied.*

### **Note 2**

*Clause 69A of the Regulation contains additional particulars to be included in a notice of determination where a condition under section 94 of the Environmental Planning and Assessment Act 1979 has been imposed.*

### **Note 3**

*Only those conditions prescribed in Part 7 of the Environmental Planning and Assessment Regulation 1994 that relate to the development for which consent has been granted are to be attached to this form.*

### **Note 4**

*If development consent is granted to erect a temporary building, that consent must specify the date by which that temporary building is to be demolished. The temporary building must be demolished by the removal date specified in the consent. The removal date cannot be later than five years after the date the consent is granted, but can be less than 5 years if an earlier date is specified in the conditions of the consent.*



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## OPERATIONAL CONDITIONS OF DEVELOPMENT APPROVAL

NO 10.2012.35.1

**DATE: 19 February, 2013**

**DEVELOPMENT:** Expansion of the Oberon waste management facility

**ADDRESS:** L 1 DP 350774, L 1 DP 598525, L 36 DP 263034, L 1 DP  
844887, 362 Lowes Mount Road OBERON, 364 Lowes  
Mount Road OBERON, 372 Lowes Mount Road OBERON

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### 1. Approved Plans

The development is to be carried out in accordance with the approved stamped plans as follows:

- The Statement of Environmental effects – Oberon Landfill prepared by Geolyse, dated May 2012;
- The information supplied by Oberon Council in support of the Development Application referred to as the Oberon Waste Depot Statement of Environmental Effects including the proposed layout for the recycling bays and site plan;
- The additional information supplied by Oberon Council in support of the Development Application to clarify activities on site;
- The additional information supplied by Oberon Council in support of the Development Application dated 29 January, 2013;

Except as otherwise provided by the conditions of this determination (Note:- modifications to the approved plans will require the lodgement and consideration by Council of a modification pursuant to Section 96 of the Environmental Planning and Assessment Act).

Reason:- to confirm and clarify the terms of Council's approval.

### 2. General Terms of Approval

Compliance with the NSW Environmental Protection Agency's General Terms of Approval for issue of a Environmental Protection Licence under the Protection of the Environment Operations Act 1997 (Notice No. 1507918) as annexure 1.

Reason:- to confirm and clarify the terms of the Environmental Protection Licence.

### 3. Installation and ongoing maintenance of equipment



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The installation of all equipment to monitor noise, air and water quality is required in accordance with the NSW Environmental Protection Agencies requirements, prior to any works commencing on site. The equipment is to be inspected and maintained on a regular basis.

Reason: To ensure onsite monitoring is established and carried out in accordance with the General Terms of Approval

#### 4. **Excavation and backfilling to be executed safely**

All excavation and backfilling must be executed safely and in accordance with appropriate work cover and work place health and safety requirements. All excavations must be properly guarded and protected to prevent them from being dangerous to life or property.

Reason:- to ensure safety of the site is maintained for both employees and the public.

#### 5. **Separate DA required**

Prior to the commencement of construction works on site associated with the Statement of Environmental Effects including the site office and associated infrastructure as stage three (3), a separate Development Application containing fully detailed plans and specifications are to be submitted to and approved by Council.

Reason: To meet the requirements of Section 76A of the Environmental Planning and Assessment Act 1979.

#### 6. **Submission of construction certificate**

Site works are not to commence on the site office and associated infrastructure as stage three (3) as described by the Statement of Environmental Effects until such time as Council has received a construction certificate for the proposed works. Council or an Accredited Certifier may issue construction certificates.

Note: Only the person who appointed the PCA may be the applicant for the Construction Certificate.

Reason:- to comply with the requirements of Section 81A of the Environmental Planning and Assessment Act.

#### 7. **Landfill Environmental Management Plan**

The Landfill Environmental Management Plan (LEMP) must be approved by Council, developed and implemented prior to commencing the construction of Stage 1 of the Oberon Waste Depot. The LEMP must include the following details:

- Implementation of a pollution line;
- Implementation of Benchmark Techniques as identified in the Statement of Environmental Effects;
- Implementation of a management strategy for the cartage and disposal of wood fibre product from the Oberon Timber Complex;
- Measures to mitigate the risk of bushfire;
- Measures dealing with dust and odour suppression;



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- Control measures for littering and dumping of rubbish;
- Implementation of a management plan for the capping and rehabilitation of the existing landfill site and each cell.
- Management plan for the resale of green waste and a resource recovery management plan for recycling;
- The implementation of a landscaping plan including details for ongoing maintenance to facilitate the reduction of visual impact of the existing and proposed landfill sites.

Reason:- to confirm and clarify the terms of Council's approval and to ensure the ongoing management of the landfill is carried out in a environmentally responsible and sustainable manner.

## **8. Haulage of contaminated wood fibre**

The Landfill Environmental Management Plan (LEMP) is to detail the proposed management of the transportation off haulage of contaminated wood fibre from CSR to the landfill and to identify and address potential impacts associated to this activity prior to commencing the construction of Stage 1 of the Oberon Waste Depot. The LEMP must include the following details:

- Identification of the number of truck movements to be undertaken and the period when this will occur;
- Identification of the plant and equipment to be used
- Identification of the hours of operation as to when the waste is to be carted along Lowes Mount road;
- The implementation of a management system to deal with notification of adjoining land owners, telephone complaints line and signage;
- The implementation of a management plan to ensure the contaminated waste is contained during transportation;
- The implementation of a management plan to assess the impact and maintain Lowes Mount Road due to use by large scale heavy machinery.

Reason:- to confirm and clarify the terms of Council's approval and to ensure the ongoing management of the landfill is carried out in a environmentally responsible and sustainable manner.

## **9. Developer Contributions**

Prior to the release of the commencement of works on site, payment of Section 94 contributions in accordance with the schedule below, or those applicable at the time of payment, as prescribed in Council's Annual Fees and Charges Schedule.

<b>SERVICE</b>	<b>REQUIRED CONTRIBUTION in2013/2013</b>
Public Open Space	\$222.00
Emergency Services	\$266.00
Community Facilities	\$222.00
Rural Roads	\$4,333.00
<b>TOTAL</b>	<b>\$5,043.00</b>

Reason:- To advise that under Part B.11 of Council's Contributions Plan 2000 developer contributions are payable for the expansion of the Oberon Waste Management Facility. These contributions are charged at the rate when paid, set each year in Council's Management Plan. Part B.15 of Council's Development Contributions Plan 2000.





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## ANNEXURE 1 - GENERAL TERMS OF APPROVAL

NOTICE NUMBER: 1507918

DATE: 19 February, 2013

**DEVELOPMENT:** Expansion of the Oberon waste management facility

**ADDRESS:** L 1 DP 350774, L 1 DP 598525, L 36 DP 263034, L 1 DP 844887, 362 Lowes Mount Road OBERON, 364 Lowes Mount Road OBERON, 372 Lowes Mount Road OBERON

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### ADMINISTRATIVE CONDITIONS

1. Information supplied to the EPA

Except as expressly provided by these general terms of approval, works and activities must be carried out in accordance with the proposal contained in:

the development application DA10.2012.35.1 submitted to Oberon Council on 6 July 2012;

the Statement of Environmental Effects, Oberon Landfill Proposed Expansion prepared by Geolyse Pty Limited and dated May 2012 relating to the development; and

all additional documents supplied to the EPA in relation to the development, including additional information provided by Oberon Council and titled Oberon Waste Depot, Statement of Environmental Effects.

2. Fit and Proper Person

The applicant must, in the opinion of the EPA, be a fit and proper person to hold a licence under the Protection of the Environment Operations Act 1997, having regard to the matters in s.83 of that Act.

### LIMIT CONDITIONS

3. Pollution of waters

Except as may be expressly provided by a licence under the Protection of the Environment Operations Act 1997 in relation of the development, section 120 of the Protection of the Environment Operations Act 1997 must be complied with in and in connection with the carrying out of the development.

4. Concentration limits



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1. For each discharge point or utilisation area specified in the table/s below, the concentration of a pollutant discharged at that point, or applied to that area, must not exceed the concentrations limits specified for that pollutant in the table.
2. Where a pH quality limit is specified in the Table, the specified percentage of samples must be within the specified ranges.
3. To avoid any doubt, this condition does not authorise the discharge or emission of any other pollutants.

## 5. Water and Land

Point 1 - Surface Water Storage Pond as shown in Figure 02B\_E03 of Appendix B of the Statement of Environmental Effects, Oberon Landfill Proposed Extension

Pollutant	Units of Measure	50% concentration limit	90% concentration limit	3DGM concentration limit	100% concentration limit
pH	pH				6.5-8.5
Total Suspended Solids (TSS)	mg/L				50
Oil and Grease	mg/L				10

The TSS limit specified in the table above do not apply when the discharge occurs solely as a result of rainfall at the premises which exceeds a total of 44 millimetres of rainfall over any consecutive five (5) day period.

*Note: a 44 mm rainfall depth is defined by the publication Managing Urban Stormwater: Soils and Construction (Landcom 2004) as the rainfall depth in millimetres for 95th percentile 5 day rainfall events for the Central Tablelands consistent with the storage capacity (recommended minimum design criteria) for Type D sediment retention basin for waste landfills (Vol 2B of Landcom 2004).*

## 6. Waste

1. The licensee must not cause, permit or allow any waste to be received at the premises, except the wastes expressly referred to in the column titled "Waste" and meeting the definition, if any, in the column titled "Description" in the table below.
2. Any waste received at the premises must only be used for the activities referred to in relation to that waste in the column titled "activity" in the table below.
3. Any waste received at the premises is subject to those limits or conditions, if any, referred to in relation to that waste contained in the column titled "Other Limits" in the table below.
4. This condition does not limit any other conditions in the licence.

Code	Waste	Description	Activity	Other Limits
N/A	General solid waste (putrescible)	As defined in Schedule 1 of the POEO Act, in force from time to time	Waste disposal (application to land)	The total amount of general solid waste (putrescible and non-putrescible), asbestos and waste tyres disposed of at the premises must not exceed 10,000 tonnes per annum 1.
N/A	General solid waste (non-putrescible)	Wastes assessed as General Solid Waste which are also subject to general or specific immobilisation approvals which have a restriction that they may only be disposed of at waste facilities which have currently operating leachate	Waste disposal (application to land).	The total amount of general solid waste (putrescible and non-putrescible), asbestos and waste tyres disposed of at the premises must not exceed 10,000 tonnes per annum 1.



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N/A	Asbestos waste	collection systems. As defined in Schedule 1 of the POEO Act, in force from time to time.	Waste disposal (application to land).	The total amount of general solid waste (putrescible and non-putrescible), asbestos and waste tyres disposed of at the premises must not exceed 10,000 tonnes per annum 1.
N/A	Waste tyres	As defined in Schedule 1 of the POEO Act, in force from time to time	Waste disposal (application to land)	The total amount of general solid waste (putrescible and non-putrescible), asbestos and waste tyres disposed of at the premises must not exceed 10,000 tonnes per annum 1.

5. This total yearly tonnage excludes 'one off' disposal of contaminated soil from the remediation of Kings Stockyard Creek and up to 35,000 tonnes of wood fibre to be removed from within the Oberon Timber Complex.

## 7. Hours of operation

1. All construction work at the premises must only be conducted between 7:00am to 6:00pm, Monday to Friday (except on Public Holidays), and 8:00am to 5:00pm on Saturdays.
2. Activities at the premises, other than construction work, may only be carried on between 7:00am to 5:00pm Monday to Sunday (except Good Friday and Christmas Day).
3. These conditions do not apply to the delivery of material outside the hours of operation permitted by the conditions above, if that delivery is required by police or other authorities for safety reasons; and/or the operation or personnel or equipment are endangered. In such circumstances, prior notification is provided to the EPA and affected residents as soon as possible, or within a reasonable period in the case of emergency.
4. The hours of operation specified in the conditions above may be varied with written consent if the EPA is satisfied that the amenity of the residents in the locality will not be adversely affected.

