Government of Western Australia
Department of Environment Regulation

Licence

Environmental Protection Act 1986, Part V

Licensee: Nutrarich Pty Ltd

Licence: L8001/2005/5

Registered office: Unit 1
144 Beringarra Avenue
MALAGA WA 6090

ACN: 111 344 471

Premises address: Hopelands Farm
435 Chittleborough Road
BROOKTON WA 6306
Being Lot 3 on Plan 69746 as depicted in Schedule 1

Issue date: Friday, 6 March 2015

Commencement date: Friday, 6 March 2015

Expiry date: Thursday, 5 March 2034

Prescribed premises category
Schedule 1 of the *Environmental Protection Regulations 1987*

Category number	Category description	Category production or design capacity	Approved premises production or design capacity
67A	Compost manufacturing and soil blending: premises on which organic material (excluding silage) or waste is stored pending processing, mixing, drying or composting to produce commercial quantities of compost or blended soils.	1,000 tonnes or more per year	100,000 tonnes per annual period
61	Liquid waste facility: premises on which liquid waste produced on other premises (other than sewage waste) is stored, reprocessed, treated or irrigated.	100 tonnes or more per year	6,200 tonnes per annual period

Conditions
This Licence is subject to the conditions set out in the attached pages.

Date signed: 27 October 2016
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Ruth Dowd
SENIOR MANAGER (WASTE INDUSTRIES)
Officer delegated under section 20
of the *Environmental Protection Act 1986*

Contents

Introduction

This Introduction is not part of the Licence conditions.

DER's industry licensing role
The Department of Environment Regulation (DER) is a government department for the state of Western Australia in the portfolio of the Minister for Environment. DER's purpose is to advise on and implement strategies for a healthy environment for the benefit of all current and future Western Australians.

DER has responsibilities under Part V of the *Environmental Protection Act 1986* (the Act) for the licensing of prescribed premises. Through this process DER regulates to prevent, control and abate pollution and environmental harm to conserve and protect the environment. DER also monitors and audits compliance with works approvals and licence conditions, takes enforcement action as appropriate and develops and implements licensing and industry regulation policy.

Licence requirements
This Licence is issued under Part V of the Act. Conditions contained within the Licence relate to the prevention, reduction or control of emissions and discharges to the environment and to the monitoring and reporting of them.

Where other statutory instruments impose obligations on the Premises/Licensee the intention is not to replicate them in the Licence conditions. You should therefore ensure that you are aware of all your statutory obligations under the Act and any other statutory instrument. Legislation can be accessed through the State Law Publisher website using the following link: http://www.slp.wa.gov.au/legislation/statutes.nsf/default.html

For your Premises relevant statutory instruments include but are not limited to obligations under the:

- *Environmental Protection (Unauthorised Discharges) Regulations 2004* – these Regulations make it an offence to discharge certain materials such as contaminated stormwater into the environment other than in the circumstances set out in the Regulations.

- *Environmental Protection (Controlled Waste) Regulations 2004* - these Regulations place obligations on you if you produce, accept, transport or dispose of controlled waste.

- *Environmental Protection (Noise) Regulations 1997* – these Regulations require noise emissions from the Premises to comply with the assigned noise levels set out in the Regulations.

You must comply with your Licence. Non-compliance with your Licence is an offence and strict penalties exist for those who do not comply.

Licence holders are also reminded of the requirements of section 53 of the Act which places restrictions on making certain changes to prescribed premises unless the changes are in accordance with a works approval, licence, closure notice or environmental protection notice.

Licence fees
If you have a licence that is issued for more than one year, you are required to pay an annual licence fee prior to the anniversary date of issue of your licence. Non-payment of annual licence fees will result in your licence ceasing to have effect meaning that it will no longer be valid and you will need to apply for a new licence for your Premises.

Ministerial conditions
If your Premises has been assessed under Part IV of the Act you may have had conditions imposed by the Minister for Environment. You are required to comply with any conditions imposed by the Minister.

Premises description and Licence summary
Nutrarich Pty Ltd (Nutrarich) produces compost products for retail sale at their Hopelands Farm premises in Brookton. Hopelands Farm is located within the Shire of Brookton in an area zoned as 'Farming'. The town site of Brookton is located approximately 8 km to the south-east of the premises and the nearest residents are located approximately 800 m to the north-west of the premises.

This licence is the result of an application to amend licence L8001/2005/5 to authorise works at the premises to extend and expand on current site activities and to increase the Category 67A (compost manufacturing and soil blending) design capacity to 100,000 tonnes per year. The proponent has also applied for the addition of Category 61 (liquid waste facility) for the acceptance of up to 6,200 tonnes of liquid waste per year for use in the composting process.

The following works are proposed under the amendment application:
- construction of up to five leachate collection dams;
- construction of leachate collection infrastructure ;
- construction of bunds to direct surface run-off to collection dams;
- construction of two stormwater collection dams;
- installation of an unspecified number of tanks for backup storage septage waste;
- construction of six concrete storage bays for loading and sale of product to the public;
- construction of leachate bunding along northern and eastern boundaries;
- clearing of native vegetation; and
- secondary containment to existing fuel storage tanks.

The following activities which are not related to the prescribed activities will be undertaken onsite and are not regulated under this licence
- construction of an access track; and
- construction of site facilities and ancillary infrastructure unrelated to prescribed activities (such as office and toilet blocks).

The main potential emissions from the premises operations are leachate, contaminated surface runoff and odour. The licence includes a number of regulatory controls, construction specifications and containment requirements regarding leachate and contaminated runoff. Odour is managed through adherence to AS 4454 composting processes; a moderate separation distance to receptors, preferential direct application of liquid wastes from carrier trucks (as opposed to long-term storage), and via regulatory controls on the licence limiting acceptance of high odour-generating feedstocks and requiring an appropriate input C:N ratio to be maintained during composting.

As part of the amendment, the licence format has been updated. Administrative changes have also been incorporated in accordance with DER licensing processes.

The licences and works approvals issued for the Premises since 07/03/2005 are:

Instrument log		
Instrument	**Issued**	**Description**
L8001/2005/1	07/03/2005	New application
L8001/2005/2	20/02/2006	Licence re-issue
L8001/2005/3	06/03/2009	Licence re-issue
L8001/2005/3	03/03/2011	Licence amendment

L8001/2005/4	16/02/2012	Licence re-issue
L8001/2005/5	05/03/2015	Licence re-issue; format updated
L8001/2005/5	25/11/2016	Licence amendment- increase design capacity of the composting plant from 25,000 tonnes to 100,000 tonnes per year and to include category 61 to the Licence for the acceptance of liquid waste composting inputs

Severance

It is the intent of these Licence conditions that they shall operate so that, if a condition or a part of a condition is beyond the power of this Licence to impose, or is otherwise *ultra vires* or invalid, that condition or part of a condition shall be severed and the remainder of these conditions shall nevertheless be valid to the extent that they are within the power of this Licence to impose and are not otherwise *ultra vires* or invalid.

END OF INTRODUCTION

Licence conditions

1 General

1.1 Interpretation

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

1.1.2 For the purposes of this Licence, unless the contrary intention appears:

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

'Annual Audit Compliance Report' means a report in a format approved by the CEO as presented by the Licensee or as specified by the CEO from time to time and published on the Department's website;

'annual period' means a 12 month period commencing from 1 January until 31 December in the same year;

'ARI' means Average Recurrence Interval;

'AS 4454'means Australian Standard AS 4454 *Composts, soil conditioners and mulches*;

'biosolids' means solid, semi-solid or slurry material produced by the treatment of sewage (sewage sludge);

'black cockatoo habitat tree/s' means trees that have a diameter, measured at 1.5 metres from the base of the tree, of 30 centimetres or greater;

'black cockatoo habitat document' means *Black Cockatoo Habitat Survey by Bioscience Integrating Resource Management for NutraRich;*

'fauna specialist' means a person who holds a tertiary qualification specializing in environmental science or equivalent, and has a minimum of 2 years work experience in fauna identification and surveys of fauna native to the region being inspected or surveyed, or who is approved by the CEO as a suitable fauna specialist for the bioregion, and who holds a valid fauna licence issued under the *Wildlife Conservation Act 1950*;

'blends' means a mix or dilution of biosolids with other materials without further treatment;

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

'CEO' for the purpose of correspondence or notification means;

Chief Executive Officer
Department Div.3 Pt.V EP Act
Locked Bag 33 Cloisters Square
Perth WA 6850
info@der.wa.gov.au;

'CFU' means colony forming units

'compost' means an organic product that has undergone controlled aerobic and thermophilic biological transformation through the composting process;

'composting' means the process whereby organic materials are microbiologically transformed under controlled aerobic conditions.

'controlled waste' has the definition in *Environmental Protection (Controlled Waste) Regulations 2004*;

'Department' means the department established under s.35 of the Public Sector Management Act 1994 and designated as responsible for the administration of Division 3 Part V of the Environmental Protection Act 1986;

'feedstock' means the organic material used in the composting process and listed in Table 1.3.1;

'green waste' means waste that originates from untreated trees or plants;

'hardstand' means a surface with a permeability of 1 x 10^{-9} metres/second or less;

'leachate' means liquid released by or water that has percolated through waste and which contains some of its constituents;

'Licence' means this Licence numbered L8001/2005/5 and issued under the Act;

'Licensee' means the person or organisation named as Licensee on page 1 of the Licence;

'manure' means any organic product composed mainly of animal excreta;

'pasteurisation' means the process whereby organic materials are treated to significantly reduce the numbers of plant and animal pathogens and plant propagules;

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

'Rotex product' means compost screenings passing through a 15 mm screen which have been sourced from the Southern Metropolitan Regional Council Resource Recovery Centre;

'Schedule 1' means Schedule 1 of this Licence unless otherwise stated;

'Schedule 2' means Schedule 2 of this Licence unless otherwise stated;

'usual working day' means 0800 – 1700 hours, Monday to Friday excluding public holidays in Western Australia;

'Western Australian Guidelines for Biosolids Management' means the document titled 'Western Australian Guidelines for Biosolids Management' published by the Department of Environment and Conservation, and dated December 2012; and

'Works' means:

- the construction of a compost windrow area, leachate collection infrastructure and five leachate dams;
- the construction of secondary containment for existing fuel tanks;
- The construction of earthworks, infrastructure and dams for the diversion and collection of clean surface water runoff;
- the construction of six concrete storage bays for storage of finished products;
- the construction of leachate bunding along northern and eastern boundaries;
- the clearing of native vegetation; and
- the installation of tanks for the storage of septage liquid waste.

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

1.1.4 Any reference to a guideline or code of practice in the Licence 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 guideline or code of practice made during the term of this Licence.

1.2 General conditions

1.2.1 The Licensee shall immediately recover, or remove and dispose of spills of liquid waste (as defined in Table 1.3.1), biosolids, sewage sludge and animal manure outside an engineered containment system.

1.2.2 The Licensee must ensure that the proposed works specified in Column 1 of Table 1.2.2 meets or exceeds the specifications in Column 2 of Table 1.2.2 for the infrastructure in each row of Table 1.2.2.

1.2.3 The Licensee must not depart from the specifications in Table 1.2.2 except:
(a) where such departure is minor in nature and does not materially change or affect the infrastructure; or
(b) where such departure improves the functionality of the infrastructure and does not increase risks to public health, public amenity or the environment;
and all other Conditions in this Licence are still satisfied.

