BUNBURY - HARVEY
Regional Council

BANKSIA ROAD ORGANICS PROCESSING FACILITY

ANNUAL ENVIRONMENTAL REPORT

1st April 2017 – 31st March 2018

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1. INTRODUCTION

Bunbury-Harvey Regional Council (BHRC) provides personnel and equipment to manage, supervise, operate and maintain the Banksia Road Organics Processing Facility (BROPF).

This facility processes Food Organics, Garden Organics and Green waste collected from the councils of the Wellington Regional Group (City of Bunbury, Shires of Harvey, Dardanup, Capel, Collie and Donnybrook-Balingup).

The BROPF began operating in July 2013 when it was granted the first Environmental Protection Licence from the Department of Environment. The facility is located within the Dardanup Putrescible Landfill Site that is licenced as a Category 64 Class II landfill.

Department of Environment Licence L8746/2013/1

This licence was issued 22nd November 2015 and expires on 14th July 2022.

2. SITE INFORMATION

2.1 LOCATION

BROPF is located at Lot 81 Marginata Close CROOKED BROOK in the Shire of Dardanup.

Shire of Dardanup has renamed the road the Banksia Road Organics Processing Facility was on as it was a private access road that led to the facility. The facility has not changed location since starting operation.

See Appendix 1: Maps

2.2 SURROUNDING LAND USE

The Banksia Road Compost Facility is located approximately 220 Kilometres South of Perth and approximately 20 km south of Bunbury in the local government area of the Shire of Dardanup.

The Premises is located on the Swan Coastal Plain and is an existing licenced premises, being the site of the Shire of Dardanup landfill.

Other prescribed activities within proximity to the premises include:

- Dardanup wastewater treatment plant
- Transpacific Class II landfill, located on Banksia Rd
- Depiazzi soil mixes and manufactures

There are two commercial receptors within 1000 metres of the site which are:

- A regional landfill
- A waste water treatment plant.

The closest residential receptor is approximately 1.7 km to the south-west.

2.3 METHOD OF OPERATION

The site currently operates as an Organics Processing Facility and under the terms of the current Licence is permitted to accept the following wastes:

- Mixed food/putrescible and vegetable food waste
- Greenwaste

Greenwaste from surrounding councils is accepted and organic waste from the three bin system from the City of Bunbury, Shires of Capel, Collie and Donnybrook-Balingup are also accepted and processed through the facility.

A Mobile Aerated Floor (MAF) system is used throughout the facility for the processing of incoming waste. This system pushes air through the compost material rather than turning the material through air.

This system is designed to work in open areas and is only operated by trained personnel.

3. GROUND WATER USE

BROPF is located on the edge of the Swan Coastal Plan in the Shire of Dardanup. The sub-surface hydrology comprises of clay sediments of the Quaternary and Yoganup /Guildford Formations that form a protective barrier over the deeper and confined Leederville Formation which contains high quality groundwater.

Lundstrom Environmental Consultants (1998) indicated in a study of the adjacent landfill site that previous investigations had confirmed the presence of the permanent, confined aquifer (Leederville Formation) at levels that vary between 35m and 40m below ground level. This aquifer is separated from the surface sediments by a clay/shale layer that occurs at depths of 20m to 30m and is between 10m and 20m thick. This water has an upward hydrostatic head resulting in an upward pressure exerted on the base of the confined layer. There is no evidence of significant quantities of shallow, unconfined groundwater.

The site is located in the Ferguson River catchment, close to the boundary of the Crooked Brook catchment. Surface water runoff is collected in the catchment pond on site and reused back onto the compost piles.

4. ODOUR CONTROL

Mobile Aerated Floor (MAF) is a compost aeration system that uses an electrically driven and computer controlled fan that pushes air through movable perforated pipes underneath the compost pile. It allows you to control oxygen levels minute to minute, rather than day by day with traditional compost turners.

Minimum odour emissions are the key benefit of the MAF composting system therefore on a day to day basis further odour controls are not required.

5. SCOPE OF WORKS

The BHRC operates under the *Environmental Protection Act 1986*, Licence No. L8746/2013/1, this licence is administered by the Department of Environmental Regulation. This Annual Environmental Report provides a review of environmental monitoring and performance of the BHRC and assesses compliance with licence conditions, for the period 1 April 2016 to 31 March 2017.