## **OPERATING CONDITIONS**

### 8. Odour

Activities at the premises must not cause or permit the emission of offensive odour beyond the boundary of the premises.

### 9. Dust

1. Activities occurring at the premises must be carried out in a manner that will minimise emissions of dust from the premises.
2. All trafficable areas, stockpile areas, storage areas and vehicle manoeuvring areas in or on the premises must be maintained, at all times, in a condition that will minimise the generation, or emission from the premises of wind-blown or traffic generated dust.
3. Trucks entering and leaving the premises that are carrying loads must be covered at all times, except during loading and unloading.

### 10. Stormwater/sediment control - Construction and Operation Phases

An erosion and Sediment Control Plan (ESCP) must be prepared and implemented. The plan must describe the measures that will be employed to minimise soil erosion and the discharge of sediment and other pollutants to lands and/or waters during construction and operational activities. The ESCP should be prepared in accordance with the requirements for such plans



outlined in Managing Urban Stormwater: Soils and Construction, Volume 1 (Landcom 2004). The ESCP may form a component of the Landfill Environmental Management Plan.

## 11. Waste Water Utilisation Areas

1. Waste water (leachate) must only be applied to the following areas: the surface of active landfill cells of the Oberon Waste Depot.
2. Spray from waste water application must not drift beyond the boundary of the waste water utilisation area to which it is applied.

## 12. Landfill Environmental Management Plan

1. A Landfill Environmental Management Plan (LEMP) must be developed and implemented prior to commencing the construction of Stage 1 of the Oberon Waste Depot ("the premises").
2. The premises must be operated in accordance with the LEMP and the conditions of any environment protection licence issued by the EPA.

## 13. Leachate Barrier System

1. A leachate barrier system must be installed on any surface to be used for the direct impoundment of leachate.
2. The floor of the landfill cells must have a compacted clay or modified soil liner at least 90 centimetres thick with an in situ co-efficient of permeability of less than  $1 \times 10^{-9}$  metres per second (or a demonstrated synthetic equivalent).
3. The leachate barrier system for the landfill cells must be designed and installed in accordance with the quality requirements specified in an approved Construction Quality Assurance Program developed in accordance with Australian Standard (AS 3905.2). The Program must include, but not be limited to the following:
  - (a) the extent of the in situ material to be used for the leachate barrier,
  - (b) the permeability of the material to leachate and gas,
  - (c) the integrity of the material, and the presence of any imperfections that may compromise its effectiveness (eg. root holes, cracks or gravel layers), and;
  - (d) any possible reactions between the in situ material and the leachate.
4. The leachate barrier system must have a longitudinal gradient design of 1 percent and a transverse gradient design of 3 percent.

## 14. Leachate Collection System

1. All leachate in excess of the field capacity of the waste must be collected in a leachate collection system and prevented from escaping from the landfill into groundwater, surface water or subsoil.
2. The floor of the leachate evaporation ponds must have a compacted clay or modified soil liner at least 90 centimetres thick with an in situ co-efficient of permeability of less than  $1 \times 10^{-9}$  metres per second (or a demonstrated synthetic equivalent).
3. The leachate collection system for the landfill cells must be designed and installed in accordance with the quality requirements specified in an approved Construction Quality Assurance Program developed in accordance with Australian Standard (AS 3905.2). The Program must include, but not be limited to the following:
  - (a) the extent of the in situ material to be used for the leachate barrier,
  - (b) the permeability of the material to leachate and gas,
  - (c) the integrity of the material, and the presence of any imperfections that may compromise its effectiveness (eg. root holes, cracks or gravel layers), and;



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(d) any possible reactions between the in situ material and the leachate.

4. Perforated collector pipes must be placed within the drainage layer at intervals of not more than 50 metres to facilitate the collection and drainage of leachate. The pipes should be a minimum of 150 millimetres in diameter, be strong enough not to collapse under the weight of the waste, have a minimum longitudinal gradient of 1 percent, and be capable of being rinsed and monitored.

## 15. Leachate Disposal

1. Leachate collection and storage facilities must be maintained so as to collect and impound without discharge to waters, all leachate from or generated by a storm event of 1 in 20 years recurrence with an interval of 24 hours duration.

2. The volume of leachate directed to the irrigation area must not exceed the capacity of the area to assimilate leachate.

3. The leachate evaporation ponds must be managed in order to maintain 0.5 metres freeboard.

## 16. Surface Water Controls

1. Drainage from areas not subject to waste disposal or leachate disposal must be directed away from the leachate management system.

2. All water that has entered waste-filled areas, and water that has been contaminated by leachate, should be handled and treated in the same manner as leachate.

3. The exposed or cleared areas at the landfill site must be minimised at all times, and all topsoil set aside for revegetation purposes. All completed areas of the landfill must be progressively revegetated, and any areas exposed for greater than 30 days must be stabilised so as to prevent soil erosion.

## 17. Fire Prevention

1. Cell construction, compaction and the use of cover material must be undertaken in a manner conducive to the prevention of a landfill fire.

2. Fires must be extinguished at the landfill as soon as possible.

3. Adequate fire prevention measures must be in place and implemented.

## 18. Tyre Storage

1. The total quantity of used, rejected or unwanted tyres (including shredded tyres and tyre pieces) stockpiled at the premises must not exceed 50 tonnes.

2. The landfill occupier must ensure that stockpiles of used, rejected or unwanted tyres (including shredded tyres and tyre pieces) are located in a clearly defined area.

3. The landfill occupier must ensure that stockpiles of used, rejected or unwanted tyres (including shredded tyres and tyre pieces) are managed so as not to create or be likely to cause the harbouring of vermin.

4. The landfill occupier must ensure that measures are taken to prevent stockpiles of used, rejected or unwanted tyres (including shredded tyres and tyre pieces) from catching on fire.

## 19. Screening of Wastes Received

1. Waste acceptance and screening procedures must be implemented to ensure the premises does not accept wastes that are prohibited from entry.

2. Signs that clearly indicate the types of wastes that are to be accepted and those that are not to be accepted must be prominently displayed at the point of entry.



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3. A program for the inspection of incoming waste loads must be developed and implemented.
4. Landfill staff should receive adequate training in order to recognise and handle hazardous or other unapproved wastes.

## 20. Waste Compaction

1. Following the daily completion of compacting the waste, the active area must be covered with 150 millimetres of cover material.
2. A compaction of 650 kilograms per cubic metre must be achieved for all waste disposed of at the premises.
3. The achieved compaction rate of landfilled waste (excluding cover material) must be stated in the annual report for the premises.

## 21. Filling Plan

1. A filling plan that identifies waste cells that are to be used in the future for the disposal of waste must be maintained and updated at intervals of no greater than 12 months.

## 22. Completion of the landfill cells

1. Landfill cells must be effectively capped progressively during operations when the cell is full and the level of waste reaches the final height.
2. The landfill must have a final capping comprising of two layers in order of installation: a seal bearing surface and a revegetation layer.

## 23. Security of the Site

1. Lockable security gates must be installed and maintained.
2. All gates must be locked whenever the premises is unattended.
3. A perimeter stock fence must be installed.

## 24. Litter Control

1. Procedures must be introduced that prevents the dispersal of litter away from the active waste cell, such as continuous compaction and the use of litter fences, and the retrieval of all wind-blown litter that leaves the premises.
2. All litter fences, perimeter fences and gates should be inspected daily and cleared of litter on a daily basis, or as required.
3. Entry and exit signs must be installed to advise transport operators that they can be fined for any litter on public roads from their transportation of inadequately secured waste.
4. Any litter that leaves the premises should be retrieved on a daily basis.

## 25. Cleaning of Vehicles

1. The tracking of mud and waste from the premises must be minimised.

## 26. Pest, Vermin and Noxious Weed Controls

1. Waste must be compacted and covered, keeping the amount of exposed waste to a minimum. Additional effort may be required for loads containing large amounts of highly biodegradable wastes.



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2. The landfill occupier must take steps to ensure that surfaces are adequately drained to prevent ponds of water forming on the site.
3. A plan to manage pests, vermin and declared noxious weeds must be developed and detailed in the LEMP.

## 27. Landfill Closure and Post-Closure Monitoring and Maintenance

1. The operator must develop and submit to the EPA a written Closure Plan within six months of completion of landfilling activities on the premises.
2. The Closure Plan must include, but not necessarily be limited to, the following:
  - a) a post-closure monitoring and maintenance program which ensures the long-term integrity of the landfill.
  - b) An outline of the steps to be taken in closing and stabilising the premises, and the time frame.
  - c) A system and contact numbers for neighbouring residents to discuss any problems.
  - d) A system to ensure that waste materials are not received for disposal at the premises after operations close.
3. The Closure Plan must also address the following closure targets:
  - a) Gas concentration levels in all perimeter gas wells have fallen to less than 1% methane (v/v) and less than 1.5% carbon dioxide for a period of 24 months.
  - b) Waste stabilisation has been completed, including documentation of the composition of the leachate changing to a low level of contamination and posing no hazard to the environment.
  - c) Groundwater monitoring has indicated no failure of the landfill liner that would pose a threat to groundwater quality.
  - d) The landfill capping has been assessed over some years and found to be stable with acceptable surface water drainage.
  - e) Documentation to demonstrate that all functions in the closure planning segment of the LEMP and written confirmation of procedures have been completed.
  - f) The need for appropriate notation on the respective s.149 certificates of each Lot associated with the former landfill.

## MONITORING AND RECORDING CONDITIONS

### 28. Monitoring records

1. The results of any monitoring required to be conducted by the EPA's general terms of approval, or a licence under the Protection of the Environment Operations Act 1997, in relation to the development must be recorded and retained as set out in the conditions below.
2. All records required to be kept by the licence must be:
  - a) in a legible form, or in a form that can readily be reduced to a legible form;
  - b) kept for at least 4 years after the monitoring or event to which they relate took place; and
  - c) produced in a legible form to any authorised officer of the EPA who asks to see them.
3. The following records must be kept in respect of any samples required to be collected:
  - a) the date(s) on which the sample was taken;
  - b) the time(s) at which the sample was collected;
  - c) the point at which the sample was taken; and
  - d) the name of the person who collected the sample.