Table 1.2.2: Works specifications

Column 1 Infrastructure[1]	Column 2 Specifications (design and construction)
1. Compost windrow area	1. Compost windrows must be situated on surface with a permeability no greater than $1x10^{-8}$ m/s or equivalent; 2. Constructed or formed to enable the free drainage of leachate from windrows to the leachate containment infrastructure.
2. Infrastructure for the collection of leachate.	Infrastructure for the collection of leachate from the concrete mixing pad, feedstock storage areas, compost windrows and operational areas must conform to the following specifications: i) Must direct all leachate and contaminated runoff to a leachate dam on the premises; ii) Must incorporate berms, bunding, kerbing or swales to prevent liquid run-on and run-off, including runoff from a 24-hour duration, 1 in 20 year ARI critical rainfall event without overflow.
3. Leachate dams	The construction of five leachate dams at the locations specified in Schedule 1 'Site Plan' must conform to the following specifications: 1. Lined with at least 300 mm of clay, insitu compact soil or other material to achieve a permeability of no greater than $1x10^{-9}$ m/s or equivalent over the working life of the pond; 2. Capacity to store a 24-hour duration, 1 in 20 year ARI critical rainfall event without overflow; and 3. Designed so that a minimum top of embankment freeboard of 500 mm is able to be maintained during operation.
4. Leachate bunding	The construction of leachate bunding must conform to the following specifications: 1. Construction is to consist of the excavation of parallel trenches across a zone 100-120 metres wide along the northern boundary and part of the eastern boundary of the premises at locations specified in Schedule 1 'Leachate Bunding Site Layout'; 2. Must incorporate leachate bunding to prevent liquid run-on and run-off including runoff from a 24-hour duration, 1 in 20 year ARI critical rainfall event without overflow and which must direct all leachate to a leachate dam on the premises; 3. Construction to incorporate a maximum of 37,000 tonnes of Rotex product as a soil ameliorant sourced only from Rotex product currently stored onsite; and 4. Trenches containing Rotex product must be constructed to achieve a permeability of no greater than $1x10^{-8}$ m/s or equivalent.

Table 1.2.2: Works specifications	
Column 1 Infrastructure[1]	Column 2 Specifications (design and construction)
5. Septage storage tanks	1. Tanks must be impermeable; 2. Tanks must be located in bunded secondary containment achieving a permeability of no greater than 1 x 10^{-8} m/s or equivalent.
6. Secondary containment for existing fuel tanks	1. Tanks must be located in bunded secondary containment achieving a permeability of no greater than 1 x 10^{-9} m/s or equivalent; 2. Secondary containment must have available storage capacity of at least 110 per cent of the largest leachate storage tank or 25 per cent of the total tankage within the containment system, whichever is larger; 3. Secondary containment must drain liquids to a collection point (sump).

Note 1: The construction of earthworks, infrastructure and dams for the diversion and collection of clean surface water runoff on the premises as well as the construction of six concrete storage bays for storage of finished products is authorised under this licence but is not subject to further specifications or regulatory controls.

1.2.4 Subject to Condition 1.2.4, the Licensee must, at least 21 days prior to the commencement of the Works, provide to the CEO detailed engineering and construction drawings and plans that are certified by a suitably qualified professional engineer that each item of infrastructure specified under items 2 ('Leachate collection infrastructure') and 3 ('Leachate dams') under Column 1 of Table 1.2.2 meets or exceeds the specifications in Column 2 of Table 1.2.2 for the infrastructure in each row of Table 1.2.2.

1.2.5 If any departures outlined in Condition 1.2.3 apply, then the Licensee must provide the CEO with a list of departures which are certified as complying with Condition 1.2.3 at the same time as the certifications under Condition 1.2.6.

1.2.6 The Licensee must submit a construction compliance document to the CEO within one month, following the construction of the Works at the Premises.

1.2.7 The Licensee must ensure the construction compliance document:

(a) is certified by a suitably qualified professional engineer that each item of infrastructure specified under items 2 ('Leachate collection infrastructure'), 3 ('Leachate dams'), 4 ('Leachate bunding'), 5 ('Septage tanks') and 6 ('Secondary containment for existing fuel tanks') under Condition 1.2.3, Table 1.2.2 has been constructed in accordance with the Conditions of the Licence and any documentation submitted under condition 1.2.4 with no material defects;

(b) contains certification from a suitably qualified professional engineer or geotechnical specialist that item 1 ('Compost windrow area') under Condition 1.2.3, Table 1.2.2 meets the specifications for that item outlined in Column 2 of Table 1.2.2;

(c) contains a detailed site plan showing the location and dimensions of site infrastructure relating to composting; feedstock storage areas and liquid waste storage tanks on the premises; and

(d) is signed by a person authorised to represent the Licensee and contain the printed name and position of that person within the company.

1.2.8 The Licensee must not produce more than 25,000 tonnes of compost product in any annual period until the construction compliance document has been submitted in accordance with Condition 1.2.6.

1.2.9 Except for the construction of the leachate bunding, the Licensee must not bury Rotex product onsite.

1.3 Premises operation

1.3.1 The Licensee shall direct all leachate and contaminated stormwater runoff generated from composting activities or the storage of wastes (as defined in Table 1.3.1) on the premises to the leachate collection dams on the premises.

1.3.2 The Licensee shall only accept waste on to the Premises if:

(a) it is of a type listed in Table 1.3.1; and

(b) the quantity accepted is below any quantity limit listed in Table 1.3.1; and
(c) it meets any specification listed in Table 1.3.1.

Table 1.3.1: Waste acceptance

Waste type	Quantity limit (tonnes per annual period)	Description	Specification[1]
Straw	3,000	None specified	None specified
Chaff waste	500	None specified	None specified
Green waste	8,000	None specified	None specified
Grain	3,000	None specified	None specified
Fruit	200	None specified	None specified
Chicken manure and litter	750	None specified	None specified
Animal manure blended with greenwaste	2,000	None specified	Sourced from Perth Zoo
Biosolids and sludge	8,000	Limited to spadeable wastes from wastewater treatment plants	Sourced from Water Corporation
Advanced Waste Treatment-Municipal Solid Waste	21,000	Compost and compost screenings	Sourced from Southern Metropolitan Regional Council, Regional Resource Recovery Centre
Liquid Waste	1,500	Septage waste (K210)[2]	Limited to liquid and solid components from the pump-out of domestic and commercial septic tanks
	3,200	Grease trap waste (K110)[2]	Limited to grease trap waste containing no greater than 10% solids sourced from commercial food premises
	1,500	Waste from food and beverage processing (K200)[2]	Limited to: • Dairy waste; • Vegetable and fruit processing effluent; • Winery wastes; and • Wastes from meat processing

Note 1: Additional requirements for the acceptance of controlled waste (including animal effluent or residues; and vegetable and food processing waste) are set out in the *Environmental Protection (Controlled Waste) Regulations 2004*.
Note 2: Controlled Waste category group and waste code

1.3.3 The Licensee shall ensure that where waste does not meet the waste acceptance criteria set out in condition 1.3.2 it is removed from the Premises by the delivery vehicle or, where that is not possible, stored in a segregated storage area or container and removed to an appropriately authorised facility as soon as practicable.

1.3.4 The Licensee shall ensure that wastes accepted onto the Premises are only subjected to the processes set out in Table 1.3.2 and in accordance with any process limits described in that Table.

Table 1.3.2: Processing of materials		
Waste type	**Process**	**Process requirements**
As detailed in Table 1.3.1	Receipt, handling and storage prior to composting	i) Waste shall not be stored within 20 metres of the Premises boundary.
	Mixing; Treatment by composting and pasteurisation	i) An input nutrient balance (carbon: nitrogen ratio) of 25:1 to 35:1 is to be maintained; ii) Windrows shall be turned regularly to ensure aerobic conditions are maintained; iii) The core temperature of the composting pile is maintained between 55 ºC and 65 ºC for a period of at least three days; iv) Moisture level in the composting piles shall be maintained between 40 to 65 per cent; v) Windrows shall not exceed 3.5 metres high, 5 metres wide and 100 metres long; vi) Liquid waste (as shown in table 1.3.1) or leachate shall not be added to compost outside of the mixing area with a surface permeability of no greater than $1x10^{-9}$ m/s (or equivalent). vii) No more than 30,000 litres of liquid waste shall be added to the dry blended inputs on the mixing pad in any 24 hour period; viii) No liquid waste or leachate shall be added to dry inputs on the mixing pad unless there a complete perimeter of dry feedstock is maintained around the mixing pad during mixing suitable to prevent direct discharge of liquid waste or leachate outside of the mixing pad; ix) No liquid waste or leachate shall be added to dry inputs on the mixing pad if there is pooling or ponding of liquid waste or leachate visible from previous mixing operations; x) Liquid and solid wastes inputs shall be mixed on the mixing pad in a ratio of no more than 90,000 litres of liquid waste per 500 m^3 of dry blended inputs (or equivalent); and xi) Composting must be undertaken on a surface with a permeability no greater than $1x10^{-8}$ m/s (or equivalent).

1.3.5 The Licensee shall ensure that waste is stored and/or contained within infrastructure in accordance with Table 1.3.3 and that the integrity of the containment infrastructure is maintained.

Table 1.3.3: Containment infrastructure		
Containment area/infrastructure	**Material**	**Infrastructure requirements**
Waste and feedstock storage and operational areas	Solid waste types as detailed in Table 1.3.1 (feedstock)	i) Lined to achieve a permeability no greater than than1 x 10^{-8} m/s or equivalent; ii) Draining to leachate pond/s on the premises[1].
Compost mixing pad/ Compost mixing area		
Composting windrow areas[1]	Blended inputs	i) Lined to achieve a permeability no greater than than1 x 10^{-8} m/s or equivalent; ii) Constructed to enable the free drainage of leachate.

Table 1.3.3: Containment infrastructure		
Proposed leachate ponds[1]	Contaminated stormwater and leachate	i) Lined to achieve a permeability no greater than 1 x 10^{-9} m/s or equivalent; ii) A minimum top of embankment freeboard of 500 mm is maintained; iii) Capacity to store a 24 hour duration, 1 in 20 year ARI critical rainfall event without overflow.
Existing leachate ponds	Contaminated stormwater and leachate	i) Lined to achieve a permeability no greater than 1 x 10^{-9} m/s or equivalent; ii) A minimum top of embankment freeboard of 500 mm is maintained.
Drainage channels[1]	Contaminated stormwater and leachate	i) Lined to achieve a permeability no greater than 1 x 10^{-8} m/s or equivalent; ii) Capacity to manage a 24 hour duration, 1 in 20 year ARI critical rainfall event without overflow; iii) Maintained free of debris to enable free drainage
Liquid waste ponds[1]	Grease trap waste	i) Lined to achieve a permeability no greater than 1 x 10^{-8} m/s or equivalent; ii) A minimum top of embankment freeboard of 500 mm is maintained; iii) Capacity to store a 24 hour duration, 1 in 20 year ARI critical rainfall event without overflow.
Septage storage tanks[1]	Septage waste water	i) No more than 500 kL of septage waste to be stored onsite at any time; ii) Tanks must be impermeable; iii) Tanks must be located in bunded secondary containment achieving a permeability of no greater than 1 x 10^{-8} m/s or equivalent.
Secondary containment for existing fuel storage tanks[1]	Fuel utilised in composing process	i) Tanks must be located in bunded secondary containment achieving a permeability of no greater than 1 x 10^{-9} m/s or equivalent; ii) Secondary containment must have available storage capacity of at least 110 per cent of the largest leachate storage tank or 25 per cent of the total tankage within the containment system, whichever is larger; iii) Secondary containment must drain liquids to a collection point (sump)

Note 1: Following submission of construction compliance document in accordance with condition 1.2.6

1.3.6 The Licensee shall ensure that all biosolids and/or partly treated waste water sludge are managed in accordance with the Western Australian Guidelines for Biosolids Management.

1.3.7 The Licensee must provide photographic evidence to the CEO by 21 October 2019 that the four liquid waste ponds (as shown in Schedule 1) are emptied of grease trap waste.

1.3.8 The Licensee shall not accept grease trap waste or liquid waste from food or beverage processing (as shown in table 1.3.1) for storage on the premises.

1.4 Clearing

1.4.1 The Licensee shall not clear more than 6.7 hectares of native vegetation within the area cross-hatched yellow on attached Plan 7136/1 (as depicted in schedule 1).

