



# Works Approval

## *Environmental Protection Act 1986, Part V*

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**Works Approval Holder:**      **SITA Australia Pty Ltd**

**Works Approval Number:**    **W5830/2015/1**

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**Registered office:**      3 Rider Boulevard  
RHODES NSW 2138

**ACN:**                            002 902 650

**Premises address:**      Allawuna Farm Landfill  
2556 Great Southern Highway  
ST RONANS WA 6302  
Being Part of Lot 4869 on Plan 224502 as depicted in Schedule 1 and  
defined between the following Global Positioning System positions:

Position No.	Latitude	Longitude
1	116° 36' 46.9" E	31° 54' 13.87" S
2	116° 35' 35.19" E	31° 54' 42.02" S
3	116° 36' 11.2" E	31° 55' 13.47" S
4	116° 37' 20.34" E	31° 55' 9.64" S

**Issue date:**                    Thursday, 17 March 2016

**Commencement date:**    Monday, 21 March 2016

**Expiry date:**                    Monday, 20 March 2023

The following category/s from the *Environmental Protection Regulations 1987* cause this  
Premises to be a prescribed premises for the purposes of the *Environmental Protection Act 1986*:

Category number	Category description	Category production or design capacity	Approved premises production or design capacity
64	Class II putrescible landfill site: premises on which waste (as determined by reference to the waste type set out in the document entitled: Landfill Waste Classification and Waste Definitions 1996" published by the Chief Executive Officer and as amended from time to time) is accepted for burial.	20 tonnes or more per year	250,000 tonnes per annual period



**Conditions**

This Works Approval is subject to the conditions set out in the attached pages.

Date signed: 17 March 2016

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**Kerry Laszig**

A/EXECUTIVE DIRECTOR – LICENSING AND APPROVALS

Officer delegated under section 20

of the *Environmental Protection Act 1986*



# Works Approval Conditions

## 1 General

### 1.1 Interpretation

1.1.1 In the Works Approval, definitions from the *Environmental Protection Act 1986* apply unless the contrary intention appears.

1.1.2 In the Works Approval, unless the contrary intention appears:

**'Act'** means the *Environmental Protection Act 1986*;

**'annual period'** means the inclusive period from 1 January until 31 December in the same year;

**'AS/NZS 5667.1'** means the Australian Standard AS/NZS 5667.1 *Water Quality – Sampling – Guidance of the Design of sampling programs, sampling techniques and the preservation and handling of samples*;

**'AS/NZS 5667.6'** means the Australian Standard AS/NZS 5667.6 *Water Quality – Sampling – Guidance on sampling of rivers and streams*;

**'AS/NZS 5667.11'** means the Australian Standard AS/NZS 5667.11 *Water Quality – Sampling – Guidance on sampling of groundwaters*;

**'averaging period'** means the time over which a limit or target is measured or a monitoring result is obtained;

**'CEO'** means Chief Executive Officer of the Department of Environment Regulation;

**'CEO'** for the purpose of correspondence means;

Chief Executive Officer  
Department Administering the Environmental Protection Act 1986  
Locked Bag 33  
CLOISTERS SQUARE WA 6850  
Email: info@der.wa.gov.au

**'NATA'** means the National Association of Testing Authorities, Australia;

**'NATA accredited'** means in relation to the analysis of a sample that the laboratory is NATA accredited for the specified analysis at the time of the analysis;

**'Premises'** means the area defined in the Premises Map in Schedule 1 and listed as the Premises address on page 1 of the Works Approval;

**'quarterly'** means the 4 inclusive periods from 1 December to the last day of February, 1 March to 31 May; 1 June to 31 August and 1 September to 30 November;

**'Schedule 1'** means Schedule 1 of this Works Approval unless otherwise stated;

**'six monthly'** means the 2 inclusive periods from 1 April to 30 September and 1 October to 31 March in the following year;