### 29. Requirement to monitor concentration of pollutants discharged



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1. For each monitoring/ discharge point or utilisation area specified below (by a point number), the applicant must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1. The applicant must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns:

### 30. Water and Land

Point 1 - Surface Water Storage Pond as shown in Figure 02B\_E03 of Appendix B of the *Statement of Environmental Effects, Oberon Landfill Proposed Extension*

Pollutant	Units of measure	Frequency	Sampling Method
Total Suspended Solids	mg/L	Monthly on discharge	Grab sample
pH	pH	Monthly on discharge	Grab sample
Conductivity	microsiemens per centimetre	Monthly on discharge	Grab sample
Oil and Grease	mg/L	Monthly on discharge	Grab sample

Points 2-7 - Shallow Groundwater Monitoring Wells shown in Figure 5 of Appendix C of the *Statement of Environmental Effects, Oberon Landfill Proposed Extension*

Pollutant	Units of measure	Frequency	Sampling Method
Total Dissolved Solids	mg/L	6 monthly	Grab sample
pH	pH	6 monthly	Grab sample
Conductivity	microsiemens per centimetre	6 monthly	Grab sample
Standing water level	m AHD	6 monthly	In situ
Calcium	mg/L	6 monthly	Grab sample
Magnesium	mg/L	6 monthly	Grab sample
Potassium	mg/L	6 monthly	Grab sample
Sodium	mg/L	6 monthly	Grab sample
Chloride	mg/L	6 monthly	Grab sample
Sulfate	mg/L	6 monthly	Grab sample
Alkalinity (as Calcium Carbonate)	mg/L	6 monthly	Grab sample
Total organic carbon	mg/L	6 monthly	Grab sample
Nitrogen – ammonia	mg/L	6 monthly	Grab sample
Nitrogen – nitrate	mg/L	6 monthly	Grab sample
Nitrogen – nitrite	mg/L	6 monthly	Grab sample
Total Phosphorous	mg/L	6 monthly	Grab sample
Aluminium	mg/L	Annually	Grab sample
Arsenic	mg/L	Annually	Grab sample
Barium	mg/L	Annually	Grab sample
Cadmium	mg/L	Annually	Grab sample
Chromium (total)	mg/L	Annually	Grab sample
Cobalt	mg/L	Annually	Grab sample
Copper	mg/L	Annually	Grab sample
Iron	mg/L	Annually	Grab sample
Mercury	mg/L	Annually	Grab sample
Manganese	mg/L	Annually	Grab sample
Lead	mg/L	Annually	Grab sample
Zinc	mg/L	Annually	Grab sample
Fluoride	mg/L	Annually	Grab sample
Benzene	mg/L	Annually	Grab sample
Toluene	mg/L	Annually	Grab sample
Ethylbenzene	mg/L	Annually	Grab sample
Xylene	mg/L	Annually	Grab sample
Total phenolics	mg/L	Annually	Grab sample
Total Petroleum	mg/L	Annually	Grab sample





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Hydrocarbons			
Organochlorine pesticides	mg/L	Annually	Grab sample
Organophosphate pesticides	mg/L	Annually	Grab sample
Polycyclic aromatic hydrocarbons	mg/L	Annually	Grab sample

Points 8-11 - Deep Groundwater Monitoring Wells shown in Figure 5 of Appendix C of the *Statement of Environmental Effects, Oberon Landfill Proposed Extension*

Pollutant	Units of measure	Frequency	Sampling Method
Total Dissolved Solids	mg/L	Annually	Grab sample
pH	pH	Annually	Grab sample
Conductivity	microsiemens per centimetre	Annually	Grab sample
Standing water level	m AHD	Annually	In situ
Calcium	mg/L	Annually	Grab sample
Magnesium	mg/L	Annually	Grab sample
Potassium	mg/L	Annually	Grab sample
Sodium	mg/L	Annually	Grab sample
Chloride	mg/L	Annually	Grab sample
Sulfate	mg/L	Annually	Grab sample
Alkalinity (as Calcium Carbonate)	mg/L	Annually	Grab sample
Total organic carbon	mg/L	Annually	Grab sample
Nitrogen – ammonia	mg/L	Annually	Grab sample
Nitrogen – nitrate	mg/L	Annually	Grab sample
Nitrogen – nitrite	mg/L	Annually	Grab sample
Total Phosphorous	mg/L	Annually	Grab sample
Aluminium	mg/L	Annually	Grab sample
Arsenic	mg/L	Annually	Grab sample
Barium	mg/L	Annually	Grab sample
Cadmium	mg/L	Annually	Grab sample
Chromium (total)	mg/L	Annually	Grab sample
Cobalt	mg/L	Annually	Grab sample
Copper	mg/L	Annually	Grab sample
Iron	mg/L	Annually	Grab sample
Mercury	mg/L	Annually	Grab sample
Manganese	mg/L	Annually	Grab sample
Lead	mg/L	Annually	Grab sample
Zinc	mg/L	Annually	Grab sample
Fluoride	mg/L	Annually	Grab sample
Benzene	mg/L	Annually	Grab sample
Toluene	mg/L	Annually	Grab sample
Ethylbenzene	mg/L	Annually	Grab sample
Xylene	mg/L	Annually	Grab sample
Total phenolics	mg/L	Annually	Grab sample
Total Petroleum Hydrocarbons	mg/L	Annually	Grab sample
Organochlorine pesticides	mg/L	Annually	Grab sample
Organophosphate pesticides	mg/L	Annually	Grab sample
Polycyclic aromatic hydrocarbons	mg/L	Annually	Grab sample

Point 12 – Leachate pond as shown in Figure 02B\_E03 of Appendix B of the *Statement of Environmental Effects, Oberon Landfill Proposed Extension*.

Pollutant	Units of measure	Frequency	Sampling Method
-----------	------------------	-----------	-----------------



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Total Suspended Solids	mg/L	Annually	Grab sample
pH	pH	Annually	Grab sample
Conductivity	microsiemens per centimetre	Annually y	Grab sample
Calcium	mg/L	Annually	Grab sample
Magnesium	mg/L	Annually	Grab sample
Potassium	mg/L	Annually	Grab sample
Sodium	mg/L	Annually	Grab sample
Chloride	mg/L	Annually	Grab sample
Sulfate	mg/L	Annually	Grab sample
Alkalinity (as Calcium Carbonate)	mg/L	Annually	Grab sample
Total organic carbon	mg/L	Annually	Grab sample
Nitrogen – ammonia	mg/L	Annually	Grab sample
Nitrogen – nitrate	mg/L	Annually	Grab sample
Nitrogen – nitrite	mg/L	Annually	Grab sample
Total Phosphorous	mg/L	Annually	Grab sample
Aluminium	mg/L	Annually	Grab sample
Arsenic	mg/L	Annually	Grab sample
Barium	mg/L	Annually	Grab sample
Cadmium	mg/L	Annually	Grab sample
Chromium (total)	mg/L	Annually	Grab sample
Cobalt	mg/L	Annually	Grab sample
Copper	mg/L	Annually	Grab sample
Iron	mg/L	Annually	Grab sample
Mercury	mg/L	Annually	Grab sample
Manganese	mg/L	Annually	Grab sample
Lead	mg/L	Annually	Grab sample
Zinc	mg/L	Annually	Grab sample
Fluoride	mg/L	Annually	Grab sample
Benzene	mg/L	Annually	Grab sample
Toluene	mg/L	Annually	Grab sample
Ethylbenzene	mg/L	Annually	Grab sample
Xylene	mg/L	Annually	Grab sample
Total phenolics	mg/L	Annually	Grab sample
Total Petroleum Hydrocarbons	mg/L	Annually	Grab sample
Organochlorine pesticides	mg/L	Annually	Grab sample
Organophosphate pesticides	mg/L	Annually	Grab sample
Polycyclic aromatic hydrocarbons	mg/L	Annually	Grab sample

### 31. Landfill Gas Monitoring System

1. A gas monitoring system, involving subsurface, surface and within building monitoring points, must be developed, as part of the LEMP, in accordance with the Benchmark Techniques (Environmental Guidelines: Solid Waste Landfills January 1996) for review by the EPA before implementation.

### 32. Gas Accumulation Monitoring

1. All buildings within 250 metres of deposited waste or areas identified in the LEMP as having the potential to have methane concentrations of greater than 1.25% (v/v) in the subsurface must be tested on a monthly frequency with a tested and calibrated methane



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detector. If any buildings are to be built within this area they must be designed so as not to accumulate methane gas.

2. Buildings are not to have gas concentrations exceeding 1.25% (v/v). If methane is detected above this threshold, daily testing is required until ventilation or other measures control the methane build-up.

## **REPORTING CONDITIONS**

### 33. Annual Return

1. The applicant must provide an annual return to the EPA in relation to the development as required by any licence under the Protection of the Environment Operations Act 1997 in relation to the development. In the return the applicant must report on the annual monitoring undertaken (where the activity results in pollutant discharges), provide a summary of complaints relating to the development, report on compliance with licence conditions and provide a calculation of licence fees (administrative fees and, where relevant, load based fees) that are payable.



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## **MANDATORY CONDITIONS FOR ALL EPA LICENCES:**

### **OPERATING CONDITIONS:**

#### 34. Activities must be carried out in a competent manner

Licensed activities must be carried out in a competent manner. This includes:

- the processing, handling, movement and storage of materials and substances used to carry out the activity; and
- the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.

#### 35. Maintenance of plant and equipment

All plant and equipment installed at the premises or used in connection with the licensed activity:

- must be maintained in a proper and efficient condition; and
- must be operated in a proper and efficient manner.

### **MONITORING AND RECORDING CONDITIONS:**

#### 36. Recording of pollution complaints

The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies. The record must include details of the following:

- the date and time of the complaint;
- the method by which the complaint was made;
- any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect;
- the nature of the complaint;
- the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and
- if no action was taken by the licensee, the reasons why no action was taken.

The record of a complaint must be kept for at least 4 years after the complaint was made. The record must be produced to any authorised officer of the EPA who asks to see them.

#### 37. Telephone complaints line

The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.

The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint. This condition does not apply until 3 months following the issuing of the Environment Protection Licence for the premises.



## **REPORTING CONDITIONS - ANNUAL RETURN DOCUMENTS:**

### **38. What documents must an Annual Return contain?**

The licensee must complete and supply to the EPA an Annual Return in the approved form comprising:

- a Statement of Compliance; and
- a Monitoring and Complaints Summary.

A copy of the form in which the Annual Return must be supplied to the EPA accompanies this licence. Before the end of each reporting period, the EPA will provide to the licensee a copy of the form that must be completed and returned to the EPA.

### **39. Period covered by Annual Return**

An Annual Return must be prepared in respect of each reporting, except as provided below. *Note:* The term "reporting period" is defined in the dictionary at the end of this licence. Do not complete the Annual Return until after the end of the reporting period.

Where this licence is transferred from the licensee to a new licensee,

- the transferring licensee must prepare an annual return for the period commencing on the first day of the reporting period and ending on the date the application for the transfer of the licence to the new licensee is granted; and
- the new licensee must prepare an annual return for the period commencing on the date the application for the transfer of the licence is granted and ending on the last day of the reporting period.

*Note:* An application to transfer a licence must be made in the approved form for this purpose.

Where this licence is surrendered by the licensee or revoked by the EPA or Minister, the licensee must prepare an annual return in respect of the period commencing on the first day of the reporting period and ending on #

- in relation to the surrender of a licence - the date when notice in writing of approval of the surrender is given; or
- in relation to the revocation of the licence – the date from which notice revoking the licence operates.

### **40. Deadline for Annual Return**

The Annual Return for the reporting period must be supplied to the EPA by registered post not later than 60 days after the end of each reporting period or in the case of a transferring licence not later than 60 days after the date the transfer was granted (the 'due date').

### **41. Licensee must retain copy of Annual Return**

The licensee must retain a copy of the annual return supplied to the EPA for a period of at least 4 years after the annual return was due to be supplied to the EPA.

### **42. Certifying of Statement of Compliance and Signing of Monitoring and Complaints Summary**

Within the Annual Return, the Statement of Compliance must be certified and the Monitoring and Complaints Summary must be signed by:

- (a) the licence holder; or
- (b) by a person approved in writing by the EPA to sign on behalf of the licence holder.



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## 43. Notification of environmental harm

*Note:* The licensee or its employees must notify all relevant authorities of incidents causing or threatening material harm to the environment immediately after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act.

Notifications must be made by telephoning the EPA's Environment Line service on 131 555. The licensee must provide written details of the notification to the EPA within 7 days of the date on which the incident occurred.

## 44. Written report

Where an authorised officer of the EPA suspects on reasonable grounds that:

- (a) where this licence applies to premises, an event has occurred at the premises; or
- (b) where this licence applies to vehicles or mobile plant, an event has occurred in connection with the carrying out of the activities authorised by this licence, and the event has caused, is causing or is likely to cause material harm to the environment (whether the harm occurs on or off premises to which the licence applies), the authorised officer may request a written report of the event.

The licensee must make all reasonable inquiries in relation to the event and supply the report to the EPA within such time as may be specified in the request.

The request may require a report which includes any or all of the following information:

- the cause, time and duration of the event;
- the type, volume and concentration of every pollutant discharged as a result of the event;
- the name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event; and
- the name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain that information after making reasonable effort;
- action taken by the licensee in relation to the event, including any follow-up contact with any complainants;
- details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event; and
- any other relevant matters.