1.4.2 Prior to undertaking any clearing authorised under this Licence, the Licensee shall engage a fauna specialist to check the black cockatoo habitat tree/s identified within the area cross-hatched yellow on attached Plan 7136/1 as identified within the document '*Black Cockatoo Habitat Survey by Bioscience Integrating Resource Management for NutraRich'*, for the presence of fauna species listed below:
(i) *Calyptorhynchus latirostris* (Carnaby's cockatoo);

(ii) *Calyptorhynchus baudinii* (Baudin's cockatoo); and
(iii) *Calyptorhynchus banksii naso* (forest red-tailed black cockatoo).

1.4.3 Where the presence of fauna is identified under condition 1.4.2 of this Licence, the Licensee shall immediately cease any clearing of native vegetation and contact the CEO to determine a course of action.

2 Monitoring

2.1 General monitoring

2.1.1 The licensee shall ensure that:
(a) all compost samples are collected and preserved in accordance with AS 4454; and
(b) all laboratory samples are submitted to and tested by a laboratory with current NATA accreditation for the parameters being measured.

2.2 Monitoring of inputs and outputs

2.2.1 The Licensee shall undertake the monitoring in Table 2.2.1 according to the specifications in that table.

Table 2.2.1: Monitoring of inputs and outputs

Input/Output	Parameter	Units	Averaging period	Frequency
Each input listed in Table 1.3.1	Waste type as detailed in Table 1.3.1	Tonnes	Annual	Each load arriving at the Premises
Each product or waste output				Each load leaving or rejected from the premises

2.3 Product testing

2.3.1 The Licensee shall undertake the testing of saleable composted products according to the specifications in table 2.3.1.

Table 2.3.1: Product testing

Testing reference	Parameter	Limit	Units	Frequency	Method
Each batch of final compost product which is sold or offered for sale in transactions of 5 m^3 or less	Arsenic	20	mg/kg	As required in AS 4454	Sampling and testing in accordance with AS 4454
	Boron	100	mg/kg		
	Cadmium	1	mg/kg		
	Chromium	100	mg/kg		
	Chromium (VI)	1	mg/kg		
	Copper	100	mg/kg		
	Lead	150	mg/kg		
	Mercury	1	mg/kg		
	Nickel	60	mg/kg		
	Selenium	5	mg/kg		
	Zinc	200	mg/kg		
	DDT/DDD/DDE	0.5	mg/kg		
	Aldrin	0.02	mg/kg		
	Dieldrin	0.02	mg/kg		
	Chlordane	0.02	mg/kg		
	Heptachlor	0.02	mg/kg		

Table 2.3.1: Product testing					
	HCB	0.02	mg/kg		
	Lindane	0.02	mg/kg		
	BHC	0.02	mg/kg		
	PCBs	0.2	mg/kg		
	E. coli	<100	CFU per 1g of dry product	One sample of each compost product, per each 1,000 tonnes per annual period or part thereof of sewage sludge used in the production of that product	Not specified
	Salmonella spp.	< 1	CFU per 50g of dry product		
	Coliphage	<10	CFU per 1g of dry product		

3 Information

3.1 Records

3.1.1 All information and records required by the Licence shall:

(a) be legible;

(b) if amended, be amended in such a way that the original and subsequent amendments remain legible or are capable of retrieval;

(c) except for records listed in 3.1.1(d) be retained for at least 6 years from the date the records were made or until the expiry of the Licence or any subsequent licence; and

(d) for those following records, be retained until the expiry of the Licence and any subsequent licence:

(i) off-site environmental effects; or

(ii) matters which affect the condition of the land or waters.

3.1.2 The Licensee must submit to the CEO within 32 days after the end of the Annual Period, an Annual Audit Compliance Report indicating the extent to which the Licensee has complied with the Conditions in this Licence for the Annual Period.

3.1.3 The Licensee shall implement a complaints management system that as a minimum records the number and details of complaints received concerning the environmental impact of the activities undertaken at the Premises and any action taken in response to the complaint.

3.2 Reporting

3.2.1 The Licensee shall submit to the CEO an Annual Environmental Report within 32 calendar days after the end of the annual period. The report shall contain the information listed in Table 3.2.1 in the format or form specified in that table.

Table 3.2.1: Annual Environmental Report[8]		
Condition or table (if relevant)	**Parameter**	**Format or form[1]**
-	Summary of any failure or malfunction of any pollution control equipment and any environmental incidents that have occurred during the annual period and any action taken	None specified
Table 2.2.1	Inputs and outputs	Tabular

Table 3.2.1: Annual Environmental Report[8]		
-	A comparison, by waste type, of volumes of liquid waste accepted onto the premises versus volumes of liquid waste used onsite for the annual period	Tabular
Table 2.3.1	Product testing	Tabular
3.1.2	Compliance	Annual Audit Compliance Report (AACR)
3.1.3	Complaints summary	None specified

Note 1: Forms are in Schedule 2

3.2.2 The Licensee shall submit the information in Table 3.2.2 to the CEO according to the specifications in that table.

Table 3.2.2: Non-annual reporting requirements				
Condition or table (if relevant)	**Parameter**	**Reporting period**	**Reporting date (after end of the reporting period)**	**Format or form**
1.3.1	Records from supplier confirming that each load of grease trap waste received at the premises has a solids content of no greater than 10%	Not applicable	Within 14 days of the CEOs request	Not specified
1.3.4	Records demonstrating compliance with composting process limit requirements for: • C:N ratio; • volumes of liquid waste added to the mixing pad; • core temperature; and • moisture level	Not applicable	Within 14 days of the CEOs request	Not specified

3.3 Notification

3.3.1 The Licensee shall ensure that the parameters listed in Table 3.3.1 are notified to the CEO in accordance with the notification requirements of the table.

Table 3.3.1: Notification requirements			
Condition or table (if relevant)	**Parameter**	**Notification requirement[1]**	**Format or form[2]**
-	Fire at the premises	As soon as practicable	None specified
1.3.1; 2.3.1	Breach of any limit specified in the Licence	Part A: As soon as practicable as but no later than 5pm of the next usual working day. Part B: As soon as practicable	N1

Note 1: Notification requirements in the Licence shall not negate the requirement to comply with s72 of the Act
Note 2: Forms are in Schedule 2

Schedule 1: Maps

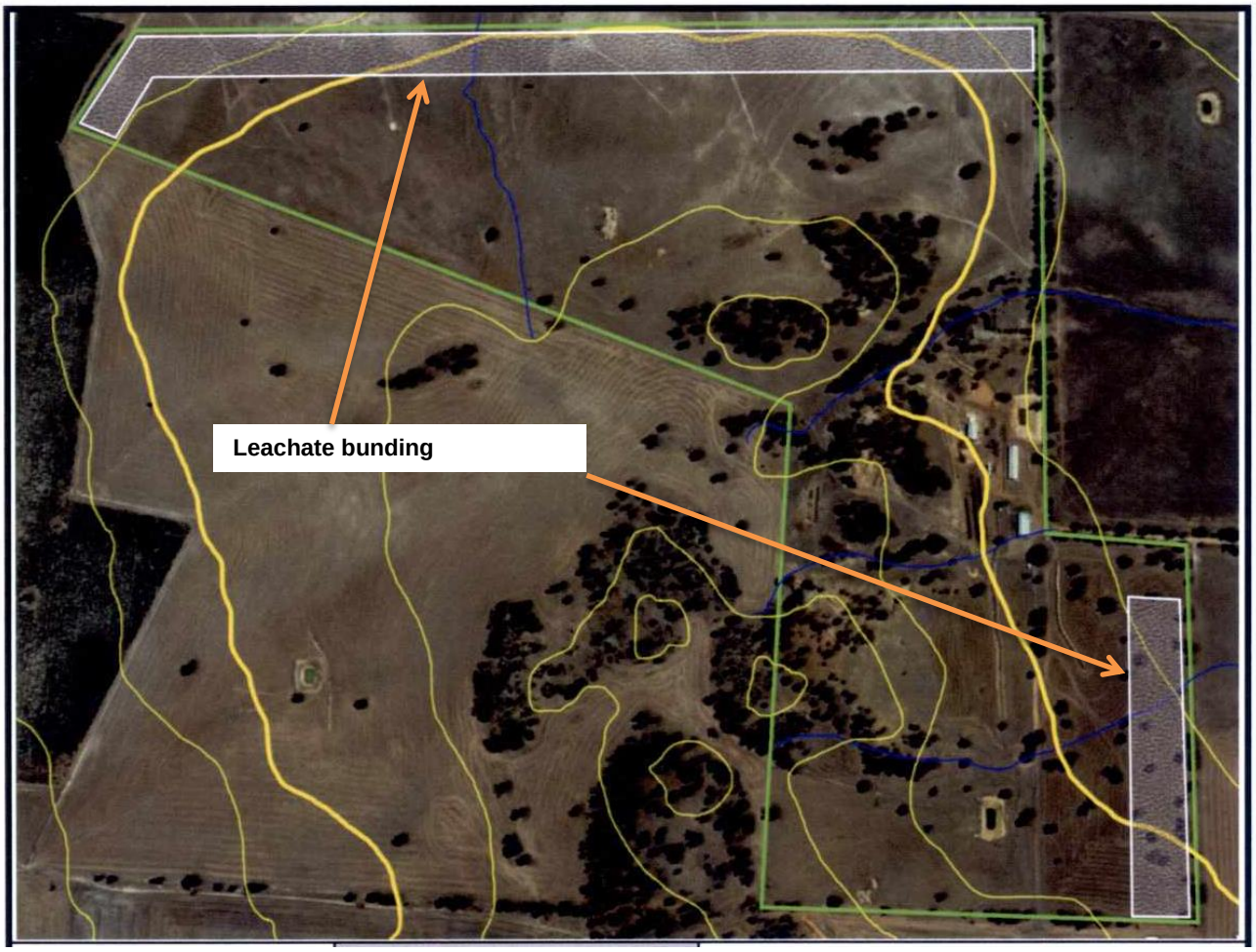
Premises Map

The Premises is shown in the map below. The pink line depicts the Premises boundary.