6. COMPLIANCE

It is a requirement of the licence agreement that the BHRC supply this Annual Environment Report within 28 calendar days after the end of the annual period. The report is to contain the information as listed in Table 3.2.1.

Table 3.2.1: Annual environmental report

Condition or table (if relevant)	Parameter	Format or form'
Table 2.2.1	Inputs and outputs	None specified
Table 2.3.1	Process monitoring data	None specified

3.1.3	Compliance	Annual Audit Compliance Report (AACR)
3.1.4	Complaints summary	None specified

3.2.2 The licensee shall ensure that the Annual Environmental Report also contains an assessment of the information contains within the report against previous monitoring results and Licence limits.

6.1 Inputs and Outputs

BHRC will undertake the monitoring of inputs and outputs according to the specifications in

Table 2.2.1: Monitoring of Inputs and Outputs.

Table 2.2.1: Monitoring of inputs and outputs

Input / Output	Parameter	Units	Averaging period	Frequency
Mass of each input listed in Table 1.3.1	Waste type as detailed in Table 1.3.1	Tonnes	Annual Period	Each load arriving at the Premises

For the reporting year, BHRC has accepted 11,473 tonnes of waste which is within the parameters of the licencing agreement. Accordingly this is 1,944 tonne less than last years reported amount.

During the same period BHRC had sales totalling 4,608 tonnes which was 896 tonnes more than last year and 854 tonne of contaminated product was removed from site and disposed of accordingly.

See Appendix 2: Inputs
See Appendix 3: Outputs

6.2 Process Monitoring

Monitoring is undertaken in accordance with *Table 2.3.1: Process Monitoring*.

Table 2.3.1: Process monitoring

Monitoring point reference	Process description	Parameter	Units	Frequency	Method
Compost windrows	Composting	Temperature	°C	Twice daily	None specified
Final compost volume	Completion of composting and prior to sale or distribution to the public	Weight produced	Tonnes	Continuous	None specified
Final compost quality	Completion of composting and prior to sale or distribution to the public	Faecal coliforms	MPN per gram (dry weight)	Each batch	As specified in AS 4454
		Salmonella spp.	N/A		
		Arsenic	Mg/kg (dry weight basis)		
		Cadmium			
		Chromium			
		Copper			
		Lead			
		Mercury			
		Nickel			
		Selenium			
		Zinc			
		DDT/DDD/DDE			
		Aldrin, dieldrin, Chlordane, Heptachlor, HCB, Lindane or BHC			
		PCB's			
		Glass, metal and rigid plastics			
		Plastics – light and flexible or film			

Note 1: Twice daily monitoring is to be undertaken at least five hours apart.

**Please Note: Daily temperature readings available upon request.*

See Appendix 4: **Average Temperature Readings per Batch**
See Appendix 5: **Testing Results**

6.3 Compliance

See Appendix 6: **AACR attached**

6.4 Complaints Summary

There were no complaints during this period.

7. NEW LICENCE DETAILS

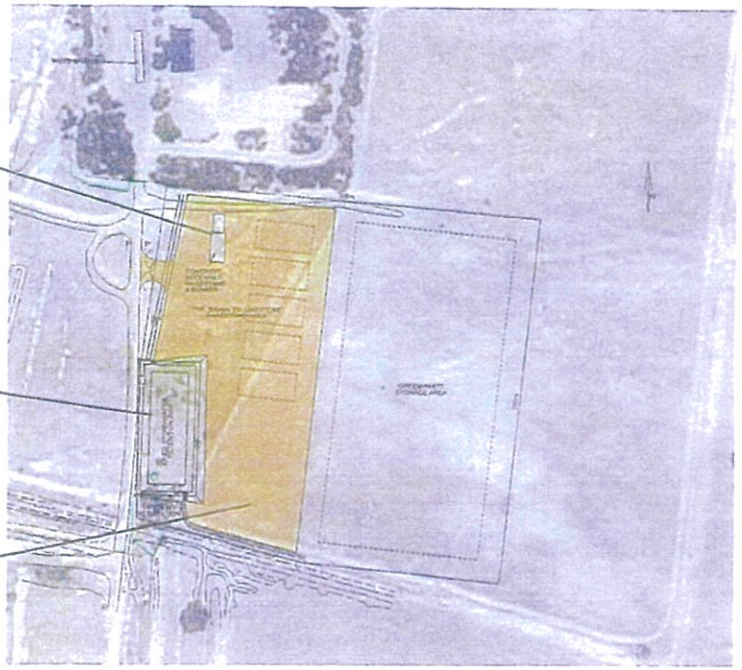
Licence: L8746/2013/1
Issued: 24th April 2016
Expiry Date: 14th July 2022