**'Stage 1'** means construction of the following:

- Entrance road to the farm;
- Access road to the landfill;
- Dual lane creek crossing;
- Administrative building construction;
- Hardstand construction,
- Weighbridge and entry office;
- Electricity access;
- Bulk earthworks;
- Pump and pipe infrastructure;
- Installation of two gas monitoring bores;
- Installation of four dust monitors;
- Construction of Cell 1 (parts a and b);
- Stormwater dam construction;
- Retention pond construction;
- Leachate pond construction;
- Installation of two water tanks (100,000L and 150,000L capacity);
- Bunded diesel storage area and tank;
- Stormwater diversion infrastructure; and
- Sediment management infrastructure.

**'Stage 2'** means construction of Cell 2 (parts 2a and 2b);

**'Works Approval'** means this Works Approval numbered W5830/2015/1 and issued under the *Act*; and

**'Works Approval Holder'** means the person or organisation named as the Works Approval Holder on page 1 of the Works Approval.

1.1.3 Any reference to an Australian or other standard in the Works Approval means the relevant parts of the standard in force from time to time during the term of this Works Approval.

1.1.4 Any reference to a guideline or code of practice in the Works Approval means the current version of the guideline or code of practice in force from time to time, and shall include any amendments or replacements to that guidelines or code of practice made during the term of this Works Approval.

## **1.2 General conditions**

1.2.1 The Works Approval Holder shall construct the works and manage and monitor emissions arising from the works in accordance with the documentation detailed in Table 1.2.1:



**Table 1.2.1: Construction Requirements<sup>1</sup>**

Document	Parts	Date of Document
SITA Australia Works Approval Application Supporting Document – Allawuna Landfill, Full Report Text, Golder Associates Pty Ltd	Section 5 (all)	March 2015
SITA Australia Works Approval Application Supporting Document – Allawuna Landfill, Vol. 1 of 5: Appendix A to Appendix C, Golder Associates Pty Ltd	All (Appendix A to C), including Drawings	March 2015
SITA Australia Works Approval Application Supporting Document – Allawuna Landfill, Vol. 2 of 5: Appendix D, Golder Associates Pty Ltd	Sections 7 and 8 (all)	March 2015
SITA Australia Works Approval Application Supporting Document – Allawuna Landfill, Vol. 3 of 5: Appendix E, Golder Associates Pty Ltd	Appendix L of document <i>Allawuna Farm Landfill Surface Water, Groundwater and Leachate Management Plan</i>	March 2015
SITA Australia Works Approval Application Supporting Document – Allawuna Landfill, Vol. 4 of 5: Appendix F to Appendix L, Golder Associates Pty Ltd	Appendix F, section 3 and 8; Appendix G, <i>Allawuna Landfill Gas Assessment Report and Landfill Gas Management Plan</i> , management plan only (all); and Appendix H (all).	March 2015
SITA Australia Works Approval Application Supporting Document – Allawuna Landfill, Vol. 5 of 5: Appendix M to Appendix W, Golder Associates Pty Ltd	Appendix M (all); Appendix N (all); and Appendix O (all).	March 2015
<i>Allawuna Landfill – Dust Management Plan</i> , Bowman & Associates Pty Ltd	All, including Drawings and Appendices	28 April 2015
<i>Allawuna Farm Landfill – Fuel/Chemical Storage &amp; Hydrocarbon Spill Management Plan</i> , Bowman & Associates Pty Ltd	All, including Drawings and Appendices	26 May 2015
<i>Allawuna Farm Landfill – Noise Management Plan</i> , Bowman & Associates Pty Ltd	All, including Drawings and Appendices	29 July 2015
Letter from Golder Associates Pty Ltd to Department of Environment Regulation, Subject: Allawuna Farm Works Approval Application: W8530/2015/1 Further Information	Sections 1 to 7; Attachments A to D.	15 September 2015

Note 1: Where the details and commitments of the documents listed in condition 1.2.1 are inconsistent with any other condition of this works approval, the conditions of this works approval shall prevail.