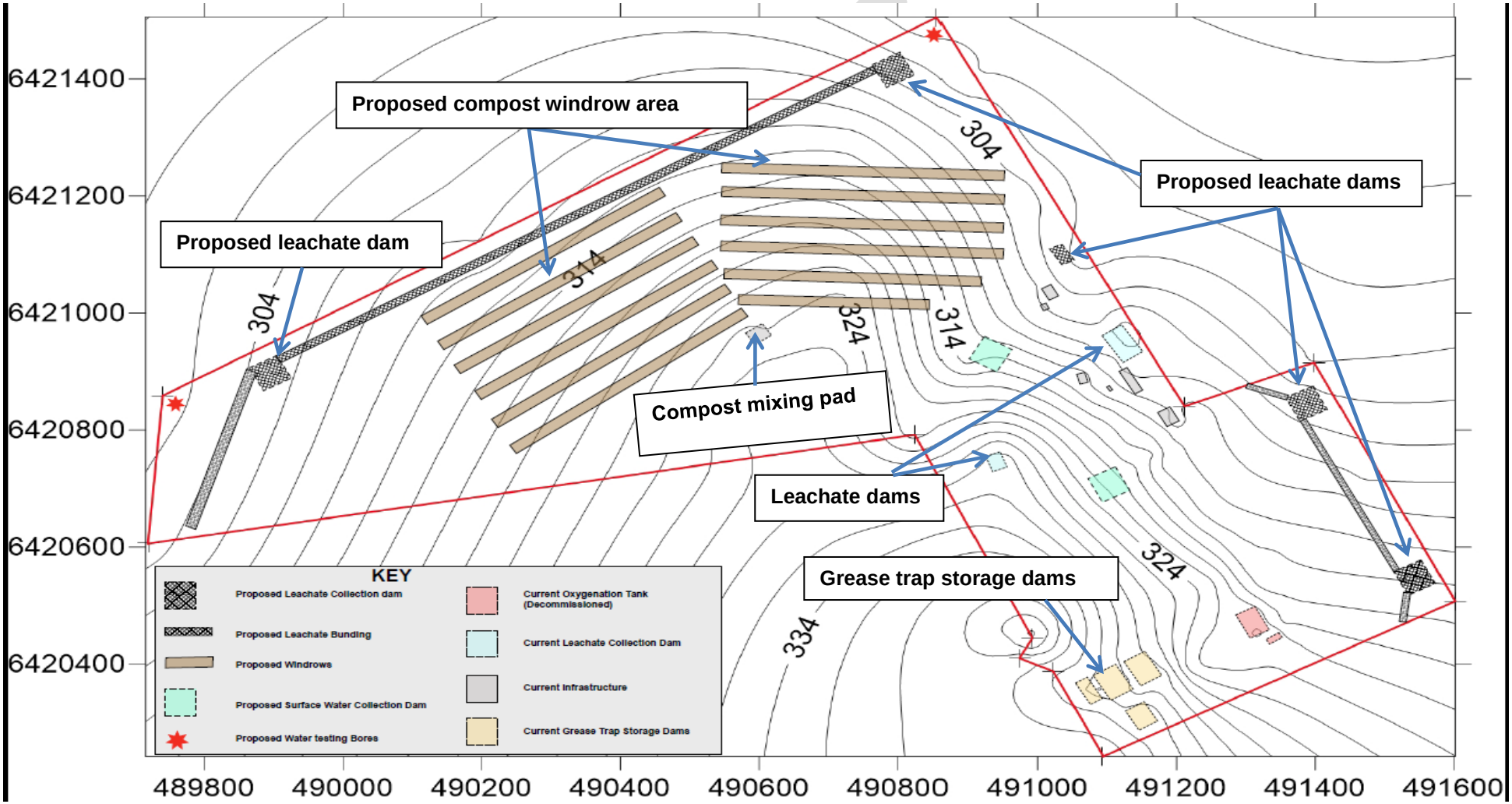
Clearing Map

Leachate Bunding Site Layout

The proposed leachate bunding is shown in the site layout below. The white shaded area depicts the proposed buffer zones.



Site Plan


Proposed compost windrow area
Proposed leachate dam
Proposed leachate dams
Compost mixing pad
Leachate dams
Grease trap storage dams
304
314
324
334
6421400
6421200
6421000
6420800
6420600
6420400
489800
490000
490200
490400
490600
490800
491000
491200
491400
491600
KEY
Proposed Leachate Collection dam
Proposed Leachate Bunding
Proposed Windrows
Proposed Surface Water Collection Dam
Proposed Water testing Bores
Current Oxygenation Tank (Decommissioned)
Current Leachate Collection Dam
Current Infrastructure
Current Grease Trap Storage Dams

Schedule 2: Reporting & notification forms

Licence: L8001/2005/5 Licensee: Nutrarich Pty Ltd
Form: N1 Date of breach:

Notification of detection of the breach of a limit.

These pages outline the information that the operator must provide.
Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

Part A

Licence Number	
Name of operator	
Location of Premises	
Time and date of the detection	

Notification requirements for the breach of a limit	
Emission point reference/ source	
Parameter(s)	
Limit	
Measured value	
Date and time of monitoring	
Measures taken, or intended to be taken, to stop the emission	

Part B

Any more accurate information on the matters for notification under Part A.	
Measures taken, or intended to be taken, to prevent a recurrence of the incident.	
Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment which has been or may be caused by the emission.	
The dates of any previous N1 notifications for the Premises in the preceding 24 months.	

Name	
Post	
Signature on behalf of Nutrarich Pty Ltd	
Date	

Government of Western Australia
Department of Environment Regulation

Decision Document

Environmental Protection Act 1986, Part V

Proponent: Nutrarich Pty Ltd

Licence: L8001/2005/5

Registered office:	Unit 1 144 Beringarra Avenue MALAGA WA 6090
ACN:	111 344 471
Premises address:	Hopelands Farm 435 Chittleborough Road BROOKTON WA 6306 Being Lot 3 on Plan 69746
Issue date:	Friday, 6 March 2015
Commencement date:	Friday, 6 March 2015
Expiry date:	Thursday, 5 March 2034

Decision

Based on the assessment detailed in this document, the Delegated Officer has decided to issue an amended licence. The Delegated Officer considers that in reaching this decision, all relevant considerations have been taken into account.

Decision Document prepared by:	Steve Checker Manager Licensing
Decision Document authorised by:	Ruth Dowd Delegated Officer

Contents

1 Purpose of this document

This decision document explains how DER has assessed and determined the application and provides a record of DER's decision-making processand how relevant factors have been taken into account. Stakeholders should note that this document is limited to DER's assessment and decision making under Part V of the *Environmental Protection Act 1986.* Other approvals may be required for the proposal, and it is the proponent's responsibility to ensure they have all relevant approvals for their Premises.

2 Administrative summary

Administrative details		
Application type	Works Approval ☐ New Licence ☐ Licence amendment ☒ Works Approval amendment ☐	
Activities that cause the premises to become prescribed premises	**Category number(s)**	**Assessed design capacity**
	67A	100,000 tonnes per annual period
	61	6,200 tonnes per annual period
Application verified Application fee paid	Date: N/A Date: N/A	
Works Approval has been complied with Compliance Certificate received	Yes☐ No☐ N/A☒ Yes☐ No☐ N/A☒	
Commercial-in-confidence claim	Yes☐ No☒	
Commercial-in-confidence claim outcome	N/A	
Is the proposal a Major Resource Project?	Yes☐ No☒	
Was the proposal referred to the Environmental Protection Authority (EPA) under Part IV of the	Yes☐ No☒	Referral decision No:

Environmental Protection Act 1986?		Managed under Part V☐ Assessed under Part IV☐
Is the proposal subject to Ministerial Conditions?	Yes☐ No☒	Ministerial statement No: EPA Report No:
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the *Environmental Protection Act 1986*)?	Yes☐ No☒ Department of Water consulted Yes ☐ No ☒	
Is the Premises within an Environmental Protection Policy (EPP)Area Yes☒ No☐ Premises is located with Environmental Protection South West Agriculture Zone Wetlands Policy 1998		
Are the Premises subject to any EPP requirements? Yes☐ No☒		

3 Executive summary of proposal and assessment

Nutrarich Pty Ltd (Nutrarich) produces compost products for retail sale at their Hopelands Farm premises in Brookton. Hopelands Farm is located within the Shire of Brookton in an area zoned as 'Farming'. The town site of Brookton is located approximately 8 km to the south-east of the premises and the nearest residents are located approximately 800 m to the north-west of the premises.

On 21 March 2016, DER received an application to amend licence L8001/2005/5 to authorise works at the premises to extend and expand on current site activities and to increase the Category 67A (compost manufacturing and soil blending) design capacity to 100,000 tonnes per year. The proponent has also applied for the addition of Category 61 (liquid waste facility) for the acceptance of up to 6,200 tonnes of liquid waste per year for use in the composting process.

The following works are proposed under the amendment application:

- construction of up to five leachate collection dams;
- construction of leachate collection infrastructure ;
- construction of bunds to direct surface run-off to collection dams;
- construction of two stormwater collection dams;
- construction of leachate bunding along northern and eastern boundaries;
- installation of tanks for backup storage septage waste;
- construction of six concrete storage bays for loading and sale of product to the public;
- clearing of up to 6.7 hectares of native vegetation; and
- Secondary containment to existing fuel storage tanks

The proponent also intends to undertake the following activities which are not related to the prescribed activities undertaken onsite and are not regulated under this licence

- construction of an access track; and
- construction of site facilities and ancillary infrastructure unrelated to prescribed activities (such as office and toilet blocks).

Operation

The following information in relation to premises operation has been summarised from the application:

> Nutrarich undertakes composting onsite in accordance with *Australian Standard 4454-2012 Composts, soil conditioners and mulches* (AS 4454). Composting is the process of combining carbon and nitrogen sources at optimal moisture levels and aerobic conditions to permit thermophilic microorganisms to break down those sources into compost beneficial for plant health. Compost products are produced by mechanical mixing of feedstock materials which provide carbon and nitrogen sources. Mixed materials are formed into windrows, which are composted in accordance with AS 4454 over a period of months. Feedstocks and liquid waste used onsite are shown below:

Composting inputs	
Waste type	**Maximum annual quantity received in tonnes per year**
Straw	3,000
Chaff waste	500
Green waste	8,000
Grain	3,000
Fruit	200

Composting inputs	
Chicken manure and litter	750
Perth zoo animal manure/greenwaste	2,000
Biosolids and sludge	8,000
Municipal Solid Waste	21,000
Septage[1]	1,500
Grease trap waste[1]	3,200
Food/beverage processing waste[1]	1,500

Note 1 – Liquid wastes

Dry feedstocks are stored on clay hardstand at several locations onsite. Works proposed under this amendment includes upgrades to leachate collection infrastructure to ensure any leachate and contaminated runoff from storage, operational or compost windrow areas is directed to one of the leachate dams on the premises.

Liquid grease trap waste (GTW) is currently stored in four clay-lined ponds at the southern boundary of the premises. The application details that Nutrarich is phasing out the storage of GTW in ponds onsite. It is intended that once the GTW in the ponds is used up, ponds will be cleaned and modified to form a collection basin for clean water from rainfall events, as part of the stormwater control measures. GTW and liquid waste from food/beverage production will be introduced onto the mixing pad directly from the carrier truck with minimal onsite storage required.

Septage wastes will similarly be directly applied with an unspecified number of storage tanks proposed to be installed as 'back up' storage for small volumes of any excess (septage wastes only).

Mixing of solid and liquid inputs

The following information in relation to the mixing of composting inputs has been summarised from the application:

Nutrarich incorporates liquid waste (grease trap waste, septage waste and waste from food and beverage processing) into dry feed stock prior to composting. The process involves (on a weekly basis) the absorption up to 90 tonnes of liquid waste into up to 500 m^3 of dry feedstock on an existing concrete mixing pad as follows:

- Dry inputs are formed into a labyrinth design on the pad. This facilitates liquid absorption and incorporates a dry input perimeter to trap the liquid waste and minimise runoff.
- A truck load of liquid waste (30,000 litres) is introduced into the labyrinth, to be absorbed by the dry feed stock over a 24 hour period.
- After absorption, the inputs are mixed and reformed into the labyrinth. A second load can then be absorbed.
- Absorption is repeated three times over a week (approximately 90,000 litres) resulting in the desired 40% moisture content.
- The carbon to nitrogen (C:N) ratio of inputs is monitored to achieve a desirable 25:1 to 35:1 ratio, with a ratio around 27:1 typically achieved.
- The entire blend is formed into windrows and composted.
- The aerobic digestion of the windrows is monitored in accordance with AS 4454 until all thermophilic activity has reduced.
- Windrows are constructed to allow aeration and an initial 40% moisture content to minimise fire risk.Both moisture content and temperature are monitored daily in accordance with AS 4454.Temperature is maintained between 55 - 60°C in order to

optimise the beneficial activity of the microbial population. When temperature in windrows reaches >55°C for a minimum of three consecutive days, the windrow is turned to cool the material and clean water is introduced when moisture levels fall below 35% to achieve a moisture content between 40 to 65%.When the maturation of compost is reached, it dries to a moisture content of approximately 20% and the product cannot self-heat.