Tony Battersby

Chief Executive Officer

APPENDIX 1

LOCALITY PLAN:



SITE GENERAL LAYOUT

A	CONCEPT LAYOUT			COATES CIVIL CONSULTING	SCALE 1 : 1,000 (A1)			BANKSIA ROAD LANDFILL SITE PROPOSED GREENWASTE MULCHING SITE	BHRC002-C02
MK	DETAILS OF AMENDMENTS	APPROVED	DATE		DATUM:	CHECKED:	DATE:	GENERAL LAYOUT	SHEET No 1 OF 1
					ORIGIN OF LEVELS:	APPROVED:	DATE:		ISSUE DATE: JULY 2015 A1

Product Delivery Rate Summary

for period: **1/04/2017 12:00:00AM** to **31/03/2018 11:59:59PM**

Bunbury Harvey Regional Council
Lot 45 Stanley Rd
Australind WA 6233

Mandalay™

APPENDIX 2 INPUTS

Stock Unit	Product Code	Product	Qty	Net (tonnes)	Product Ex-Tax	EPA Levy	Total Ex Tax	Tax	Total Inc Tax	Avg Weight /Unit	Av Cost /Tonne Ex Tax
Site: Banksia Road Compost Facility											
Product Category: Weighbridge											
tonne	Banksia Rd-Clean Greenwaste	Banksia Rd-Clean Greenwaste	1066.68	1066.68							
tonne	Organics	Organics	10407.11	10407.11							
		Totals for Weighbridge:	11473.79	11473.79							
		Site Totals:	11473.79	11473.79							
		Grand Totals:	11473.79	11473.79							

Note: The report totals do not reflect any rounding made as the result of cash payments
Weights for non weighed products are estimated based on current product configuration

Product Delivery Rate Summary

for period: **1/04/2017 12:00:00AM** to **31/03/2018 11:59:59PM**

Bunbury Harvey Regional Council
Lot 45 Stanley Rd
Australind WA 6233

Mandalay™

APPENDIX 3 OUTPUTS

Stock Unit	Product Code	Product	Qty	Net (tonnes)	Product Ex-Tax	EPA Levy	Total Ex Tax	Tax	Total Inc Tax	Avg Weight /Unit	Av Cost /Tonne Ex Tax
Site: Banksia Road Compost Facility											
Product Category: Other											
each	Compost Sales	Compost Sales	1.00	0.38							
		Totals for Other:	1.00	0.38							
Product Category: Weighbridge											
tonne	Compost	Compost	1603.24	1603.24							
tonne	Compost 10mm Screened Sale	(Compost 10mm Screened Sale (Pul	662.65	662.65							
tonne	Compost 50mm Screened Sale	-Compost 50mm Screened Sale - Pu	21.90	21.90							
tonne	Compost Wellington Group of Co	Compost Wellington Group of Coun	1153.26	1153.26							
tonne	Export Compost	Export Compost	494.54	494.54							
tonne	Intuit Earth 10mm Compost	Intuit Earth 10mm Compost	564.96	564.96							
tonne	Mulch	Mulch	3.12	3.12							
tonne	Mulch - Green	Mulch - Green	62.14	62.14							
tonne	Mulch 50mm +	Mulch 50mm +	42.37	42.37							
		Totals for Weighbridge:	4608.18	4608.18							
		Site Totals:	4609.18	4608.56							
		Grand Totals:									

Note: The report totals do not reflect any rounding made as the result of cash payments
Weights for non weighed products are estimated based on current product configuration