1.2.2 The Works Approval Holder shall construct each landfill cell to ensure that a separation distance of 2m is achieved between the lowest elevation of waste in the landfill cell and the highest natural elevation of groundwater that has been recorded in all monitoring bores in Table 2.1.2.

1.2.3 The Works Approval Holder shall construct the leachate pond and retention pond to ensure that a separation distance of 2m is achieved between the lowest elevation of each



pond and the highest natural elevation of groundwater that has been recorded in all monitoring bores in Table 2.1.2.

- 1.2.4 The Works Approval Holder shall install two landfill gas monitoring bores between the landfill cells and site office as documented in section 5.2.3 of the "Landfill Gas Management Plan, Allawuna Farm Landfill" prepared by SITA (March 2015), prior to completion of Cell 1a construction, for the purpose of monitoring back ground gas levels.
- 1.2.5 The Works Approval Holder shall install four dust monitors at the Premises, for the purpose of monitoring total suspended particulate matter, in accordance with the Australian/New Zealand Standard AS/NZS 3580.1.1:2007 Methods for sampling and analysis of ambient air – Guide to siting monitoring equipment, prior to construction works of Cell 1a being completed at the Premises.
- 1.2.6 The following works shall be subject to construction quality assurance processes in accordance with Level 1 of the Australian Standard AS 3798–2007 Guidelines on earthworks for commercial and residential developments (Standards Australia Limited, 2007) (being fully supervised):
  - (a) the removal of sandy material prior to placement of compacted clayey material at the base and side slopes of the cell; and
  - (b) landfill cell and leachate pond construction, including liner placement, in accordance with the documentation detailed in Table 1.2.1 and in accordance with conditions 1.2.2 and 1.2.3.

## **2 Monitoring**

- 2.1.1 The Works Approval Holder shall ensure that:
  - (a) all water samples are collected and preserved in accordance with AS/NZS 5667.1;
  - (b) all surface water sampling is conducted in accordance with AS/NZS 5667.6;
  - (c) all groundwater sampling is conducted in accordance with AS/NZS 5667.11; and
  - (d) all laboratory samples are submitted to and tested by a laboratory with current NATA accreditation for the parameters being measured
- 2.1.2 The Works Approval Holder shall ensure that:
  - (a) monthly monitoring is undertaken at least 15 days apart; and
  - (b) quarterly monitoring is undertaken at least 45 days apart.
- 2.1.3 The Works Approval Holder shall undertake the surface water monitoring specified in Table 2.1.1 according to the specifications in that table, with the first round of sampling to be undertaken prior to the commencement of any construction activities.



<b>Table 2.1.1 Monitoring of surface water quality</b>				
<b>Monitoring point reference and location</b>	<b>Parameter</b>	<b>Units</b>	<b>Averaging period</b>	<b>Frequency</b>
Thirteen Mile Brook	pH	-	Spot sample	Quarterly
	Electrical conductivity	µS/cm		
	nitrate-nitrogen	mg/L		
	Total nitrogen			
	Total Potassium			
	Chloride			
	Total dissolved solids			
	Lead			
	Manganese			
	Copper			
	Chromium			
	Nickel			
	Zinc			
	cadmium			
Ammonia-nitrogen				

2.1.4 The Works Approval Holder shall undertake the groundwater monitoring in Table 2.1.2 according to the specification in that table.