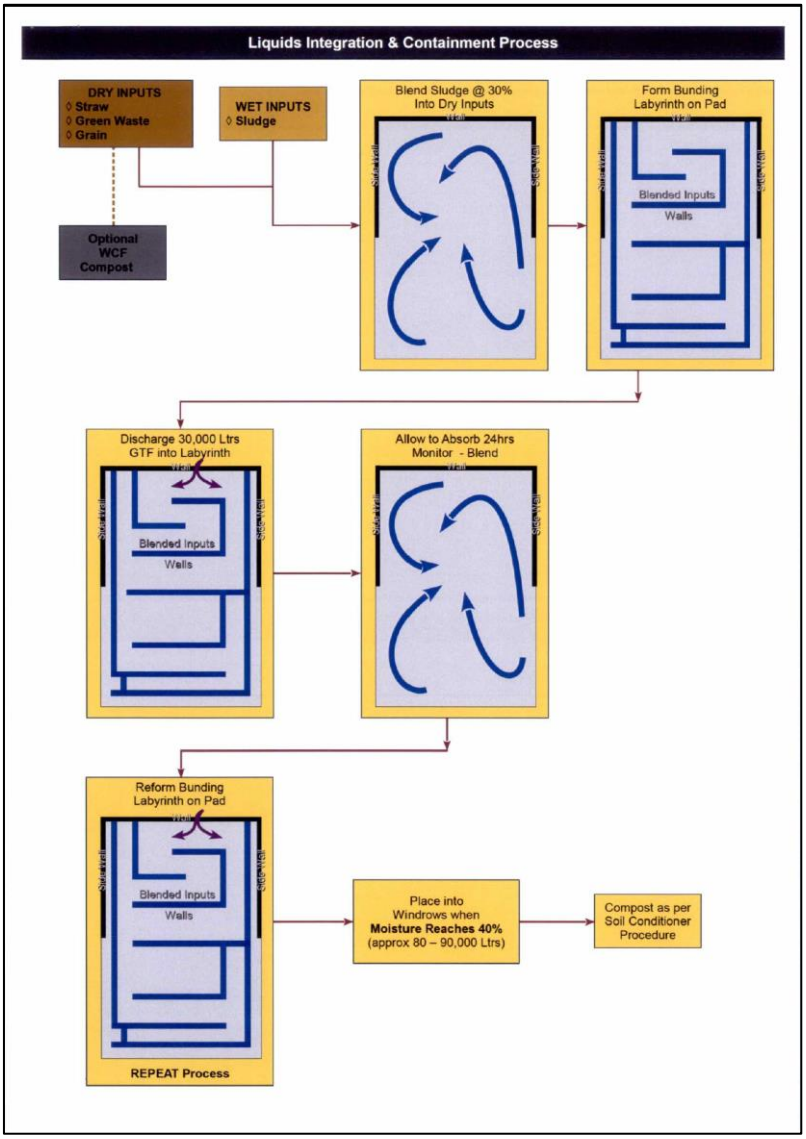


Figure 2: Compost Mixing Process

Compost produced on the premises is screened using two trammel and flat-bed vibrating screens. Screening is conducted on a hardstand area over 1 km from the nearest receptor. Dust from screening is minimised as the product is kept in a moist condition. Both screens are operated by diesel engines that are equipped with silenced exhaust and sound reduction equipment.

Location and siting
The premises is in a low rainfall, high evaporation zone. The application details that clay is found within 0.5 metres of the surface and extends several metres deep. The proponent has submitted permeability tests of soil on the property undertaken by SGS Australia laboratories in January 2016 (samples were marked 'Top ponds' and 'Northeast') which show a coefficient permeability for these soils of 1 x 10^{-9} m/s under 1.5m of hydraulic head.

The following information in relation to location and siting has been summarised from the application:

- Geology: Archean rocks of the Yilgarn Block underlie the Shire of Brookton. The great plateau of Western Australia, referred to locally as the Darling Plateau is the surface expression of the Yilgarn Block. The ancient basement rocks of the Darling Plateau are composed of predominantly granite and metamorphics with localised intrusions of narrow quartz or dolerite dykes.

- Hydrogeology: Groundwater in the Brookton area where present, occurs in fractured crystalline bedrock, in the weathered profile, and in alluvial sediments. Bore yields are low reflecting the lack of good aquifers, and where present are only suitable for domestic or stock watering.

  The presence of groundwater is not uniform. The proponent has indicated that depth to groundwater at the site is in excess of 20 m.

  There are no known paleochannels near the premises. Groundwater if present, is likely to be restricted to small pockets of colluvium and weathering profiles in minor drainage lines, and move towards the lower slopes via weathered sandy clay profiles overlaying basement rocks. Dolerite dykes, if present may, restrict flow in any fractured rock systems. Weathered profiles and fracture systems would be expected to have a low permeability and any groundwater yields would be expected to be low. Rainfall infiltration at the site is likely to be limited given the clay profiles and steep slopes.

- Topography: The land is located high in the landscape with rocky outcrops and is not subject to seasonal or occasional flooding. The land slopes steeply to the north east and north west. Elevations range from 345 mAHD at the highest point on the property, to 295 mAHD at the northern and eastern boundaries.

- Zoning and Land use: The site consists of approximately 169 hectares of mostly cleared agricultural land. It is surrounded by three hills, to the west and south west, the land slopes to the north east towards Mangiding Brook and various tributaries. The property is zoned Rural Industry and is surrounded by agricultural land.

Potential sensitive receptors:
The following information in relation to receptors has been summarised from the application:

- Groundwater: Public Drinking Water Source Areas are located approximately 10 km north east and south east of the site. The Department of Water database shows one licensed drawpoint (GWL 162277) approximately 4 km to the north.

- Surface water: A wetland area is situated approximately 2.6 km to the north of the site but lies within a separate sub catchment. The closest main waterway in the area is Mangiding Brook, which is located 2.8 km to the north east) and joins the Avon River a further 6 km downstream. Small drainage lines and depressions on the property may contribute to the flow during the winter months.

- Existing residences and landowners: The closest neighbouring residence to the site is located approximately 800 m to the east of the site along Chittleborough Road and the next closest is

over 2 km away to the north east. The nearest industry to the site is over 10 km away to the East of the property. There is a pine plantation adjacent to the property along the Eastern boundary line. Consultation with nearby landowners was undertaken and documented as part of the Development Approval for the capacity increase with no objections or concerns received. Residences and sensitive land uses within 10 km of the premises are shown below:

Receptor	Distance from site (km)	Direction from Site
6745, Chittleborough Road (Neighbour)	0.8	ENE
160, Chittleborough Road (Neighbour)	2.4	NE
1007 Hillcroft Road (Neighbour)	2.8	NW
1093 Hillcroft Road (Neighbour)	3.3	S
1005 Hillcroft Road (Neighbour)	4.7	W
733 South Dale Road (Neighbour)	5.5	NW
Brookton Townsite	8.0	SE
Brookton Hospital	9.2	SE
Brookton District High School	9.5	SE

The zoning of receptors within 3 km is 'Farming' which has been taken into account during the assessment process in accordance with *DER's Guidance Statement: land use planning, August 2016*.

Planning approval
The premises is zoned 'Farming' under the Shire of Brookton Town Planning Scheme No. 3 with a land use of 'Industry-Rural'.

The Shire of Brookton granted Development Approval for the project at its 18 December 2014 meeting. Relevant conditions include:

- The Development Approval will lapse if the project is not substantially commenced within two years from the date of issue.
- The total capacity for production and storage of compost and compost input materials at the subject property shall not exceed 100,000 tonnes at any time. A log of onsite storage and production capacities shall be kept and communicated to the Shire every 6 months.
- Hours of operation shall be as indicated in the submitted planning application for the various precincts. On site retail sales of the product shall take place by appointment only and only between the hours of 7:30 am to 3:00 pm Mondays to Fridays.
- Within 2 months of this approval, signage shall be erected in prominent locations on all development site boundaries, informing the public of safety and access restrictions, to the satisfaction of the Shire.
- An Environmental Management Plan shall be implemented for the facility to the satisfaction of the Shire. The odour, noise and dust management procedures contained in the Environmental Management Plan shall be complied with at all times.
- A Fire Management Plan shall be implemented for the facility to the satisfaction of the Shire. The operational guidelines and preventative requirements of the Fire Management Plan shall be adhered to at all times.

- Emitted noise shall comply with *Environmental Protection (Noise) Regulations 1997* at all times.

- Upon notification of a valid written complaint relating to non-compliance with odour, noise and dust management procedures being received by the Shire, the applicant shall cease all operations until such time as the subject of the complaint is remedied to the satisfaction of the Shire.

- All surface water shall be contained on site where practicable.

- The applicant shall prevent any material from entering any adjoining property, where practicable.

- The applicant shall only remove those trees and/or clear native vegetation as required for the development and any associated access.

The Development Approval has been considered in accordance with DER's *Guidance Statement: Land Use Planning*. The Delegated officer considered that:

- Planning approval is current at the time of granting of the amended licence;
- there is sufficient time to allow for substantial commencement of the project by 18 December 2016 in accordance with planning approval conditions; and
- Planning approval is considered sufficient to allow for the granting of an amended licence.

Department of Health Approval
On 15 April 2016, the Department of Health granted product approval (No. F-AA 03781) for 'small retail customers (unrestricted use)' of Nutrarich compost products. Relevant conditions include:

- The Nutrarich treatment process and the Nutrarich application are to be operated in accordance with AS 4454-2012, the Nutrarich Pty Ltd submission and undertakings other than where they may differ from the conditions below.

- The composting products in Schedule 1 shall be compliant with Class 1 contaminant levels of the *Western Australian Guidelines for Biosolids Management*.

- Nutrarich shall maintain current the SAI Global Certificate (No. QEC29017) of compliance with ISO 9001:2008 Quality Management System (QMS). This QMS ensures that the manufacturer has documented procedures in place to demonstrate capability to produce products to requirements, and to prevent unacceptable product being made at all stages of production.

- The QMS must be audited by a registered third party auditor.

- Production control processes of Nutrarich shall ensure that the mixing volumes, moisture content, temperature levels and composting duration all occur to specification and are controlled by operational specifications and where possible for critical control points. Nutrarich shall maintain records that demonstrate the implementation of the submitted Compost Process Control.

- Nutrarich should ensure minimum quality requirements are specified in the contract with the sewage sludge/biosolids supplier.

- The manufacturer shall provide the following information to each end-user of the Nutrarich:
  - Statement of warranty

- Quality Assurance Certification
- Application Manual
- Material Safety Data Sheet (MSDS) or hazardous information label as per AS 4454
- Product Guide
- Health Warning label as per AS 4454

- The quality of the Nutrarich compost complies with the limits in the table below.

Parameter	Compliance Value
E.coli	< 100 cfu/g of dry product
Salmonella	< 1 cfu/50g of dry product
Coliphage	<10 cfu/g of dry product

- As a minimum of one sample of each Nutrarich product, per each 1,000 tonnes/year or part thereof of sewage sludge used in the production being submitted for bacteriological examination in accordance with the above table and chemical examination in accordance with AS 4454- 2012. Copies of all results are to be forwarded to DOH with the annual report.

Consideration of Construction of Leachate Bunding

The licence amendment application identifies the risk of leachate runoff from the composting operations, with particular regard to the site topography and the existing soil type (heavy clay). Due to the topography of the site and the composting operations situated up-gradient, the capture and storage of leachate down-gradient is required.

The licence amendment application includes a proposal to construct leachate bunding along the northern and part of the eastern boundaries of the property. The application details that the establishment of leachate bunding is expected to be of environmental benefit though the provision of leachate management having regard to the topography of the premises.

In addition, the bunding will provide:

- visual screening;
- reduction of wind flow;
- noise/Dust reduction; and
- odour reduction.

The proponent proposes to utilise up to 37,000 tonnes of 5 mm 'Rotex product' screenings (currently onsite) sourced from the Southern Metropolitan Regional Council (SMRC) Regional Resource Recovery Centre in the leachate bunding which will also provide a substrate for tree growth and act as an absorptive agent in the management of leachate from up-gradient composting operations. The application states that Rotex product will be placed into parallel clay-lined trenches and then covered with approximately 1.5 metres of topsoil (fig 1 below). The area will be planted with deep-rooted *Corymbia maculate* to provide a barrier against noise, dust, odour and to visually screen the site from neighbours and the public.