BUNBURY HARVEY Regional Council

BANKSIA ROAD ORGANICS

APPENDIX 4

AVERAGE TEMPERATURE READINGS PER BATCH								
BATCH NUMBER	TEMPERATURE							
	AM	1	2	3	PM	1	2	3
270217		69	71	72		70	71	71
040417		71	73	69		71	73	69
030517		68	71	74		68	71	74
070617		72	71	71		72	71	71
140717		73	71	73		72	71	73
280817		71	66	67		71	65	67
220917		65	70	69		65	69	69
061117		77	73	71		73	73	71
051217		72	77	77		72	77	77
030118		62	70	72		62	71	73
020218		77	80	72		77	79	72
270218		79	74	71		79	79	76

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LABORATORY TEST REPORT

AUSTRALIAN STANDARD AS 4454-2012
STANDARD MARK COMPOST

Client ID: Bunbury Harvey Regional Council
Product ID: Compost (non-standard) **Batch No: MOP TEST 6**
Lab No: SS843 **Date received:** 13/06/17
Product Description: Composted organic material suitable for adding to soils.

Characteristic & Unit		Requirement From AS 4454-2012	Results
Description		**Conforms**	
pH		5.0 to 8.0	8.0
Electrical Conductivity	dS/m	10 (Refer to Table 3.3)	3.79
Phosphorus, soluble	mg/L	≤ 5 for P sensitive plants	3.23
Phosphorus, total	%	≤0.1 for P sensitive plants	0.33
Ammonium-N	mg/L	<200	37.3
Nitrate-N	mg/L	≥10	0.83
Ammonium-N plus nitrate-N	mg/L	Level appropriate for application	38.1
Nitrogen, total	%	≥0.8	1.11
Total Organic Carbon	%	≥20	16.6
Organic matter content	%	≥20	20.9
Carbon:Nitrogen Ratio (C:N)	%	Level appropriate for application	15.0
Potassium K	%	Level appropriate for application	0.65
Calcium Ca	%	Level appropriate for application	2.87
Magnesium Mg	%	Level appropriate for application	0.32
Sulphur S	%	Level appropriate for application	0.20
Iron Fe	mg/kg	Level appropriate for application	7040.0
Manganese Mn	mg/kg	Level appropriate for application	116.4
Sodium Na	%	< 1	0.25
Wettability	Minutes	< 5	4 min
Plant growth test (Bioassay)	mm	≥ 60	80 mm
Particle size grading: Maximum size Tolerance	% mm % mass	 ≤16 ≤ 20 % retained by sieve	Compost
Total $CaCO_3$ equivalent	%	To be determined and stated if pH > 8.0	-
Chemical Contaminants (Inc. Heavy Metals)		State guidelines for unrestricted use	Passed
Organic Contaminants		State guidelines for unrestricted use	Passed
Pathogens (Plant & Human Pathogens)		State guidelines for unrestricted use	Passed
Moisture Content	%	Minimum 25	28%
Contaminants Glass, metal and rigid plastics >2mm Plastics- light, flexible or film >5 mm Stones and lumps of clay ≥ 5 mm	%	 ≤ 0.5 ≤ 0.05 ≤ 5	 0.5 <0.05 <5

Note: Detailed test results continued on next page

STANDARD MARK COMPOST AS 4454-2012
Product ID: Compost (non-standard) **Batch No: MOP TEST 6**
Lab No: SS843 **Date received:** 13/06/17

Characteristic & Unit		Requirement From AS 4454-2012	Results
Constituents		**Maximum allowable concentration in mg/kg dry solids**	**mg/kg**
Chemical Contaminants:		**Grade C1 Biosolids**	
Arsenic	mg/kg	20	<5
Cadmium	mg/kg	1	0.5
Chromium	mg/kg	100	10
Copper	mg/kg	100	32
Mercury	mg/kg	1	0.02
Nickel	mg/kg	60	3
Lead	mg/kg	150	17
Zinc	mg/kg	200	160
Molybdenum	mg/kg	4	<2
Selenium	mg/kg	5	<2
Boron B	mg/kg	100	17.7
Organic Contaminants:		**Grade C1 Biosolids**	
OCOP and PCB			
Aldrin	mg/kg	0.02	<0.01
BHC Total	mg/kg	0.5	<0.01
Bifenthrin	mg/kg	0.2	0.2
Bromophos Ethyl	mg/kg	0.05	<0.05
Chlordane	mg/kg	0.02	<0.01
Chlorpyrifos	mg/kg	0.02	<0.02
Dieldrin	mg/kg	0.02	<0.01
DDT/DDD/DDE Analogs	mg/kg	0.5	<0.01
Heptachlor	mg/kg	0.02	<0.01
HCB (Hexachlorobenzene)	mg/kg	0.02	<0.01
Lindane	mg/kg	0.02	<0.01
Diazinon	mg/kg	0.2	<0.2
Ethion	mg/kg	0.05	<0.05
Fenitrothion	mg/kg	0.05	<0.1
Malathion	mg/kg	0.1	<0.1
PCB Total	mg/kg (as Aroclor Ind)	0.2	<0.2
Pathogen Test:		**Grade P1 Biosolids**	
Phytophthora (fungal plant pathogen)		N/A	Not detected
Pythium (fungal plant pathogen)		N/A	Not detected
Salmonella sp.		< 1 Salmonella per 50 g	Negative
Thermotolerant coliforms (E-coli)		<100 MPN Thermotolerant cfu/g	<100
Maturity Index:			
Solvita – Maturity Index		≥ 5 or 6	4
Nitrogen Drawdown Index (NDI)		>0.2	0.14