**Table 2.1.2: Monitoring of ambient groundwater quality**

Monitoring point reference and location	Parameter	Units	Averaging period	Frequency
MB05, MB07, MB14, GMB01, GMB02, GMB03, GMB05	Standing water level	m(AHD)	Spot sample	Quarterly
	pH	N/A		
	Electrical conductivity	µS/cm		
	Redox potential	mV		
	Temperature	Degrees Celsius		
	Ammonia-nitrogen	mg/L or µg/L		
	Kjeldahl – nitrogen			
	Nitrate - nitrogen			
	Total nitrogen			
	Total phosphorus			
	Calcium			
	Magnesium			
	Sodium			
	Potassium			
	Sulfate			
	Chlorine			
	Bicarbonate			
	Iron			
	Manganese			
	Cadmium			
	Chromium			
	Copper			
	Nickel			
Lead				
Zinc				
Arsenic				
Selenium				
Mercury				

2.1.5 The Works Approval Holder shall undertake monthly monitoring of background carbon dioxide, oxygen and methane gas levels commencing within 28 days of the landfill gas monitoring bores being installed as required in condition 1.2.4.

2.1.6 The Works Approval Holder shall undertake noise monitoring in accordance with the requirements of Table 2.1.3:





<b>Table 2.1.3: Noise monitoring</b>	
<b>Requirement</b>	<b>Date of completion</b>
<p>The Licensee shall undertake noise monitoring of the Premises during normal construction activities during the construction of each cell (1a, 1b, 2a and 2b). A report on the noise monitoring shall be prepared in accordance with Part 3 of the <i>Environmental Protection (Noise) Regulations 1997 (Noise Regulations)</i>. The report shall be submitted to the CEO and shall include:</p> <ul style="list-style-type: none"> <li>(a) methods used for monitoring of noise;</li> <li>(b) an assessment of whether noise emissions from the Premises comply with the assigned noise level in the Noise Regulations; and</li> <li>(c) if improvements are required to comply with the prescribed standard, proposed recommendations of any noise control mitigation measures to meet the prescribed standard</li> </ul>	<p>Noise reports to be provided to the CEO within one month of each monitoring round being completed.</p>

2.1.7 The Works Approval Holder shall cease all construction activities until such a time that any noise control mitigation measures nominated in any reports required by Table 2.1.3 are implemented at the Premises.

### 3 Information

#### 3.1 Reporting

3.1.1 The Works Approval Holder shall submit a compliance document to the CEO within one month of the completion of construction of each landfill cell.

3.1.2 The compliance document shall:

- (a) certify that the works were constructed in accordance with the conditions of the works approval;
- (b) be signed by a person authorised to represent the Works Approval Holder and contain the printed name and position of that person within the company; and
- (c) be accompanied a Construction Quality Assurance Validation Report that:
  - i. is written and certified by the Geotechnical Inspection and Testing Authority that completed the Level 1 construction quality assurance processes required by condition 1.2.6;
  - ii. certifies that the sub-grade and liner is free of fault or defect, built to the design specification and fit for the intended purpose;
  - iii. demonstrates that a 2m separation between the lowest level of waste placement within the landfill cell and the highest recorded natural elevation of groundwater was achieved at the time of construction, as supported by the groundwater monitoring data;
  - iv. certifies that the landfill gas monitoring bores have been installed as required by condition 1.2.4;
  - v. certifies that the dust monitors have been installed as required by condition 1.2.5;
  - vi. includes copies of results of surveys and drawings of the final built landfill cell, inspections, monitoring and testing results for the sub-grade preparation and liner installation; and
  - vii. demonstrates compliance with condition 1.2.6.



- 3.1.3 The Works Approval Holder shall submit to the CEO on a six-monthly basis:
- (a) surface water monitoring data required by condition 2.1.3; and
  - (b) groundwater monitoring data required by condition 2.1.4.
- 3.1.4 The Works Approval Holder shall submit to the CEO on a quarterly basis the gas monitoring data required by condition 2.1.5.