The Delegated Officer considered that:

- The use of leachate bunding incorporating vegetation (such as vegetative environmental buffers) is an established environmental management technique in other jurisdictions;
- The establishment of the leachate bunding is expected to provide the benefits outlined in the application;
- Leachate from the up-gradient composting operations will be directed via onsite infrastructure into the leachate bunding, where it is expected to be largely absorbed by the highly porous

Rotex product, with any residual leachate directed to the proposed leachate dams which form part of the leachate bunding system;

- Contaminants from the leachate and Rotex product are expected to undergo a degree of phytoremediation (i.e the in situ removal, degradation, or containment of contaminants through plant uptake and associated processes) within the leachate bunding and are otherwise expected to be contained within the clay trenched or leachate dams onsite.
- Hopelands Farm presents a singularly suitable environment for this type of leachate management as it has:
    - Little to no groundwater or sensitive receptors in the vicinity of the operation;
    - Suitable natural gradient;
    - Abundant clay soils suitable for the construction of lined trenches; and
    - Several metres depth of heavy clay soil in the area of composting operations and the bunding to facilitate a high degree containment of leachate and Rotex product.

The Delegated Officer has found that the risk of leachate is appropriately controlled through the construction of an extensive down-gradient leachate bunding system using Rotex product and incorporating the planting of vegetation.

Further details of emissions and regulatory controls relating to the construction of the bunding are detailed within the Decision Table in Section 4 of this document.

Consideration of addition of category 61

The proponent has applied for the addition of Category 61 (liquid waste facility) for the acceptance of up to 6,200 tonnes of liquid waste per year for use in the composting process. The proponent has historically accepted and stored liquid grease trap waste for use in the composting process without approval. The Delegated Officer is not aware of any environmental impacts resulting from the unauthorised acceptance and storage of liquid waste on the premises.

Liquid waste can be beneficial to the composting process as a biological activator and as a source of nitrogen. The Delegated Officer considers that liquid wastes accepted to assist in composting processes should be of types compatible with those processes and that proposed volumes accepted should represent a reasonable and necessary input.

The Delegated Officer considered that:

- the types of liquid wastes proposed (being septage, grease trap waste and waste from food/beverage processing) are considered to be potentially beneficial to the composting process. Food/beverage processing waste and grease trap waste are considered high odour risk substances, however the proponent intends to incorporate liquid waste directly from the carrier truck onto the mixing pad with liquid waste storage on site to be phased out. Further details of emissions and regulatory controls relating to odour are detailed in the Decision Table in Section 4 of this document;
- the volume of liquid waste proposed to be accepted (6,200 tonnes per year) represents a relatively minor proportion of the total proposed composting capacity (100,000 tonnes per year);
- all collected leachate is reused in the mixing stage, thereby reducing the amount of liquid waste needed onsite;
- the hydrogeological assessment submitted as part of the application indicates that groundwater is very difficult to source on the property and is not a viable moisture source;
- as incoming liquid waste is proposed to be incorporated into dry feedstock on a load-by-load basis and liquid waste storage is proposed to be phased out onsite, opportunities to accept liquid waste for waste storage/disposal purposes not beneficial to the composting process are limited; and

- the proponent monitors nutrient input ratios in accordance with AS 4454 to ensure that high nitrogen liquid wastes (such as septage) are blended with carbon rich feedstocks such as greenwaste to achieve a C:N ratio within the acceptable range of 25:1 – 35:1.

The Delegated Officer therefore considers the proposal for the addition of Category 61 for the acceptance of up to 6,200 tonnes per annum of septage, grease trap waste and liquid waste from food/beverage processing to be acceptable.

Further details of emissions and regulatory controls relating to liquid waste acceptance are detailed within the Decision Table in Section 4 of this document.

Consideration of expansion of Category 67A activities
The proponent proposes to undertake works onsite (as detailed under 'Executive Summary' above) to enable an expansion in capacity of category 67A (composting and soil blending) activities onsite from 25,000 to 100,000 tonnes per year.

The Delegated Officer considered that:

- the proposed expansion in capacity of category 67A (composting and soil blending) activities from 25,000 to 100,000 tonnes per year represents a significant increase;
- higher volumes of waste inputs and leachate onsite may increase the potential for odour generation;
- increased throughput and storage of feedstock, significantly increased composting windrow sizes and higher product outputs may lead to increases in leachate and contaminated runoff generation;
- the presence of elevated metals in SMRC waste stored onsite may increase the risk of on- and offsite contamination from any leachate/runoff not captured;
- impacts to groundwater from leachate/runoff may be mitigated through presence of low permeability clay soils onsite;
- limited detail on proposed works was provided in the application – size and location of proposed product storage areas were not provided; proposed leachate collection and dam infrastructure specifications were not provided; numbers and sizing of proposed septage storage tanks were not provided;
- a fire management plan incorporating the increased capacity has been approved by the Shire of Brookton;
- development approval for the increased capacity has been granted by the Shire of Brookton; and
- Department of Heath product approval for 100,000 tonnes per year of composting products has been granted.

The Delegated Officer considers that the expansion of category 67A activities to 100,000 tonnes per year is acceptable subject to a number of regulatory controls. Further details of emissions and regulatory controls relating to composting activities onsite are detailed within the Decision Table in Section 4 of this document.

Land clearing activities
The proponent also applied for up to 6.7 hectares of native vegetation to be cleared for the purpose of constructing dams/ponds, road access and composting areas. The environmental assessment of the potential impacts of clearing native vegetation has been undertaken. Further details of regulatory controls relating to the clearing of native vegetation are detailed within the Decision Table in Section 4 and Appendix C of this document.

Potential emissions
The main potential emissions from the premises operations are leachate, contaminated surface runoff and odour. The licence includes a number of regulatory controls, construction specifications and

containment requirements regarding leachate and contaminated runoff. Odour is managed through adherence to AS 4454 composting processes; a moderate separation distance (800 m) to the nearest isolated receptor (with the next closest receptor being 2 km away), preferential direct application of liquid wastes from carrier trucks (as opposed to long-term storage) and via regulatory controls on the licence limiting acceptance of high odour-generating feedstocks, requiring an appropriate input C:N ratio and ensuring aerobic conditions are maintained via aeration of compost windrows.

Further details of emissions and regulatory controls for the proposed amendment are detailed within the Decision Table in Section 4 of this document.

4 Decision table

All applications are assessed in line with the *Environmental Protection Act 1986*, the *Environmental Protection Regulations 1987* and DER's Operational Procedure on Assessing Emissions and Discharges from Prescribed Premises. Where other references have been used in making the decision they are detailed in the decision document.

DECISION TABLE			
Licence Section	**Condition Number L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference Documents**
Introduction	N/A	Table of contents updated. Administrative changes have been included within the Licence amendment process in accordance with DER protocol. Premises description and Licence summary section updated. Instrument log table updated.	N/A
Interpretation	L1.1.1	Definitions updated.	N/A

DECISION TABLE			
Licence Section	**Condition Number L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference Documents**
General conditions	L1.2.1 – 1.2.8	Previous Licence Condition 1.2.1 has removed as it was not consistent with DER's *Guidance Statement: Setting Conditions* as it relates to general advice rather than an enforceable condition. This condition was worded as follows: "*Nothing in the Licence shall be taken to authorise any emission that is not mentioned in the Licence, where the emission amounts to:* *(a) pollution;* *(b) unreasonable emission;* *(c) discharge of waste in circumstances likely to cause pollution; or* *(d) being contrary to any written law*." Previous Licence Condition 1.2.2, relating to the maintenance of pollution control and monitoring equipment, has been removed as it was not consistent with DER's *Guidance Statement: Setting Conditions* in that the condition was not enforceable as the specific equipment or internal management system endorsed was not clearly designated. This condition was worded as follows: "*The Licensee shall operate and maintain all pollution control and monitoring equipment to the manufacturer's specification or any relevant and effective internal management system."* Previous Licence Condition 1.2.3, relating to storage of environmentally hazardous material has been removed as it related to a code of practice which is not administered by DER. The storage of dangerous goods is regulated by the Department of Mines and Petroleum. Condition 1.3.5 has been included to specify containment requirements for fuel used in composting operations. Previous Licence Condition 1.2.3 was worded as follows: "*The Licensee, except where storage is prescribed in section 1.3, shall ensure that environmentally hazardous materials are stored in accordance with the code of practice for the storage and handling of dangerous goods*." Licence Condition 1.2.1 relating to spill management has been updated to	General provisions of the *Environmental Protection Act 1986* *Environmental Protection (Unauthorised Discharges) Regulations 2004* DER's *Guidance Statement: Regulatory Principles* DER's *Guidance Statement: Setting Conditions* DER's *Guidance Statement: Licence and works approval process*

DECISION TABLE			
Licence Section	**Condition Number L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference Documents**
		only reference wastes approved under the licence rather than the previous broad term 'environmentally hazardous materials' which may potentially regulate materials beyond the scope of the licence and is not in accordance with DER's *Guidance Statement: Licence and works approval process.* **Construction** Conditions 1.2.2 and 1.2.3 have been added to the Licence to detail the design and construction specifications for approved works at the premises. Further information relating to the assessment and decision-making in relation to this requirement is provided in Appendix B. Condition 1.2.4 has been added to the Licence which requires the Licensee to submit construction plans and drawings prior to construction as sufficient detail on proposed infrastructure was not provided in the application. Further information relating to the assessment and decision-making in relation to this requirement is provided in Appendix B. Conditions 1.2.5 – 1.2.7 relate to the certification of works approved under the licence. Licence condition 1.2.8 has been added to the Licence to restrict the premises Category 67A operations to 25,000 tonnes/year until the specifications and compliance documents for the works upgrade have been submitted. Further information relating to the assessment and decision-making in relation to conditions 1.2.5-1.2.8 are provided in Appendix B.	
Premises operation	L1.3.2 – 1.3.7	Licence condition 1.3.2, which details wastes permitted to be received onsite, has been updated to include liquid wastes approved to be accepted onsite. More detail on this decision is included in 'Consideration of addition of category 61' in the Executive Summary above.	General provisions of the *Environmental Protection Act 1986* DER's *Guidance*

DECISION TABLE			
Licence Section	**Condition Number L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference Documents**
		Previous Licence condition 1.3.4 has been updated to specify an appropriate carbon to nitrogen ratio (see risk assessment for 'Odour' below) and to amend compost windrow specifications in accordance with the fire management plan approved by the Shire of Brookton. Previous requirement (vii) relating to compliance of final products with AS 4454 as worded as follows: "*Ensure that as a minimum, compost meets the physical and chemical requirements set out in AS 4454*." This requirement has been replaced by specific final product testing requirements in condition 2.3.1 which now relate to the prevention of pollution and environmental harm rather than the broader requirements of AS 4454 (see risk assessment for 'Product testing' below). Condition 1.3.5 has been added to the Licence to ensure that waste is stored within suitable containment infrastructure onsite. Further information relating to the assessment and decision-making in relation to this requirement is provided in Appendix B.	*Statement: Land use planning* *Environmental Protection (Unauthorised Discharges) Regulations 2004* DER's *Guidance Statement: Regulatory Principles* DER's *Guidance Statement: Setting Conditions*
Clearing	L1.4.1-1.4.3	Refer to Appendix C for a detailed risk assessment	*Wildlife Conservation Act 1950*
Fugitive emissions	N/A	<u>Emission Description</u> *Emission*: Nuisance dust may be generated during the delivery and handing of waste; during the composting process (turning of windrows) and during screening operations. *Impact*: Dust impacts are expected to be limited as the facility is located in a farming zone, inherently subject to dust-generating activities. It is approximately 800 m from the nearest isolated residence and the next nearest is over 2 km away. DER has no record of complaints regarding this facility. *Controls*: The receipt of material is carried out in a protected area prior to being used in the composting process. Suitable moisture levels are	General provisions of the *Environmental Protection Act 1986* DER's *Guidance Statement: Regulatory Principles* DER's *Guidance Statement: Setting Conditions*