Comments: Test results apply to the sample submitted for analysis and does not necessarily imply that the product meets all the requirements of this Standard.

Reported by: Maria Sevo **Date: 07/07/17**
Laboratory Manager

Government of **Western Australia**
Department of **Water and Environmental Regulation**

Annual Audit Compliance Report Form

Environmental Protection Act 1986, Part V

Once completed, please submit this form either via email to info-der@dwer.wa.gov.au, or to the below postal address:

Field C

Department of Water and Environmental Regulation
Locked Bag 33 Cloisters Square
PERTH WA 6850

Section A – Licence Details			
Licence number:	L8746/2013/1	Licence file number:	2013/002341
Licence holder:	Bunbury Harvey Regional Council		
Trading as:	Wellington Group of Councils Compost Facility		
ACN:			
Registered address:	Lot 21 McCombe Road DAVENPORT WA 6230		
Reporting period:	01 / 04 / 2017 **to** 31 / 03 / 2018		

Section B – Statement of Compliance with Licence Conditions

Did you comply with all of your licence conditions during the reporting period?
(please tick the appropriate box)

☑ Yes – please complete:
- section C;
- section D if required; and
- sign the declaration in Section F.

☐ No – please complete:
- section C;
- section D if required;
- section E; and
- sign the declaration at Section F.

Section C – Statement of Actual Production

Provide the actual production quantity for this reporting period. Supporting documentation is to be attached.

Prescribed Premises Category	**Actual Production Quantity**
Schedule 1 of the *Environmental Protection Regulations 1987*	11,473 Tonnes

Section D – Statement of Actual Part 2 Waste Discharge Quantity

Provide the actual Part 2 waste discharge quantity for this reporting period. Supporting documentation is to be attached.

Prescribed Premises Category	**Actual Part 2 Waste Discharge Quantity**

Section E – Details of Non-Compliance with Licence Condition			
Please use a separate page for each condition with which the licence holder was non-compliant at a time during the reporting period.			
Condition no:		Date(s) of non-compliance:	
Details of non-compliance:			
What was the actual (or suspected) environmental impact of the non-compliance? **NOTE** – please attach maps or diagrams to provide insight into the precise location of where the non-compliance took place.			
Cause (or suspected cause) of non-compliance:			
Action taken to mitigate any adverse effects of non-compliance and prevent recurrence of the non-compliance:			
Was this non-compliance previously reported to DWER?			
☐ Yes, and			
☐ Reported to DWER verbally		Date: / /	
☐ Reported to DWER in writing		Date: / /	

Section F – Declaration			
I / We declare that the information in this Annual Audit Compliance Report is true and correct and is not false or misleading in a material particular[1]. I / We consent to the Annual Audit Compliance Report being published on the Department of Water and Environmental Regulation's (DWER) website.			
Signature[2]:		Signature:	
Name: (printed)	Anthony Battersby	Name: (printed)	
Position:	Chief Executive Officer	Position:	
Date:	16th April 2018	Date:	
Seal (if signing under seal):			

[1] It is an offence under section 112 of the *Environmental Protection Act 1986* for a person to give information on this form that to their knowledge is false or misleading in a material particular.

[2] AACRs can only be signed by the licence holder or an authorised person with the legal authority to sign on behalf of the licence holder.