The EPA 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 the licensee. The licensee must provide such further details to the EPA within the time specified in the request.

## **GENERAL CONDITIONS:**

### Copy of licence kept at the premises or on the vehicle or mobile plant

A copy of this licence must be kept at the premises or on the vehicle or mobile plant to which the licence applies. The licence must be produced to any authorised officer of the EPA who asks to see it.

The licence must be available for inspection by any employee or agent of the licensee working at the premises or operating the vehicle or mobile plant.

# **Attachment C**

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## **POLLUTION INCIDENT RESPONSE MANAGEMENT PLAN**

# **POLLUTION INCIDENT RESPONSE MANAGEMENT PLAN SUPPORTING STATEMENT**

OBERON WASTE DEPOT

PREPARED FOR:

**OBERON COUNCIL**

AUGUST 2013

**VERSION 2**



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<b>Report Title:</b>	<i>Pollution Incident Response Management Plan Supporting Statement</i>
<b>Project:</b>	<i>Oberon Waste Depot</i>
<b>Client:</b>	<i>Oberon Council</i>
<b>Report Ref.:</b>	<i>211129_LEMP_32_PIRMP_supporting statement_001.docx</i>
<b>Status:</b>	<i>Version 2</i>
<b>Issued:</b>	<i>2 August 2013</i>

Geolyse Pty Ltd and the authors responsible for the preparation and compilation of this report declare that we do not have, nor expect to have a beneficial interest in the study area of this project and will not benefit from any of the recommendations outlined in this report.

The preparation of this report has been in accordance with the project brief provided by the client and has relied upon the information, data and results provided or collected from the sources and under the conditions outlined in the report.

All information contained within this report is prepared for the exclusive use of Oberon Council to accompany this report for the land described herein and is not to be used for any other purpose or by any other person or entity. No reliance should be placed on the information contained in this report for any purposes apart from those stated therein.

Geolyse Pty Ltd accepts no responsibility for any loss, damage suffered or inconveniences arising from any person or entity using the plans or information in this study for purposes other than those stated above.

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- Drawing 06A\_EV01 – Title Sheet, Drawing List and Site Locality
- Drawing 06A\_EV02 – Site Plan
- Drawing 06A\_EV03 – Plan of Neighbours

**APPENDICES**

**APPENDIX A**

*Pollution Incident Response Management Plan*



# Foreword

This is the Supporting Statement for the Pollution Incident Response Management Plan (PIRMP). The PIRMP is a functional document. It is designed to assist personnel at the Oberon Waste Depot (OWD) to correctly identify pollution incidents and detail the procedures for the response and reporting of a pollution incident.

The structure and scope of this Supporting Statement and PIRMP reflects the requirements of the Environmental Protection Authority's *Guidelines: Preparation of pollution incident response management plans, March 2012* and in doing so embodies the principles of best practice environmental management.

Utilisation of this PIRMP aims to improve, monitor and demonstrate environmental performance. If you have any suggestions for amendments, additions or improvements, please discuss these with your supervisor.

.....  
**Oberon Council**  
Director Works and Engineering

Date: .....

# Introduction

## 1.1 PURPOSE

This Supporting Statement and PIRMP have been prepared in accordance with the *Protection of the Environment Legislation Amendment Act 2011 (POELA Act)* and reflect the requirements specified in the Environment Protection Authority's (EPA's) *Guidelines: Preparation of pollution incident response management plans, March 2012*.

The PIRMP details:

- Procedures for notifying a pollution incident to relevant persons;
- Actions to be taken to reduce and/or control pollution; and
- Procedures for co-ordinating those notified and any action taken in combating the pollution.

## 1.2 DEFINITION OF POLLUTION INCIDENT

A pollution incident is required to be notified if there is a risk of 'material harm to the environment', which is defined in section 147 of the *POEO Act 1997*:

- “(a) *harm to the environment is material if:*
- i) it involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or*
  - ii) it results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000 (or such other amount as is prescribed by the regulations), and*
- (b) loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment.”*

## 1.3 IDENTIFIED POLLUTION INCIDENT RISKS

The primary potential hazards to human health or the environment associated with the activity undertaken at this site – i.e. 'Pollution Incidents' - include the following:

- Surface or subsurface fires;
- Mixing of leachate and stormwater or waste and stormwater;
- Identification of any failure of an environmental protection system;
- Identification of a significant difference in groundwater indicator parameters;
- Detection of gas at the subsurface, surface and/or accumulated within buildings at greater than 1.25 per cent methane (volume for volume);
- Acts of vandalism or target of terrorist activity; or
- Any other incident or observation that could potentially pose an immediate environmental hazard outside normal operating conditions.

# Site Overview

## 2.1 SITE OVERVIEW

The existing Oberon Waste Depot (OWD) landfilling facility at Lowes Mount Road has been operating as far back as the 1940s, with the cumulative footprint of all past and current waste management and landfilling related activity over the site covering approximately 11 hectares. It is councils intent to continue waste management at this locality and it is now looking to laterally expand the landfill footprint over an additional (approximate) 6 hectares of the site. In doing so, this would provide an operational life of approximately 63 years.

The landfill site is located within the Parish of Oberon, County of Westmoreland (refer **Drawing 06A\_EV01**) in the Shire of Oberon and is owned by Oberon Council.

The Development Application to expand the OWD has been approved by the NSW EPA, subject to a number of General Terms of Approval (GTA) for issue of an Environment Protection Licence under the *Protection of the Environment Operations Act 1997*.

As an operational condition of the DA approval, a Landfill Environmental Management Plan (LEMP) must be prepared, which details the procedures to manage and operate the OWD to meet the relevant Environmental Goals specified in the *Environment Protection Authority's Environmental Guidelines: Solid Waste Landfills, 1996*. A LEMP will be produced by Oberon Council to the satisfaction of the EPA.

The OWD will be a **Class 1 Solid Waste Landfill**. The facility will accept solid wastes including putrescible wastes and other wastes approved by the EPA. The facility may also receive inert waste. Excluded waste types are detailed below in **Section 2.4**.

## 2.2 SITE CHARACTERISTICS

The OWD is located off Lowes Mount Road, approximately four kilometres north of Oberon. The cumulative footprint of all past and current waste management and landfilling related activity over the site is approximately 11 ha. It is Councils intent to continue waste management at this locality and it is now looking to laterally expand the landfill footprint over an additional ~6 ha of the site. In doing so, this would provide an operational life of approximately 63 years.

The development site includes the following parcels of land, all owned by Oberon Council; (refer **Drawing 06A\_EV01**).

- Lot 1 DP 350774;
- Lot 1 DP 598525;
- Lot 1 DP 844887 and
- Lot 36 DP 263034.

The development site is zoned No.1 (a) (Rural 'A' Zone) under the Oberon *Local Environmental Plan 1998*. The proposed development is permissible with consent in the 1 (a) zone under this environmental planning instrument. Land to the east, Hills Estate is zoned No.1 (c) (Rural 'C' Zone) and comprises small rural holdings. The proposed landfill extension is in a direction away from this land use.

Access to the OWD is via Lowes Mount Road, a two lane sealed road. From Lowes Mount Road the waste depot is accessed by a sealed road. Within the site, formed gravel access roads lead to the various defined tipping areas. Upon entry to the site, the public will be directed to the appropriate area for tipping by operational staff.

The OWD is fenced along the outer perimeter boundary with stock proof fencing, and access to the site is via a security gate.

The site topography and drainage will be engineered to ensure there is negligible stormwater runoff into and out of the site, thus minimising any off-site impact. Site generated surface water will be channelled around the edge of the premises and also through the centre towards on-site collection ponds.

Groundwater will be routinely monitored through a system of 10 piezometers at 6 locations around the approved landfill site (see **Drawing 06A\_EV02**).

## 2.3 SITE SUPERVISION AND CONTROL

The OWD will continue to maintain the current operating hours. This includes

- 8.00am to 10.00am and 3.00pm to 5.00pm Monday to Friday
- 1.00pm to 5.00pm Weekends

Outside of these operating hours when the premise is unattended the security gate will be locked. The site will be open to operational staff and associated contractors between 7.00 am to 5.00 pm Monday to Sunday (Except Good Friday and Christmas Day). Access to the site outside these hours (e.g. for special circumstances and emergency waste disposal) will be subject to the approval of the Waste Depot Overseer.

The OWD will be supervised at all times when open for the receipt of wastes. The facility will be staffed by qualified and experienced personnel. These will include a Waste Depot Overseer and up to two Waste Managers. A minimum of one Waste Manager will be present during receipt of waste and disposal operations.

Lockable security gates will be in place at the access point to the facility. All gates will be locked outside the specified opening hours except for when approved by the Waste Depot Overseer in special circumstances.

All vehicles upon entry to the facility, will be directed to the appropriate disposal area (e.g. recyclables, asbestos, animal carcasses, green waste, scrap metal), or the active landfill face. Council will maintain the access road from the site entry to the active landfill face. Council staff will be responsible for internal traffic control.

A Daily Checklist for monitoring, recording activities and incidents that occur during operation of the Facility will be kept by the Waste Manager.

## 2.4 EXCLUDED WASTES

All waste will be screened, and the type and volume of waste recorded at the site office upon entry. Wastes excluded from the OWD include:

- Liquid wastes of any description (other than commercial grease trap wastes, septic tank pump out waste, cement batching plant effluent, stone cutting slurry waste);
- Radioactive material; sharps, cytotoxic waste, bulk blood, body fluids, recognisable body parts, infectious waste, microbiological and pathological wastes, laboratory chemicals, poisons and pharmaceutical waste;
- Any inflammable liquid material derived from grease, oil, tar, petroleum, shale or coal;
- Any sludge or material (unless proven to be innocuous or harmless) being the refuse from any industrial process carried out in any tanning or leather processing plant, any petroleum or petrochemical plant, any chemical plant, any metal treatment plant, any paint-manufacturing plant;
- Any material containing arsenic, cyanide or sulphide;

- Any toxic soluble salt of barium, boron, cadmium, chromium, copper, lead, manganese, mercury, selenium, silver, zinc;
- Any pesticide or herbicide and in particular chlorinated hydrocarbons (organochlorins), fluorinated hydrocarbons, organophosphates, phenols; and
- Any soluble acid or alkali, acidic or basic compounds.

If an excluded waste was to be discovered on the site, the waste would be removed from the landfill immediately. The Waste Depot Overseer would be notified immediately and the EPA then consulted for advice. The incident would be recorded on the Daily Checklist kept by the Site Supervisor.

## 2.5 SITE SAFETY EQUIPMENT

The OWD will maintain a fire extinguisher in the site office for small fires, and maintain close liaison with the Oberon Fire Service in case of larger fire emergencies.

Spill Sorb or similar will be present on site to manage fuel and oil spills. The used Spill Sorb would then be deposited in the landfill. In the event of a chemical spill, PPE will be provided for on-site staff which will consist of safety goggles, respirator face masks and protective gloves.



# Risk Management and Pre-emptive Actions

## 3.1 INTRODUCTION

The following section outlines proposed operational procedures and design intended to minimise and manage risk. Members of staff working on-site will be responsible for being aware and notifying the Waste Depot Overseer of any potential pollution incidents on the premises. All management procedures detailed within the LEMP must be adhered to.

## 3.2 PRE-EMPTIVE ACTIONS

### 3.2.1 IDENTIFYING NON-DOMESTIC QUANTITIES OF HAZARDOUS SUBSTANCES

The following practices will apply to screening of incoming wastes:

- Public drop-off loads will be inspected upon entry to the site to ensure excluded non-approved wastes are not being disposed; and
- Municipal kerbside collection loads will be inspected during placement at tipping face to ensure excluded non-approved wastes are not being disposed.

If non-domestic quantities of hazardous wastes are identified, the waste would be immediately isolated and contained and relevant general management and safety procedures will be followed.