DECISION TABLE			
Licence Section	**Condition Number L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference Documents**
		maintained throughout the process. Screening activities are conducted approximately 1 km from the nearest receptor. The proponent advises adherence to the Shire of Brookton Rural Business Licence Policy which requires suspension of operations in high winds. Risk Rating *Consequence*: Insignificant *Likelihood*: Possible *Risk ratin*g: Low Regulatory Controls. The previous Licence Condition 2.6 relating to generic dust management onsite has been removed. DER has no record of complaints regarding this facility. Separation to receptors and the maintenance of moisture levels in processes and product is expected to mitigate dust issues. Any impacts from emissions from dust can be sufficiently regulated under section 49 of the *Environmental Protection Act 1986*. Residual Risk *Consequence*: Insignificant *Likelihood*: Possible *Risk rating*: Low	
Odour	L1.3.1; L1.3.5	Emission Description *Emission*: Odour from composting activities, leachate dams and waste storage. *Impact*: The premises maintains a current separation of approximately 800 m to the nearest isolated receptor with next receptors being 2 km from the premises. Whilst no odour impacts are known from current operations (at licence capacity 25,000 tonnes per annum), a capacity increase to 100,000 tonnes per annum is significant and may alter the odour profile of the premises. *Controls*: Composting conducted to AS 4544 standards; liquid waste storage	General provisions of the *Environmental Protection Act 1986* DER's *Guidance Statement: Regulatory Principles* DER's *Guidance Statement: Setting*

DECISION TABLE			
Licence Section	**Condition Number L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference Documents**
		being phased out - most incoming liquid waste inputs are to be directly incorporated with dry feedstock; minimal disturbance of leachate dams; composting aeration, turning and C:N ratio in accordance with AS 4454; no anaerobic storage of wastes proposed. Risk Assessment *Consequence:* Minor *Likelihood:* Possible *Risk rating:* Moderate The zoning of nearest receptors have been considered in accordance with DER's *Guidance Statement: Land Use Planning.* It is noted that the single isolated receptor within 800 m and next two nearest receptors (within 3 km) are zoned 'Farming' and are therefore considered likely to have higher exposure and tolerance to 'organic' type odours than 'residential' zoned premises. Regulatory Controls Inputs with a low C:N ratio (i.e. nitrogen rich sources such as biosolids, sludge, grease trap/food waste) can be significant sources of odour. The annual acceptance of these wastes is limited in Condition 1.3.1 which will assist in mitigating risks of odour from these inputs. Condition 1.3.1 also limits the solids content of grease trap waste to no greater than 10% which reduces the odour generating potential of the grease trap waste. Odorous ammonia gas can be generated from excess nitrogen in the composting process. Condition 1.3.4 requires that an appropriate C:N ratio of inputs (between 25:1 to 35:1) is maintained which will ensure that ammonia is less likely to be produced from excess nitrogen and that sufficient nitrogen is retained to ensure that proper decomposition occurs .	*Conditions* DER's *Guidance Statement: Land Use Planning*

DECISION TABLE			
Licence Section	**Condition Number L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference Documents**
		Storage of liquid wastes, particularly grease trap and food/beverage processing waste, can cause odour impacts. The proponent has advised that liquid waste storage is being phased out at the premises. Licence condition 1.3.7 has been added to the Licence which requires all existing liquid waste ponds are emptied of grease trap waste by 1 February 2017. No further storage past this date of grease trap waste or food/beverage processing waste is permitted under condition 1.3.8. An annual balance of liquid waste inputs vs utilisation is required under Condition 3.2.1 to verify that liquid waste storage onsite is in accordance with proposed operations. As the volume of proposed septage storage onsite has not been specified in the application, it has been limited to 500 kL in Condition 1.3.5 on the licence – representing approximately 5.5 weeks of liquid waste utilisation which is considered a suitable 'back up' storage volume by the Delegated Officer. Previous licence condition 2.7 relating to general odour impacts has been removed as general odour emissions can be sufficiently regulated under section 49 of the *Environmental Protection Act 1986.* <u>Residual Risk</u> *Consequence:* Minor *Likelihood:* Unlikely *Risk rating:* Moderate	

DECISION TABLE			
Licence Section	**Condition Number L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference Documents**
Noise	N/A	The application provides an overview of noise generating equipment onsite, including an approximate calculation of (single source) noise received at the nearest receptor (800 m away) being a maximum of 29.92 dB(A) from screening operations – which is considered low and unlikely to cause impacts. As operations occur in daylight hours, when allowable noise levels are greater, noise emissions are expected to comply with the *Environmental Protection (Noise) Regulations 1997*. The provisions of the *Environmental Protection (Noise) Regulations 1997* will apply in the event of noise impacts. The Shire of Brookton Development Approval granted 18 December 2014 restricts hours of operation to daylight hours (6 am to 6 pm).	General provisions of the *Environmental Protection Act 1986* *Environmental Protection (Noise) Regulations 1997* DER's *Guidance Statement: Regulatory Principles* DER's *Guidance Statement: Setting Conditions* DER's *Guidance Statement: Land Use Planning* Shire of Brookton Development Approval 18 December 2014
Monitoring general	L2.1.1	L2.1.1 has been added to the licence to ensure that sampling is conducted in accordance with the methodology outlined in the appropriate Australian Standard for compost manufacturing, being AS 4554.	Australian Standard AS 4454 *Composts, soil conditioners and mulches*

DECISION TABLE			
Licence Section	**Condition Number L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference Documents**
Monitoring of inputs and outputs	L2.2.1	L2.2.1 has been added to the Licence to ensure that each load of waste received at the premises and any load leaving or rejected from the premises is recorded to verify compliance with the conditions of licence.	General provisions of the *Environmental Protection Act 1986* DER's *Guidance Statement: Regulatory Principles* DER's *Guidance Statement: Setting Conditions*
Product testing	L2.3.1	Emission Description *Emission*: Elevated pathogen and contaminant levels in saleable compost products. *Impact*: Composts are produced on site from feedstocks which include biosolids, sewage sludge and SMRC wastes which contain elevated heavy metals. Due to the diverse sources of wastewater, biosolids may contain chemical contaminants including human and veterinary pharmaceuticals, and metals and pesticides from domestic and industrial sources. Biosolids which are not appropriately treated may contain pathogenic microorganisms including bacteria, viruses and helminths. Any products supplied for off-site use with elevated pathogen or contaminant levels may cause contamination of offsite land, groundwater and surface water and/or health impacts to end users. *Controls*: Composting and testing of final products to AS 4544 standards; compliance with Department of Health Product Approval - F-AA 03781 Risk Assessment *Consequence:* Moderate *Likelihood:* Possible *Risk rating:* Moderate	Australian Standard AS 4454 *Composts, soil conditioners and mulches* Department of Health Product Approval - F-AA 03781

DECISION TABLE			
Licence Section	**Condition Number L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference Documents**
		Regulatory Controls L2.3.1 has been added to the Licence to specify the chemical contaminant parameter limits from AS 4554 and pathogen limits consistent with Department of Health Product Approval - F-AA 03781. Adherence to these limits will mitigate risks associated with off-site contamination and end-user health impacts. The Delegated Officer considers that product testing is suitable to protect small-use customers that are taking small quantities of product and that large-scale end users can adequately be dealt with through contract. The requirements for product testing have therefore been limited to compost products sold or offered for sale in individual transactions of 5 m^3 or less. Residual Risk *Consequence:* Moderate *Likelihood:* Unlikely *Risk rating:* Moderate	
Improvements	N/A	Previous condition 4.1.1 (IR1) included an improvement requirement related to secondary containment for fuel and agricultural chemicals. This condition has been removed as it is considered that the licence should not regulate containment infrastructure relating to non-prescribed activities on site such as agricultural chemical use. Condition 1.3.5 has been added to capture containment infrastructure requirements onsite which includes storage requirements for any fuel used in composting operations. Condition 4.1.1 (IR1) was worded as follows: "*The Licensee shall construct concrete bunds around all above ground fuel storage tanks, as depicted in Schedule 1, and the agricultural chemicals storage shed, such that the bunding and storage areas comply with the code of practice for the storage and handling of dangerous goods.*" *Date of completion – 01/05/2015.* Previous condition 4.1.1 (IR2) has been removed as it related to issues which are now addressed under the current licence amendment. The condition	General provisions of the *Environmental Protection Act 1986* DER's *Guidance Statement: Regulatory Principles* DER's *Guidance Statement: Setting Conditions* DER's *Guidance Statement: Licence and Works Approval Process*

DECISION TABLE			
Licence Section	**Condition Number L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference Documents**
		was worded as follows: *"The Licensee shall submit to the CEO a Site Management Report that assesses the suitability of controls and management practices at the Premises for preventing or abating pollution or environmental harm from the composting operations. The report shall include details and a timeframe for completion of the following as minimum(locations depicted in Schedule 1):* *(a) Construction of a suitable bunded hard stand beneath and surrounding waste storage and composting areas, including waste receipt, storage and mixing areas;* *(b) Design and construction of leachate ponds to be:* *(i) Lined to achieve a permeability of less than or equal to 10-9 m/s;* *(ii) A minimum top of embankment freeboard of 300 mm to be maintained at all times; and* *(iii) Capacity to store a 72 hour duration, 1 in 10 year ARI critical rainfall event without overflow.* *(c) Design and construction of drainage channels lined to achieve a permeability of less than or equal to 10-9 m/s.* *(d) Any other controls or management practices requiring upgrading as identified in the Site Management Report." Date of completion – 01/05/2015.*	

DECISION TABLE			
Licence Section	**Condition Number L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference Documents**
Information	L3.1.2; L3.2.1; L3.3.1	Previous Condition 5.1.1 has been removed as it has been identified as redundant. This condition related to maintaining awareness of conditions of Licence, which is not considered a relevant factor in determining compliance. The wording of this condition was as follows: "*The Licensee shall ensure that:* *(a) any person left in charge of the Premises is aware of the conditions of the Licence and has access at all times to the Licence or copies thereof; and* *(b) any person who performs tasks on the Premises is informed of all of the conditions of the Licence that relate to the tasks which that person is performing."* Condition 3.1.2 relating to the Annual Audit Compliance Report (AACR) has been updated as a standalone reporting requirement as per current DER licensing process and to reflect that the AACR template is now available on DER's website. Tables 3.2.1 and 3.3.1 updated to reflect the current requirements of the Licence. Condition 3.2.2 requires records of process limits under Condition 1.3.4 to be kept and to be provided to the CEO on request.	General provisions of the *Environmental Protection Act 1986* DER's *Guidance Statement: Regulatory Principles* DER's *Guidance Statement: Setting Conditions*
Licence Duration	N/A	The licence was amended on 19/4/2016 to extend the expiry date until 5/3/2034. No further change of this date is proposed as part of this amendment.	DER's *Guidance statement: Licence Duration.*

5 Advertisement and consultationtable

Date	Event	Comments received/Notes	How comments were taken into consideration
26/8/2016	Proponent sent a copy of draft instrument.	Applicant requested an onsite meeting	Onsite meeting and site visit at Hopelands farm conducted on 7/10/2016 with Mr Jason Chittleborough (Nutrarich) and DER's Director General, Director Strategy and Reform, Manager Licensing (Waste North) and Senior Investigator. Outcomes of the meeting and findings from the site visit have been captured in the amended licence.
27/10/2016	Proponent sent a revised copy of draft instrument.	No comments received, waiver form was signed and returned to DER on 24/11/2016.	Amended licence issued.

6 Risk Assessment

Note: This matrix is taken from the DER Corporate Policy Statement No. 07 - Operational Risk Management

Table 1: Emissions Risk Matrix

Likelihood	Consequence				
	Insignificant	Minor	Moderate	Major	Severe
Almost Certain	Moderate	High	High	Extreme	Extreme
Likely	Moderate	Moderate	High	High	Extreme
Possible	Low	Moderate	Moderate	High	Extreme
Unlikely	Low	Moderate	Moderate	Moderate	High
Rare	Low	Low	Moderate	Moderate	High

Appendix B

Leachate and contaminated runoff risk assessment

The proposed expansion in capacity of category 67A (composting and soil blending) activities from 25,000 to 100,000 tonnes per year represents a significant potential for increases in leachate and contaminated runoff generation.