## Schedule 1: Maps

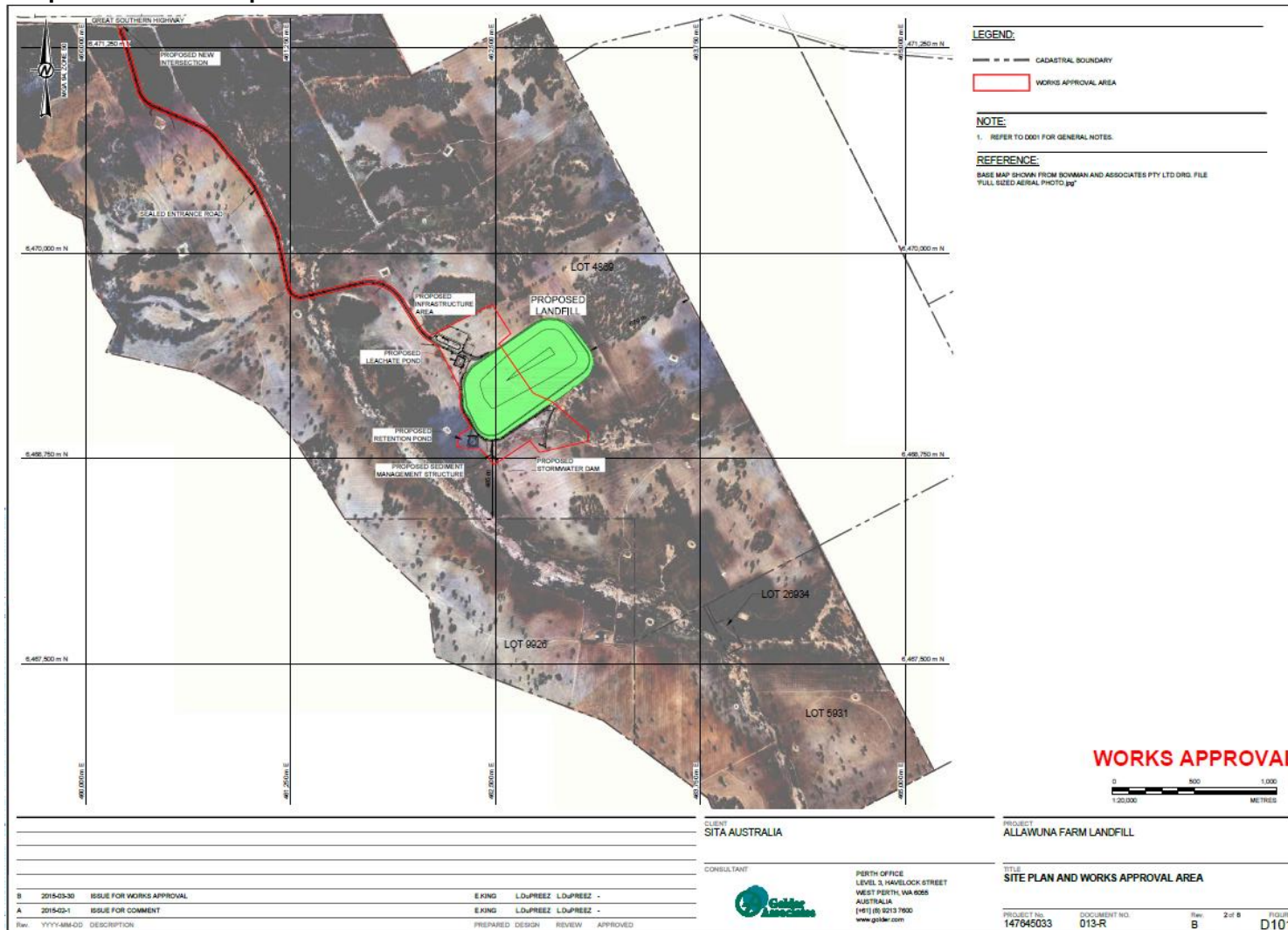
### Premises map

The Premises is shown in the maps below. The yellow line depicts the Premises boundary and the pink line depicts the cadastral boundary (Lot 4869).





### Proposed landfill footprint overview





Works approval area