### 3.2.2 SURFACE OR SUBSURFACE FIRES

The potential for fires to occur at the site will be controlled by:

- A security fence to prevent unauthorised access and acts of vandalism;
- Maintaining machinery in good working order to minimise risk of sparks;
- Smothering immediately with soil or water sprayed from the water cart;
- Adequately compacting and covering waste;
- Ensuring fire breaks are maintained around any temporary stockpile of combustibles;
- Access to on-site fire fighting equipment; and
- Accepting only permitted wastes.

### 3.2.3 MIXING OF LEACHATE AND STORMWATER OR WASTE AND STORMWATER

Stage 1 of the landfill expansion does not entail lateral expansion over any area that has not previously been used as landfill. Accordingly, no new liner system is required to form a barrier between groundwater, soil and substrate, and the waste. Landfilling beyond Stage 1 will be controlled with the installation of a suitable liner (ie. re-compacted clay or modified soil liner, overlaid with a flexible membrane liner) and will be subject to securing approval from the EPA. A leachate collection and disposal will also be developed in Stages 2 to 4 to minimise the mixing of leachate and stormwater

### 3.2.4 DETECTION OF SUBSURFACE GAS, SURFACE GAS AND/OR ACCUMULATED GAS IN BUILDINGS

Any buildings which are to be built within the site will be designed so as not to accumulate methane gas. Routine gas accumulation monitoring will be undertaken as per the requirements outlined in the LEMP.

### 3.2.5 ACTS OF VANDALISM OR TARGET OF TERRORIST ACTIVITY

The site will be supervised at all times when open to the public, and the boundary fencing will limit unauthorised access outside operational hours. All staff will be required to be vigilant and aware that the site will be a potential target for vandalism, particularly by arsonists.

## 3.3 INVENTORY OF MAINTENANCE POLLUTANTS

The following pollutant may be stored on site in quantities required for routine maintenance necessary for operations at the facility:

- Diesel.

**Drawing 06A\_EV02** provides details of where the pollutant is likely to be stored on the premises.

## 3.4 IDENTIFIABLE WASTE POLLUTANTS

No waste household pollutants or hazardous household waste items will be stored on the premises, including gas cylinders, waste oil, batteries, fluorescent tubes, globes, smoke detectors and clinical waste.

## 3.5 POTENTIAL POLLUTION INCIDENTS

The potential main hazards to human health or the environment – i.e. '*Pollution Incidents*' - associated with the activity proposed to be undertaken at this site will include the following:

- Surface or subsurface fires;
- Mixing of leachate and stormwater or waste and stormwater;
- Identification of any failure of an environmental protection system;
- Identification of a significant difference in groundwater indicator parameters;
- Detection of gas at the subsurface, surface or accumulated within buildings at greater than 1.25 per cent methane (volume for volume);
- Acts of vandalism or target of terrorist activity; or
- Any other incident or observation that could potentially pose an immediate environmental hazard outside normal operating conditions.

It is possible that when the site becomes operational, dumping of hazardous waste may occur outside the boundary, but in close visual proximity to the OWD outside of normal operational hours. In this instance, if the pollution will be a risk of material harm to the environment and/or human health then the local fire brigade should be contacted immediately. The initial response to the pollution and assessment of the situation thereafter will be managed by the local fire brigade. Refer to **Document A** – Pollution Incident Decision Flow Chart in **Appendix A** for details.

## 3.6 LIKELIHOOD, IMPACT AND CONTRIBUTING FACTORS TO POLLUTION INCIDENTS OCCURRING

Incidents have been classified as being of low, medium or high risk of occurring (likelihood) based on an assessment of the proposed management procedures, staff training and site layout of the OWD.

The impact of an incident can be classed as low, medium or high based on the potential extent of off-site harm to humans and/or the environment.

The following assessment of potential pollution incidents detailed below is summarised in **Table 1.1** of **Appendix A**.

### 3.6.1 SURFACE OR SUBSURFACE FIRES

#### 3.6.1.1 Active Landfill Area

The OWD will often deal with the deposition of combustible waste, coupled with the potential storage and use of some highly combustible chemicals and fuels.

**Medium Likelihood**– The likelihood of a fire within the active landfill area is relatively high, for example kerbside collection can include household fire embers and mulch can self combust.

**Medium Impact** – It is probable that a fire of this nature would be able to be readily contained due to the procedures and equipment in place. Therefore, the impact is classed as medium.

**Contributing Factors** – Factors which may increase fire risk include high winds, dry weather, prolonged periods of high temperatures and low humidity, spontaneous combustion and hot embers in waste deliveries. Human errors made during waste screening and the poor maintenance of plant and equipment which may spark a fire.

#### 3.6.1.2 Maintenance and Inactive Areas

**Low Likelihood** – The storage of potential accelerants such as maintenance chemicals and fuels may be undertaken on-site, however as these are located in secure facilities and only utilised by trained staff, the risk is considered minimal.

**High Impact** – If a fire were to initiate within a chemical storage area, or in an inactive area of the site, there is a high risk of spread off-site and to susceptible surrounding forested areas.

**Contributing Factors** - Factors which may increase fire risk include high winds, dry weather, prolonged periods of high temperatures and low humidity.

### 3.6.2 MIXING OF LEACHATE AND STORMWATER OR WASTE AND STORMWATER

**Medium Likelihood** – Stage 1 of the landfilling will not have active drainage and collection of leachate to contain surface water, and leachate. Rather, the natural topography and drainage is used to channel leachate drainage into existing dams. On-site roads have been designed to channel and capture runoff.

**Medium Impact** – The impact is considered to be medium due to the close proximity of agricultural drainage channels to the site. Any pollutants which reach the drainage channel could cause harm to properties and environmental habitats for some distance downstream.

**Contributing Factors** -Prolonged periods of heavy rain and lack of surface water pond and site maintenance may increase risk.

### 3.6.3 IDENTIFICATION OF ANY FAILURE OF AN ENVIRONMENTAL PROTECTION SYSTEM

**Low Likelihood** – the surface water, groundwater, surface gas, accumulated building gas and leachate of the premises is regularly monitored.

**Low Impact** – surface water, groundwater, surface gas, accumulated building gas and leachate of the premises is regularly monitored which means any failure in this environmental protection system is likely to be identified well before there is potential for impact outside of the site.

**Contributing Factors** – Prolonged periods of heavy rain may increase risk.

### 3.6.4 IDENTIFICATION OF A SIGNIFICANT DIFFERENCE IN GROUNDWATER INDICATOR PARAMETERS

**Low Likelihood** – The surface water, groundwater and leachate of the premises is regularly monitored.

**Low Impact** – The surface water, groundwater, surface gas, sub-surface gas and leachate of the premises is regularly monitored which means any significant difference in groundwater indicator parameters is likely to be identified well before there is a potential impact outside of the site.

**Contributing Factors** – Prolonged periods of heavy rain may increase risk.

### 3.6.5 DETECTION OF SUBSURFACE GAS, SURFACE GAS AND/OR GAS ACCUMULATED IN BUILDINGS

**Low Likelihood** – the possible build up of surface gas and gas accumulated in buildings is monitored at the site.

**Low Impact** – the build up of surface gas and gas accumulated in buildings is monitored regularly which means any significant surface gas emissions are likely to be identified well before there is a potential impact outside of the premises.

**Contributing Factors** – on-site buildings which have not been designed to prevent accumulation of methane gas.

### 3.6.6 ACTS OF VANDALISM OR TARGET OF TERRORIST ACTIVITY

**Low Likelihood** – The site is enclosed by a fence with a security gate, with supervision at all times during operating hours. Afterhours the likelihood increases as there is no CCTV or patrols by security guards. The site is of limited strategic value as a potential target for terrorism, the premises may however prove attractive to arsonists as it is isolated from habited areas and deals with the deposition of combustible waste, coupled with the storage and use of often highly combustible chemicals.

**Medium Impact** – the site is surrounded by open pasture and wooded areas susceptible to fire, particularly during sustained periods of hot and dry weather.

**Contributing Factors** - Increased risk during hours of closure.

### 3.6.7 ANY OTHER INCIDENT OR OBSERVATION THAT COULD POTENTIALLY POSE AN IMMEDIATE ENVIRONMENTAL HAZARD OUTSIDE NORMAL OPERATING CONDITIONS

**Low Likelihood** – The site will have environmental protection measures and a monitoring schedule in place.

**Low Impact** – The site has environmental protection measures and a monitoring schedule which are likely to contain and prevent the immediate spread of environmental hazards outside the premises even outside normal operating conditions.

**Contributing Factors** – N/A.

# PIRMP

## 4.1 DEFINITION OF POLLUTION INCIDENT

A pollution incident is required to be notified if there is a risk of 'material harm to the environment', which is defined in section 147 of the *POEO Act 1997*:

- “(a) *harm to the environment is material if:*
- i) *it involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or*
  - ii) *it results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000 (or such other amount as is prescribed by the regulations), and*
- (b) *loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment.”*

## 4.2 NOTIFICATION OF POLLUTION INCIDENT

### 4.2.1 NOTIFICATION SPEED OF RESPONSE

The requirement for notification of a pollution incident has changed from 'as soon as practicable' to 'immediately'. In short, 'immediately' means 'promptly without delay', but it does not mean undertaking notification ahead of doing what is necessary to make safe.

### 4.2.2 NOTIFICATION OF RELEVANT AUTHORITIES

Where the pollution incident causes or threatens material harm to the environment or human health, all the following authorities must be notified by the Site Supervisor:

#### 1. Emergency Call Services

- Emergency Hotline Number (24 hours) 000\*

\*The Site Supervisor should call 000 if the incident presents an immediate threat to human health and/or property and a combat agency is required (i.e. NSW Fire and Rescue, NSW Ambulance Service, NSW Police Force) and then notify all other parties below including NSW Fire and Rescue via a local telephone number.

#### 2. Oberon Council

- Aruna Wickramasinghe, Director Works and Engineering 0407 214 534 or 6329 8127
- Council Emergency contact number (24 hours) 0428 698 036

#### 3. The Environment Protection Authority (EPA)

- Emergency Hotline Number (24 hours) 131 555
- Bathurst Regional Office 0263327600

#### 4. NSW Ministry of Health (via Public Health Units)

- Bathurst Regional Office 02 6339 5601
- Public Health Officer on Call (24 hours) 0428 400 526

#### 5. WorkCover NSW

- Hotline Number 13 10 50

#### 6. Fire and Rescue NSW

- Oberon Fire Station 02 6336 0493\*\*

\*\*If there is no immediate threat to human health and/or property i.e. a combat agency is not required, then the site supervisor is still required to follow that outlined above except for dialling 000.

A summary of the above pollution incident notification procedure is provided in **Document A** – Pollution Incident Decision Flow Chart in **Appendix A**.

### 4.2.3 INFORMATION TO BE NOTIFIED

Under section 150 of the *POEO Act 1997*, the information about a pollution incident that must be notified is:

- The time, date, nature, duration and location of the incident;
- The location of the place where pollution is occurring or is likely to occur;
- The nature, the estimated quantity or volume and the concentration of any pollutants involved, if known;
- The circumstances in which the incident occurred, including the cause of the incident, if known;
- The action taken or proposed to be taken to deal with the incident and any resulting pollution or threatened pollution, if known; and
- Other information prescribed by the regulations.

Notification is required by the Waste Manager immediately after a pollution incident becomes known. Any information required that is not known at the time the incident is notified must be provided when it becomes known.

A Pollution Incident Reporting Form is produced in **Appendix A** to assist the Site Supervisor in correctly recording and notifying the relevant authorities detailed in **Section 4.2.2** above.

### 4.3 ACTIONS TO BE TAKEN DURING OR IMMEDIATELY AFTER A POLLUTION INCIDENT

All site personnel with relevant training must make every effort to contain the pollution incident on site, without putting themselves at risk of harm.