The proponent proposes to undertake works onsite to manage leachate and contaminated stormwater runoff from feedstock storage areas, the concrete mixing pad, operational areas and composting windrows. Fuel storage secondary containment is also proposed to be upgraded. Limited detail on proposed works was provided in the application – size and location of proposed/existing product/feedstock storage areas were not provided; proposed leachate collection and dam infrastructure specifications were not provided; numbers and sizing of proposed septage storage tanks were not provided; specifications on fuel storage secondary containment was not provided.

Emission: Leachate and contaminated runoff from feedstock and waste storage areas, the concrete mixing pad, operational areas and composting windrows.
Impact: Composts are produced on site from feedstocks which include biosolids, sewage sludge and SMRC wastes which contains elevated heavy metals. Leachate or contaminated stormwater runoff from composting and feedstock storage may contain elevated metals, nutrients and other contaminants which may cause contamination of on-and off-site land and surface water drainage systems if leachate is not properly contained.
Controls: Proposed leachate management infrastructure; porosity of feedstock; diversion of uncontaminated runoff away from composting operations; maintenance of appropriate moisture levels; appropriate application of liquid wastes.

Risk Assessment
Consequence: Moderate
Likelihood: Possible
Risk Rating: Moderate

Regulatory Controls
Detailed plans or specifications of the proposed Works were not provided in the application therefore design and performance specifications have been set as a requirement in Condition 1.2.2. Condition 1.2.3 also allows for minor deviation from the design and construction specifications where such departures are appropriate to improve the functionality of the infrastructure and does not increase risks to public health, public amenity or the environment.

The Delegated Officer considers that all leachate collection infrastructure and leachate dams on the premises should be designed to contain a 1 in 20 year ARI critical rainfall event, which provides a commensurate level of containment for the risk of leachate/runoff impacts. A 1 in 20 year ARI critical rainfall event has approximately a 5% chance of occurring in a given year and isolated overtopping or non-containment events below this frequency are considered to present an acceptable risk.

The Delegated Officer considers composting hardstands, leachate dams and other waste containment areas must be designed and constructed so as to not present an unacceptable risk of contamination of the surrounding land. Condition 1.2.2 requires construction associated with the conveyance of leachate and contaminated runoff from the composting operation (feedstock and windrow storage areas, compost mixing pad and drainage channels) to be situated on a low permeability surface (permeability of $1x10^{-8}$ m/s or equivalent). This is considered suitable due to the heavy soil profile onsite and since the design specification in Table 1.2.2 requires for the free drainage of leachate from these areas, they are not expected to retain liquid contaminants.

Condition 1.2.2 also requires that all leachate ponds achieve a permeability of no greater than $1x10^{-9}$ m/s or equivalent since they will retain leachate on a long term basis and will be more subject to seepage emissions. Information relating to the site provided in the application document states that clay is found within 0.5 metres of the surface and sites permeability has been tested and found to equal or exceed 1×10^{-9} m/s.

Construction specifications for proposed secondary containment for existing fuel tanks in condition 1.2.2 have also been included from the relevant requirements of documentation referenced under previous condition 4.1.1.

Condition 1.3.5 adopts the containment requirements of the above construction specifications. As the volume of proposed septage storage onsite has not been specified, it has been limited to 500 kL on the licence – representing approximately 5.5 weeks of liquid waste utilisation which is considered a suitable 'back up' storage volume by the Delegated Officer. Fuel storage requirements have also been updated from the relevant requirements of documentation referenced under previous condition 4.1.1.

Since the specifications of the Works were not fully defined in the application, Condition 1.2.4 has been added to the Licence which requires the Licensee to submit construction plans and drawings prior to construction. This will verify that the proposed works are able to meet the requirements of licence prior to construction.

Condition 1.2.7 has been added to the Licence which requires that works are confirmed as compliant with the licence construction specifications by a suitably qualified person. The Licensee is also required to submit a detailed site plan showing the location and dimensions of site infrastructure relating to composting; feedstock storage areas and liquid waste storage tanks on the premises as this detail was not included in the application.

Licence condition 1.2.8 has been added to the Licence to restrict the premises Category 67A operations to the previously 25,000 tonnes/year until the specifications and compliance documents for the works upgrade have been submitted. Adequate performance of the containment and leachate management infrastructure is able to be demonstrated only following further design and certification stages and the Delegated Officer considers that an increase in capacity is only appropriate once these requirements have been finalised.

Residual Risk
Consequence: Minor
Likelihood: Unlikely
Risk Rating: Moderate

Appendix C

Government of Western Australia
Department of Environment Regulation

Clearing Assessment Report

1. Application details

1.1. Permit application details

Permit application No.: CPS 7136/1
Permit type: Licence Amendment (L8001/2005/5)

1.2. Applicant details

Applicant's name: NutraRich Pty Ltd

1.3. Property details

Property: LOT 3 ON PLAN 69746, BROOKTON
Colloquial name:
Local Government Authority: BROOKTON, SHIRE OF
DER Region: Greater Swan
DPaW District: GREAT SOUTHERN
LCDC:
Localities: BROOKTON

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
6.7		Mechanical Removal	Waste disposal/management

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description	Clearing Description	Vegetation Condition	Comment
The vegetation within the application area is mapped as Beard Vegetation Association 352 which is described as Medium woodland; York gum (Shepherd et al, 2001).	The application is to clear up to 6.7 hectares of native vegetation, which is predominantly parkland cleared, for the purpose of constructing dams/ponds, road access and composting areas. This environmental assessment of the potential impacts of clearing native vegetation is undertaken in conjunction with an assessment of a licence amendment application.	Degraded; Structure severely disturbed; regeneration to good condition requires intensive management (Keighery, 1994).	The vegetation type and condition was determined through a review of aerial imagery and information provided by the applicant (NutraRich, 2016).

3. Assessment of application against clearing principles

Comments

The application is to clear up to 6.7 hectares of native vegetation, which is predominantly parkland cleared, for the purpose of constructing dams/ponds, road access and composting areas. This environmental assessment of the potential impacts of clearing native vegetation is undertaken in conjunction with an assessment of a licence amendment application. The application area is considered to be in degraded (Keighery, 1994) condition.

The application area includes, hilltops and some sloping areas of the property, comprising of mixed woodland of jarrah (*Eucalyptus marginata*), wandoo (*Eucalyptus wandoo*) and powderbark wandoo (*Eucalyptus accedens*). Jam (*Acacia acuminata*) and rock sheoak (*Allocasuarina huegeliana*) are also common to the site. Flooded gum (*Eucalyptus rudis*) and York gum (*Eucalyptus loxophleba*) are likely growing in association with one of five non-perennial watercourses within the application area (NutraRich, 2016). All watercourses within the application area are significantly modified and managed through surface water flow infrastructure (i.e. dams). It is not likely that the proposed clearing will have a significant environmental impact on these watercourses.

A habitat survey, conducted by Bioscience, of the property was undertaken on 12 July 2016 to determine the presence and significance of any potential nesting and feeding habitat for black cockatoos (Bioscience, 2016). 156 wandoo trees and mallet with a trunk diameter of 30 centimeters or greater were recorded. The survey reported no observations of feeding by black cockatoos and no Carnaby's black cockatoo were observed on site during the inspection. Three of the trees were observed to have large and numerous hollows and are considered to be habitat trees. The applicant proposes to clear approximately 20 potential habitat trees (out of the 156 observed) of which three contain hollows (Bioscience, 2016).

The application area may contain habitat suitable for conservation significant fauna and includes vegetation associated with watercourses therefore the clearing as proposed is at variance to clearing principle (f) and may be at variance to clearing principle (b). Fauna management measures requiring trees with suitable hollows to

be checked prior to clearing would assist in minimising the potential impact to individual nesting black cockatoos.

Given the size of the application area and the condition of the vegetation it is unlikely that the application area contains a high level of biological diversity, includes or supports rare flora or threatened ecological communities, is significant as a remnant, or contributes to the maintenance of a conservation area. The proposed clearing is not likely to significantly degrade water quality, cause appreciable land degradation or increase the incidence or intensity of flooding in the local area.

Given the above the proposed clearing is not likely to be at variance to the remaining clearing principles.

Methodology References:
-Bioscience (2016)
-Keighery, B.J. (1994)
-NutraRich (2016)
GIS Databases:
-SAC Bio datasets (3 August 2016)
-DPaW managed lands
-Hydrography, linear
-Pre-European vegetation

Planning instruments and other relevant matters.

Comments The applicant has applied to amend their existing licence which includes the proposed clearing for dams/ponds, road access and composting facilities.

The application area occurs within the Avon River catchment area, a *Rights in Water and Irrigation Act 1914* (RIWI Act) surface water area. If the bed and banks of watercourses that occur within the application area are proposed to be impacted, approvals under the RIWI Act may be required.

No aboriginal sites of significance occur within the application area.

The application area is zoned rural under the Shire of Brookton town planning scheme.

No planning approval is required from the Shire of Brookton.

Methodology GIS Databases
-Town planning scheme zones
-Aboriginal sites of significance
-RIWI, Areas

4. Recommendation

Recommendation
An assessment of the environmental impacts of the clearing of 6.7 hectares of native vegetation has been undertaken in accordance with DER's Regulatory Principles and the Delegated Officer considers that the proposed clearing may cause environmental harm. Section 62(1) of the *Environmental Protection Act 1986* provides for conditions to be placed on a licence to mitigate environmental harm.

The Delegated Officer advises that the clearing may result in environmental harm in the form of:

- Direct impact to black cockatoo individuals utilising tree hollows

Given the above, the Delegated Officer approves the clearing subject to the following conditions:

1. Clearing authorised

   The Licence Holder shall not clear more than 6.7 hectares of native vegetation within the area cross-hatched yellow on attached Plan 7136/1.

2. Fauna management

(a) Prior to undertaking any clearing authorised under this Licence, the Licence Holder shall engage a *fauna specialist* to check the *black cockatoo habitat tree/s* identified within the area cross-hatched yellow on attached Plan 7136/1 as identified within the document '*Black Cockatoo Habitat Survey by Bioscience Integrating Resource Management for NutraRich'*. Lot 3 on Plan 69746. 12 July 2016, for the presence of fauna species listed below:
   (i) *Calyptorhynchus latirostris* (Carnaby's cockatoo);
   (ii) *Calyptorhynchus baudinii* (Baudin's cockatoo); and
   (iii) *Calyptorhynchus banksii naso* (forest red-tailed black cockatoo).

(b) Where the presences of fauna are identified under condition 2(a) of this Licence, the Licence Holder shall ensure that no taking of fauna occurs, unless first approved by the CEO.

Definitions
The following meanings are given to terms used in this Licence:

black cockatoo habitat tree/s: means trees that have a diameter, measured at 1.5 metres from the base of the tree, of 30 centimetres or greater;

fauna specialist: means a person who holds a tertiary qualification specializing in environmental science or equivalent, and has a minimum of 2 years work experience in fauna identification and surveys of fauna native to the region being inspected or surveyed, or who is approved by the CEO as a suitable fauna specialist for the bioregion, and who holds a valid fauna licence issued under the *Wildlife Conservation Act 1950*.

Reviewed and endorsed by

James Widenbar
MANAGER
CLEARING REGULATION

Officer delegated under section 20
of the Environmental Protection Act 1986

4 August 2016

5. References

Bioscience (2016) Black Cockatoo Habitat Survey by Bioscience Integrating Resource Management for NutraRich. Lot 3 on Plan 69746. 12 July 2016.

Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.

NutraRich (2016) Supplementary information submitted by the applicant, NutraRich, containing site details for Lot 3 on Plan 69746 (DER Ref: A1074368).

Plan 7136/1

Legend

Imagery

Clearing Instruments Activities

N

0 200m

1:6,000

(Approximate when reproduced at A4)

UTM Zone 50S

World Geodetic System 1984

James Widenbar Date 4/8/2016

Officer with delegated authority under Section 20 of the Environmental Protection Act 1986

GOVERNMENT OF WESTERN AUSTRALIA