In the case of a fire and where safe, attempts must be made to extinguish or contain the fire immediately. This could be through the use of a fire extinguisher, fire hose, water cart or smothering with cover material.

In the event of a chemical spill that is not contained by bunding, Spill Sorb (or similar) must be used to restrict the spread of the chemical.

If pollution is identified through surface or groundwater monitoring, procedures as identified in the LEMP will be followed.

#### 4.4 MINIMISING HARM TO PERSONS ON THE PREMISES

In the event of a pollution incident occurring, all staff, including Council and contracted staff, will be mustered by the Waste Manger site staff to the Emergency Assembly Point at the entrance to the OWD (identified on **Drawing 06A\_EV03**), after which they will be safely evacuated from site where appropriate. It will be a condition of entry that in the event of an emergency staff must adhere to directions given by the Waste Manager.

#### 4.5 EPA POWERS OF DIRECTION & NOTIFICATION OF NEIGHBOURS

Where the pollution incident causes or threatens material harm to the environment or human health, the EPA will be notified in accordance with **Section 4.2**.

Once the EPA is notified, it is then for the EPA to determine whether commercial, industrial and residential neighbours of the site need to be contacted by Council and informed of the circumstances of the incident and what action is being taken in response to it. If deemed necessary, the EPA then has powers to formally direct Council to notify the neighbours of the site.

Irrespective of whether the EPA directs Council to notify neighbours and depending on the circumstances of the particular pollution incident, Council may, at their own discretion, voluntarily choose to notify neighbours.

Council would notify neighbours by 'door knocking' every neighbouring property identified on **Drawing 06A\_EV03**. A summary of the neighbour notification procedure is provided in Document A – Pollution Incident Decision Flow Chart in **Appendix A**.

#### 4.6 IDENTIFICATION OF NEIGHBOURS

To assist the EPA in its decision as to whether it needs to direct Council to notify neighbours and to assist Council in visiting all the local neighbours, enclosed is aerial plan (**Drawing 06A\_EV03**) which identifies the residential receptors within 500m of the site boundary.



# Implementation

## 5.1 LEMP

The PIRMP forms part of the *OWD Landfill Environmental Management Plan* (LEMP). It is filed in the 'Adequate Staff Training' section of the LEMP and this Supporting Statement should be filed in the LEMP as an attachment.

## 5.2 STAFF TRAINING

New members of staff at the facility should be inducted. This induction must cover the purpose, requirements and responsibilities detailed in this PIRMP.

All staff should receive sufficient training to enable them to carry out their assigned duties in a competent and safe manner. In particular:

- Staff must be capable of using the fire-fighting equipment in the site office;
- Staff must be capable of identifying excluded wastes;
- Staff must be capable of identifying potential pollution incidents; and
- Staff must be familiar with the requirements and procedures within this PIRMP.

Staff competency will be monitored through audits, public complaints and pollution incident reports.

At least once every year staff should undertake a simulated pollution incident response exercise, including with emergency services, to familiarise site personnel with the requirements of this management plan. A register of staff training can be found in **Appendix A** and must be kept on-site and updated regularly (as per the requirements of the LEMP).

Regular site briefings and toolbox meetings should be held when considered appropriate to draw attention to potential pollution incidents and identify improvements to on-site safety procedures.

## 5.3 REVIEW AND UPDATE PIRMP

The PIRMP is a living document required to be reviewed and updated at least once every 12 months to ensure accuracy and effectiveness. A review must also be undertaken within one month of any pollution incident occurring.

For these reasons, document control is an important part of the environmental management system. It is critical that PIRMP storage locations are made known to all relevant staff members and that only the latest version is in use. Details of the version and date of issue are recorded on each page of the PIRMP in the bottom left hand corner.

Revised and updated versions of the PIRMP will always be issued with a covering memo summarising the changes. When a new PIRMP is received the old version is replaced in its entirety. A register for updating and testing the PIRMP can be found in **Appendix A** and must be kept on site and updated regularly.

Five copies of any new PIRMP will need to be produced. They are to be distributed to the following:

- Director Works and Engineering, Oberon Council;
- Waste Manager Council;
- Administration Manager, Oberon Council;
- Environment Protection Authority, Bathurst Region; and
- Geolyse Pty Ltd, Orange.

This Supporting Statement requires that any '*LEMP Distribution Register*' in the '*Document Control*' section of the LEMP be updated when a new PIRMP is produced and issued.

# References

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*Environmental Guidelines: Solid Waste Landfills, January 1996* – prepared by Environment Protection Agency

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*Environmental Guidelines: Preparation of Pollution Incident Response Management Plans, March 2012* – prepared by Environment Protection Agency

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*Oberon Local Environmental Plan 2012, 1998* - prepared by Oberon Council

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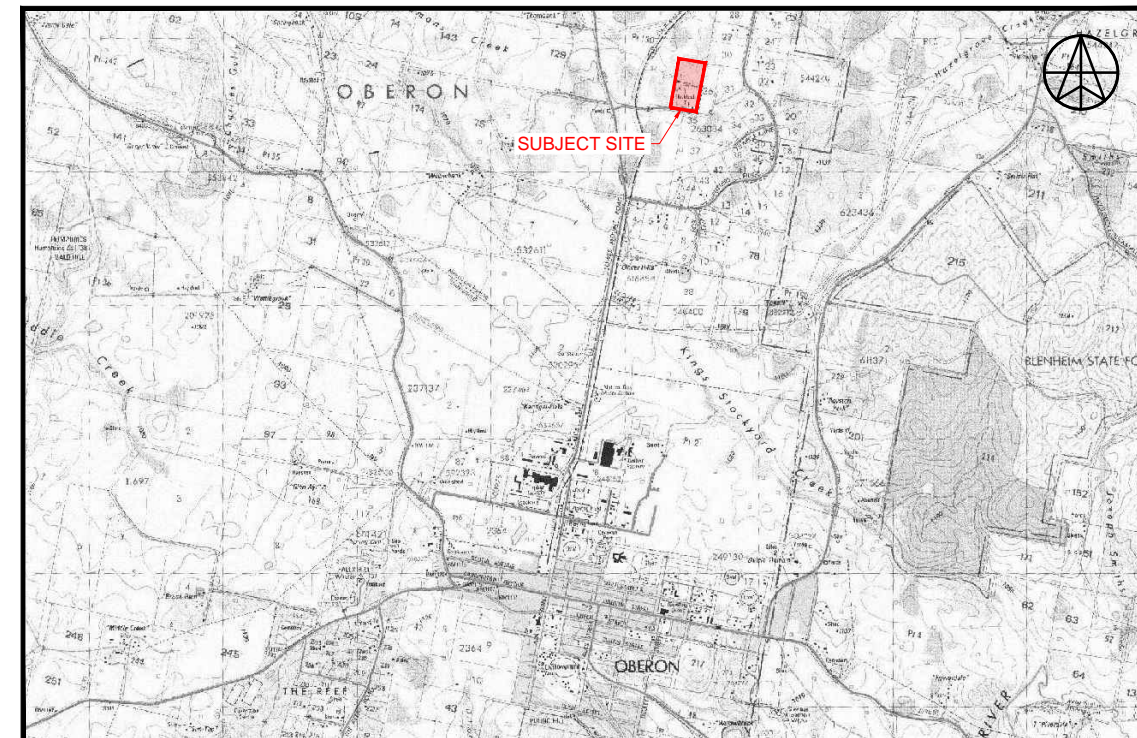
## **Drawings**

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# OBERON LANDFILL EXTENSION

## POLLUTION INCIDENT RESPONSE MANAGEMENT PLAN

SCHEDULE OF DRAWINGS			
SHEET	TITLE	REV.	DATE
EV01	TITLE SHEET, DRAWING LIST, AND SITE LOCALITY	A	16/05/2013
EV02	SITE PLAN	A	16/05/2013
EV03	RESIDENTIAL RECEPTORS	A	16/05/2013



**SITE LOCALITY**  
NOT TO SCALE



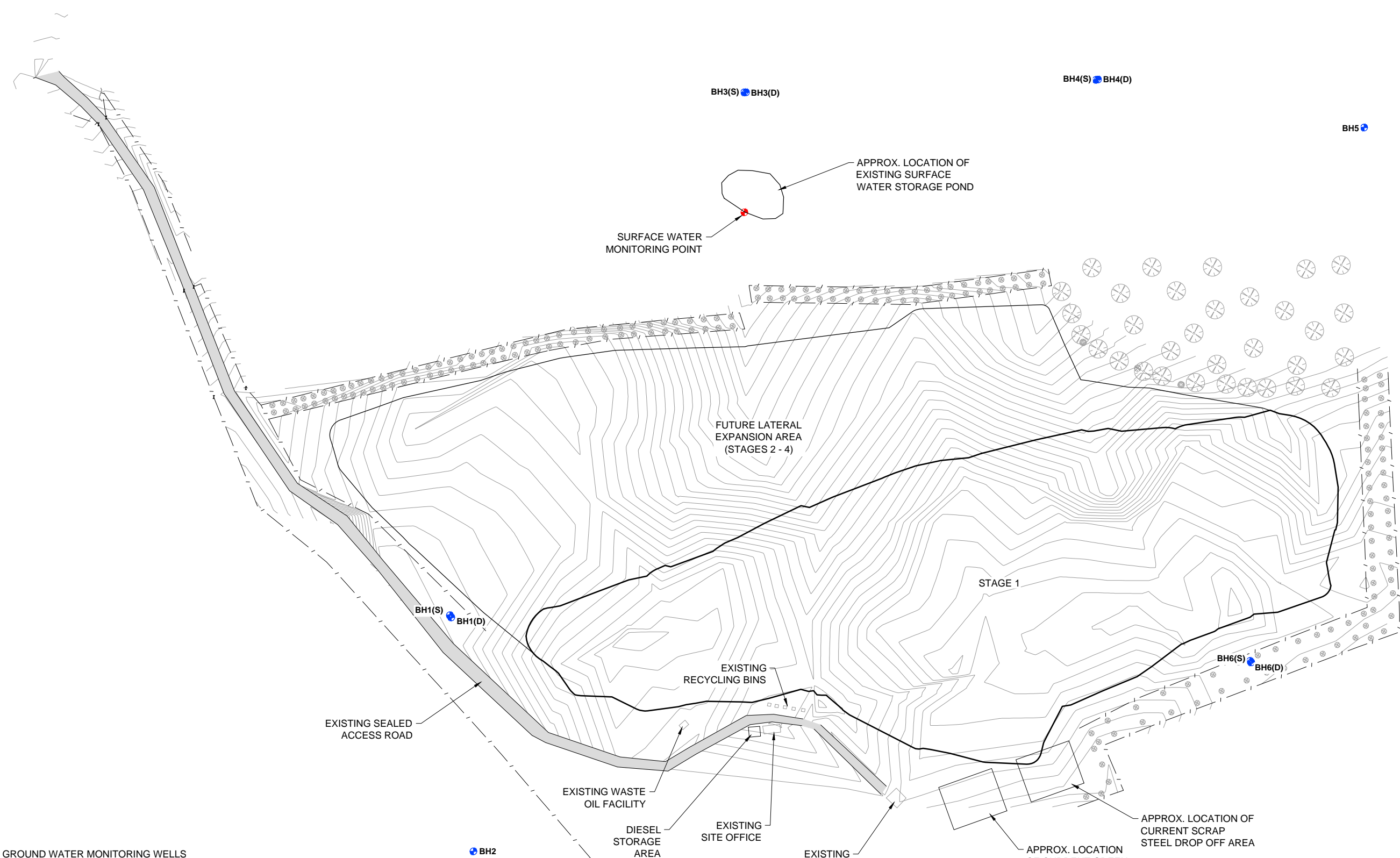
No	DATE	DRAFTING CHECK	APPROVED BY	DETAILS
A	16/05/13	LP	KH	ISSUED TO CLIENT

PROJECT
OBERON LANDFILL EXTENSION POLLUTION INCIDENT RESPONSE MANAGEMENT PLAN
FILE REFERENCE: 211129_06A_EV01-EV03.dwg

APPROVAL AUTHORITY
OBERON COUNCIL ENVIRONMENT PROTECTION AUTHORITY



DRAWING		
TITLE SHEET, DRAWING LIST, AND SITE LOCALITY		
PROJECT NUMBER: 211129	DRAWING NUMBER: 06A_EV01	REV: A
SOURCE: <a href="http://imagery.nsw.gov.au/">http://imagery.nsw.gov.au/</a>		

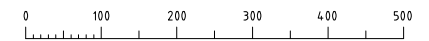


GROUND WATER MONITORING WELLS

BOREHOLE ID	EASTING	NORTHING	ELEVATION (m AHD)	SCREEN LENGTH (m)
BH1(S)	765448.70	6270701.64	1114.97	1.5
BH1(D)	765447.11	6270701.61	1114.81	0.0
BH2	765577.81	6270836.72	1113.52	1.5
BH3(S)	765270.91	6271025.90	1136.14	1.5
BH3(D)	765271.53	6271026.85	1136.10	6.0
BH4(S)	765379.42	6271213.28	1136.15	1.5
BH4(D)	765379.35	6271214.43	1136.16	6.0
BH5	765411.35	6271337.41	1137.75	1.5
BH6(S)	765732.53	6271103.63	1123.07	1.5
BH6(D)	765733.70	6271103.79	1123.20	6.0

LEGEND:

- GROUND WATER MONITORING POINT
- SURFACE WATER MONITORING POINT
- EXISTING LANDFORM CONTOURS (0.5m INTERVAL)



SCALE 1:10000 (A3)

**GEOLYSE**  
ORANGE  
154 PEISLEY STREET  
P.O. BOX 1963  
ORANGE, NSW 2800  
Ph. (02) 6393 5000  
Fx. (02) 6393 5050  
orange@geolyse.com  
www.geolyse.com

No	DATE	DRAFTING CHECK	APPROVED BY	DETAILS
A	16/05/13	LP	KH	ISSUED TO CLIENT

PROJECT

**OBERON LANDFILL EXTENSION  
POLLUTION INCIDENT  
RESPONSE MANAGEMENT PLAN**

FILE REFERENCE: 211129\_06A\_EV01-EV03.dwg

APPROVAL AUTHORITY

**OBERON COUNCIL  
ENVIRONMENT  
PROTECTION AUTHORITY**

CLIENT

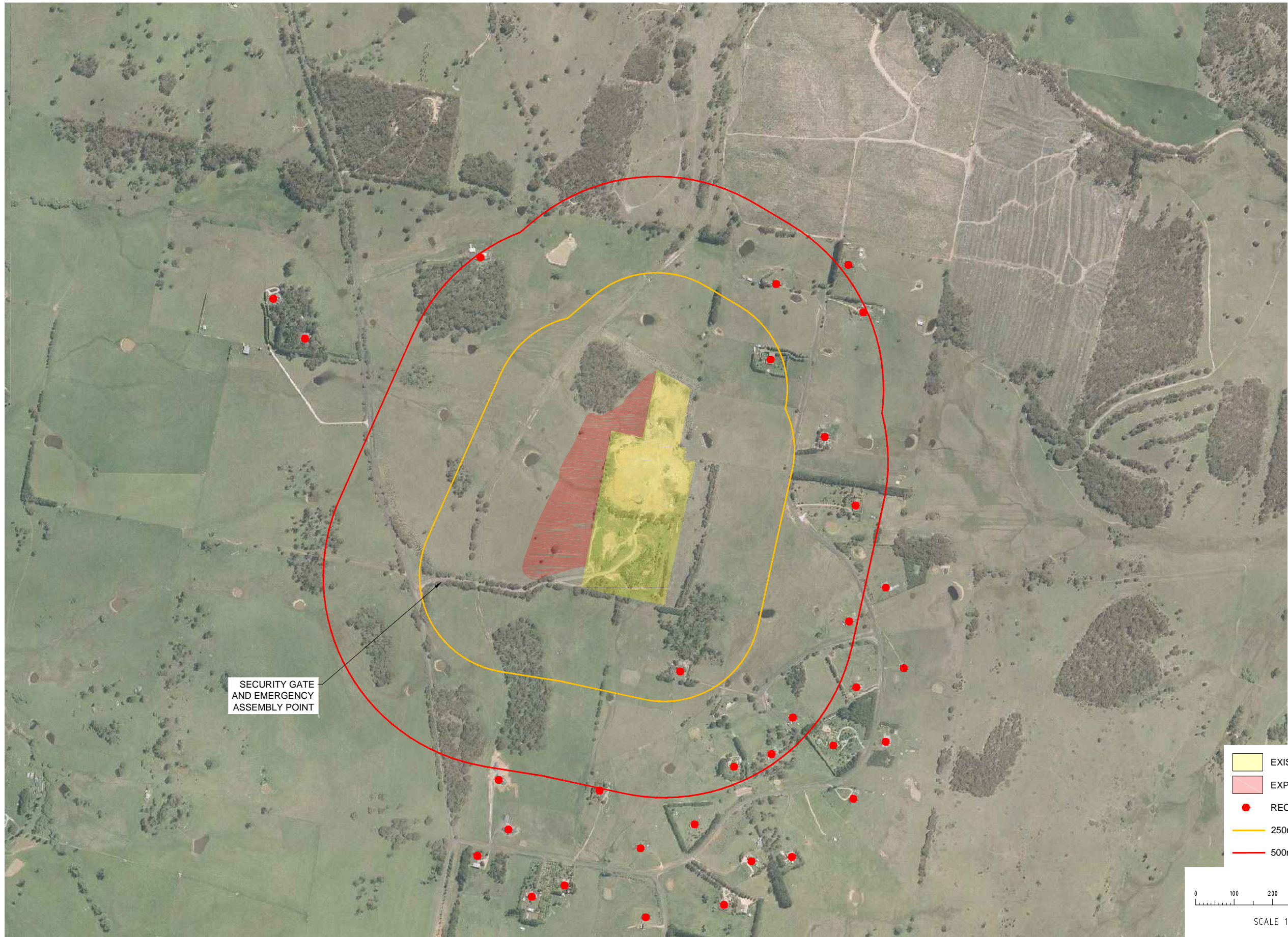
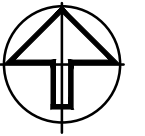
**OBERON COUNCIL**

DRAWING

**SITE PLAN**

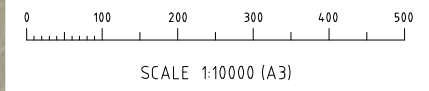
PROJECT NUMBER: 211129	DRAWING NUMBER: 06A_EV02	REV: A
SOURCE: INTERNAL		





SECURITY GATE AND EMERGENCY ASSEMBLY POINT

- EXISTING LANDFILL
- EXPANSION FOOTPRINT
- RECEPTOR
- 250m BUFFER
- 500m BUFFER



**GEOLYSE**  
**ORANGE**  
 orange@geolyse.com  
 www.geolyse.com  
 154 PEISLEY STREET  
 P.O. BOX 1963  
 ORANGE, NSW 2800  
 Ph. (02) 6393 5000  
 Ex. (02) 6393 5050

No	DATE	DRAFTING CHECK	APPROVED BY	DETAILS
A	16/05/13	LP	KH	ISSUED TO CLIENT

PROJECT  
**OBERON LANDFILL EXTENSION  
 POLLUTION INCIDENT  
 RESPONSE MANAGEMENT PLAN**  
 FILE REFERENCE: 211129\_06A\_EV01-EV03.dwg

APPROVAL AUTHORITY  
**OBERON COUNCIL  
 ENVIRONMENT  
 PROTECTION AUTHORITY**

CLIENT  
  
**OBERON COUNCIL**

DRAWING  
**RESIDENTIAL RECEPTORS**  
 PROJECT NUMBER: 211129 DRAWING NUMBER: 06A\_EV03 REV: A  
 SOURCE: SOILS AND CONSTRUCTION HANDBOOK



# **Appendix A**

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## **POLLUTION INCIDENT RESPONSE MANAGEMENT PLAN**



**POLLUTION INCIDENT RESPONSE  
MANAGEMENT PLAN**  
OBERON WASTE DEPOT

PREPARED FOR:

**OBERON COUNCIL**

AUGUST 2013

**VERSION 2**



POSTAL ADDRESS PO Box 84

LOCATION 137-139 OBERON STREET

TELEPHONE 02 6329 8100

EMAIL [COUNCIL@OBERON.NSW.GOV.AU](mailto:COUNCIL@OBERON.NSW.GOV.AU)

WEB SITE [WWW.OBERON.NSW.GOV.AU](http://WWW.OBERON.NSW.GOV.AU)

OBERON NSW 2787

OBERON NSW 2787

FACSIMILE 02 6329 8142

<b>Report Title:</b>	<i>Pollution Incident Response Management Plan</i>
<b>Project:</b>	<i>Oberon Waste Depot</i>
<b>Client:</b>	<i>Oberon Council</i>
<b>Report Ref.:</b>	<i>211129_LEMP_33_PIRMP_002.docx</i>
<b>Status:</b>	<i>Version 2</i>
<b>Issued:</b>	<i>2 August 2013</i>

Geolyse Pty Ltd and the authors responsible for the preparation and compilation of this report declare that we do not have, nor expect to have a beneficial interest in the study area of this project and will not benefit from any of the recommendations outlined in this report.

The preparation of this report has been in accordance with the project brief provided by the client and has relied upon the information, data and results provided or collected from the sources and under the conditions outlined in the report.

All information contained within this report is prepared for the exclusive use of Oberon Council to accompany this report for the land described herein and is not to be used for any other purpose or by any other person or entity. No reliance should be placed on the information contained in this report for any purposes apart from those stated therein.

Geolyse Pty Ltd accepts no responsibility for any loss, damage suffered or inconveniences arising from any person or entity using the plans or information in this study for purposes other than those stated above.

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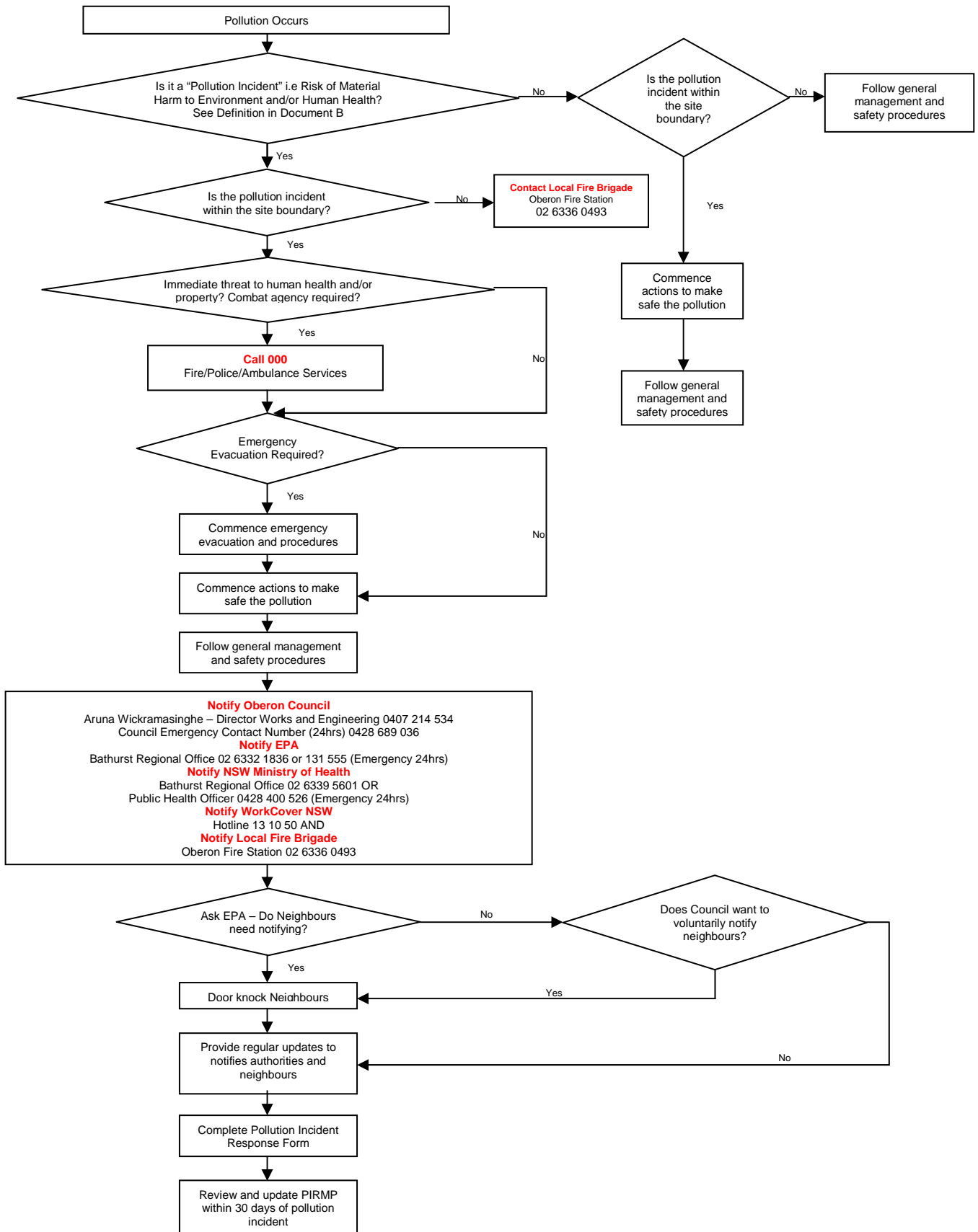
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## 1.0 POLLUTION INCIDENT CLASSIFICATION, RISK ASSESSMENT AND CONTRIBUTING FACTORS

**Table 1.1 – Pollution Incident Classification, Risk Assessment and Contributing Factors**

Description of Pollution Incident	Likelihood	Impact	Contributing Factors
Surface or subsurface fires at active landfill	Low	Medium	High winds, dry weather, prolonged high temps and low humidity. Human errors made during waste screening at OWD, poor maintenance of plant and equipment, spontaneous combustion.
Surface or subsurface fires at maintenance and inactive areas	Low	High	High winds, dry weather, prolonged high temps and low humidity and spontaneous combustion.
Mixing of leachate and stormwater or waste and stormwater	Low	Medium	Prolonged periods of heavy rain, and lack of surface water pond and site maintenance.
Identification of any failure of an environmental protection system	Low	Low	Prolonged periods of heavy rain and/or a mechanical failure of the leachate holding system.
Identification of a significant difference in groundwater indicator parameters	Low	Low	Prolonged periods of heavy rain
Detection of subsurface gas, surface gas and/or accumulated gas in buildings at greater than 1.25 per cent methane (volume for volume)	Low	Low	On-site buildings which have not been designed to prevent accumulation of methane gas
Acts of vandalism or target of terrorist activity	Low	Medium	Increased risk during hours of closure
Any other incident or observation that could potentially pose an immediate environmental hazard outside normal operating conditions	Low	Low	n/a

## 2.0 DOCUMENT A - POLLUTION INCIDENT DECISION FLOW CHART



### 3.0 DOCUMENT B – POLLUTION INCIDENT EMERGENCY CONTACT DETAILS

#### 3.1 DEFINITION OF POLLUTION INCIDENT

A pollution incident is required to be notified if there is a risk of 'material harm to the environment', which is defined in section 147 of the POEO Act:

- “(a) *harm to the environment is material if:*
- i) *it involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or*
  - ii) *it results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000, and*
- (b) *loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment.”*

#### 3.2 NOTIFICATION OF POLLUTION INCIDENT

##### 3.2.1 Notification Speed of Response

The requirement for notification of a pollution incident has changed from 'as soon as practicable' to 'immediately'. In short, 'immediately' means 'promptly without delay', but it does not mean undertaking notification ahead of doing what is necessary to make safe.

##### 3.2.2 Notification of Relevant Authorities

Where the pollution incident causes or threatens material harm to the environment or human health, all the following authorities must be notified by the Site Supervisor:

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**Notification of Relevant Authorities**

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**1. Emergency Call Services**

- **Emergency Hotline Number (24 hours)** **000\***

\*The Site Supervisor should call 000 if the incident presents an immediate threat to human health and/or property and a combat agency is required (i.e. NSW Fire and Rescue, NSW Ambulance Service, NSW Police Force) and then notify all other parties below including NSW Fire and Rescue via a local telephone number.

**2. Oberon Council**

- Aruna Wickramasinghe, Director Works and Engineering, Oberon Council 0407 214 534
- Council Emergency contact number (24 hours) 0428 698 036

**3. The Environment Protection Authority (EPA)**

- Bathurst Regional Office 02 6332 1838
- Emergency Hotline Number (24 hours) 131 555

**4. NSW Ministry of Health (via Public Health Units)**

- Bathurst Regional Office 02 6339 5601
- Public Health Officer on Call (24 hours) 0428 400 526

**5. WorkCover NSW**

- Hotline Number 13 10 50

**6. Fire and Rescue NSW**

- Oberon Fire Station 02 6336 0493\*\*

\*\* If there is no immediate threat to human health and/or property i.e. a combat agency is not required, then the Site Supervisor is still required to follow that outlined above except for dialling 000.

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## 4.0 POLLUTION INCIDENT REPORTING FORM

INCIDENT NO:	TIME:
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DATE:	DURATION OF INCIDENT:
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NATURE OF INCIDENT:

.....

.....

.....

TEMPERATURE: ..... °C	WIND	DIRECTION	&	SPEED:
..... KM/HR				
RELATIVE HUMIDITY: ..... %	RAINFALL SINCE 9AM: ..... MM			
FIRE DANGER RATING: .....				

THE LOCATION OF THE PLACE WHERE POLLUTION IS OCCURRING OR IS LIKELY TO OCCUR:

.....

.....

THE NATURE, THE ESTIMATED QUANTITY OR VOLUME AND THE CONCENTRATION OF ANY POLLUTANTS INVOLVED (IF KNOWN):

.....

.....

.....

THE CIRCUMSTANCES IN WHICH THE INCIDENT OCCURRED, INCLUDING THE CAUSE OF THE INCIDENT (IF KNOWN):

.....

.....

.....

THE CORRECTIVE ACTION TAKEN OR PROPOSED TO BE TAKEN TO DEAL WITH THE INCIDENT AND ANY RESULTING POLLUTION OR THREATENED POLLUTION (IF KNOWN):

.....

.....

.....

HAS COUNCIL BEEN NOTIFIED?	YES	NO
HAS ENVIRONMENT PROTECTION AUTHORITY (EPA) BEEN NOTIFIED?	YES	NO
HAS NSW MINISTRY OF HEALTH (VIA PUBLIC HEALTH UNITS) BEEN NOTIFIED?	YES	NO
HAS WORKCOVER NSW BEEN NOTIFIED?	YES	NO
HAS LOCAL FIRE AND RESCUE NSW BEEN NOTIFIED?	YES	NO

<b>HAS EPA DIRECTED COUNCIL TO NOTIFY NEIGHBOURS?</b>	YES	NO
<b>IF NOT, HAS COUNCIL VOLUNTARILY NOTIFIED NEIGHBOURS?</b>	YES	NO

<b>Signature: .....</b> <b>Council Officer</b>	<b>Date: .....</b>
<b>Signature: .....</b> <b>Director Works and Engineering Oberon Council</b>	<b>Date: .....</b>



## 5.0 PIRMP TESTING & UPDATE REGISTER

Date	Routine Testing	Routine Update	Post Incident Updates	New Copies Distributed?



# **Attachment D**

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## **OPERATIONAL CONTROL FORMS**

**Form 1.1 – LEMP Distribution Register**

<b>Copy No.</b>	<b>Date of Issue</b>	<b>Document</b>	<b>Registered Holder</b>
1	August, 2013	LEMP Version 2	Director of Works and Engineering, OC
2	August, 2013	LEMP Version 2	Waste Manager, OC
3	August, 2013	LEMP Version 2	Administration Manager, OC
4	August, 2013	LEMP Version 2	Environment Protection Authority, Bathurst Region
5	August, 2013	LEMP Version 2	Geolyse Pty Ltd, Orange
1	August, 2013	PIRMP Version 2	Director of Works and Engineering, OC
2	August, 2013	PIRMP Version 2	Waste Manager, OC
3	August, 2013	PIRMP Version 2	Administration Manager, OC
4	August, 2013	PIRMP Version 2	Environment Protection Authority, Bathurst Region
5	August, 2013	PIRMP Version 2	Geolyse Pty Ltd, Orange

**Approved:** .....

**Director of Works and Engineering**

**Date:** .....





Form 1.3 – PIRMP testing and Updates Register

Date	Routine Testing	Routine Update	Post Incident Updates	5 New Copies Distributed?

Approved: .....  
Director Works and Engineering

Date: .....



Form 3.14 – Pollution Complaint Form

**POLLUTION COMPLAINT**

DATE:

TIME:

COMPLAINT NO:

HOW COMPLAINT WAS LODGED:

COMPLAINT DETAILS:

NATURE OF COMPLAINT:

CAUSE:

CORRECTIVE ACTION?

FOLLOW-UP CONTACT REQUIRED?

SIGNATURE:

DATE:



FORM 3.16: Incident Report Form (Extracted from PIRMP, Attachment D)

# INCIDENT REPORT FORM

INCIDENT No:

TIME:

DATE:

DURATION OF INCIDENT:

NATURE OF INCIDENT:

.....

.....

.....

TEMPERATURE: ..... °C                      WIND DIRECTION & SPEED: ..... KM/HR

RELATIVE HUMIDITY: ..... %              RAINFALL SINCE 9AM: ..... MM

FIRE DANGER RATING: .....

THE LOCATION OF THE PLACE WHERE POLLUTION IS OCCURRING OR IS LIKELY TO OCCUR:

.....

.....

THE NATURE, THE ESTIMATED QUANTITY OR VOLUME AND THE CONCENTRATION OF ANY POLLUTANTS INVOLVED (IF KNOWN):

.....

.....

.....

THE CIRCUMSTANCES IN WHICH THE INCIDENT OCCURRED, INCLUDING THE CAUSE OF THE INCIDENT (IF KNOWN):

.....

.....

.....

THE CORRECTIVE ACTION TAKEN OR PROPOSED TO BE TAKEN TO DEAL WITH THE INCIDENT AND ANY RESULTING POLLUTION OR THREATENED POLLUTION (IF KNOWN):

.....

.....

.....

HAS COUNCIL BEEN NOTIFIED?	YES	NO
HAS ENVIRONMENT PROTECTION AUTHORITY (EPA) BEEN NOTIFIED?	YES	NO
HAS NSW MINISTRY OF HEALTH (VIA PUBLIC HEALTH UNITS) BEEN NOTIFIED?	YES	NO
HAS WORKCOVER NSW BEEN NOTIFIED?	YES	NO
HAS LOCAL FIRE AND RESCUE NSW BEEN NOTIFIED?	YES	NO

HAS EPA DIRECTED COUNCIL TO NOTIFY NEIGHBOURS?	YES	NO
IF NOT, HAS COUNCIL VOLUNTARILY NOTIFIED NEIGHBOURS?	YES	NO

Signature: .....	Date: .....
Waste Manager	
Signature: .....	Date: .....
Director Works and Engineering, Oberon Council	



