

Permit

Environmental Protection Act 1994

Environmental authority EPPR00784813

This environmental authority is issued by the administering authority under Chapter 5 of the Environmental Protection Act 1994.

Environmental authority number: EPPR00784813

This environmental authority takes effect on the day it is issued.

The anniversary date of this environmental authority remains 30 July each year. The payment of the annual fee will be due each year on this day.

Environmental authority holder

Name	Registered address
Oakey Beef Exports Pty Ltd (ACN: 009 677 598)	NH FOODS AUSTRALIA PTY LTD LEVEL 8, 2 ELIZABETH PLAZA NORTH SYDNEY NSW 2060

Environmentally relevant activity and location details

Environmentally relevant activities	Locations
ERA 15 - Fuel burning - Using fuel burning equipment that is capable of burning at least 500kg of fuel in an hour	Oakey Abattoir, Oakey Connection Road, Oakey, QLD 4401
ERA 25 - Meat Processing - 2(c) - Processing, including rendering, in a year, the following quantity of meat or meat products - more than 50,000t	Lot 1 on RP850984 Lot 13 on RP36450 Lot 1 on SP195597 Lot 2 on SP195597
ERA 53 - Organic material processing - (a) Processing more than 200t of organic material in a year by composting the organic material	Lot 3 on SP195597 Lot 4 on SP195597 Lot 5 on AG4200 Lot 6 on AG4200
ERA 63 - Sewage Treatment - 1(b-i) - Operating sewage treatment works, other than no-release works, with a total daily peak design capacity of more than 100 but not more than 1500EP if treated effluent is discharged from the works to an infiltration trench or through an irrigation scheme	Lot 7 on AG4200 Lot 8 on AG4200

Additional information for applicants

Environmentally relevant activities

The description of any environmentally relevant activity (ERA) for which an environmental authority (EA) is issued is a restatement of the ERA as defined by legislation at the time the EA is issued. Where there is any inconsistency between that description of an ERA and the conditions stated by an EA as to the scale, intensity or manner of carrying out an ERA, the conditions prevail to the extent of the inconsistency.

An EA authorises the carrying out of an ERA and does not authorise any environmental harm unless a condition stated by the EA specifically authorises environmental harm.

A person carrying out an ERA must also be a registered suitable operator under the *Environmental Protection Act 1994* (EP Act).

Contaminated land

It is a requirement of the EP Act that an owner or occupier of contaminated land give written notice to the administering authority if they become aware of the following:

- the happening of an event involving a hazardous contaminant on the contaminated land (notice must be given within 24 hours); or
- a change in the condition of the contaminated land (notice must be given within 24 hours); or
- a notifiable activity (as defined in Schedule 3) having been carried out, or is being carried out, on the contaminated land (notice must be given within 20 business days)

that is causing, or is reasonably likely to cause, serious or material environmental harm.

For further information, including the form for giving written notice, refer to the Queensland Government website www.qld.gov.au, using the search term 'duty to notify'.

Take effect

Please note that, in accordance with section 200 of the EP Act, an EA has effect:

- a) if the authority is for a prescribed ERA and it states that it takes effect on the day nominated by the holder of the authority in a written notice given to the administering authority - on the nominated day; or
- b) if the authority states a day or an event for it to take effect-on the stated day or when the stated event happens; or
- c) otherwise on the day the authority is issued.

However, if the EA is authorising an activity that requires an additional authorisation (a relevant tenure for a resource activity, a development permit under the *Planning Act 2016* or an SDA Approval under the *State Development and Public Works Organisation Act 1971*), this EA will not take effect until the additional authorisation has taken effect.

If this EA takes effect when the additional authorisation takes effect, you must provide the administering authority written notice within 5 business days of receiving notification of the related additional authorisation taking effect.

The anniversary day of this environmental authority is the same day each year as the original take effect date unless you apply to change the anniversary day. The payment of the annual fee will be due each year on this day.

If you have incorrectly claimed that an additional authorisation is not required, carrying out the ERA without the additional authorisation is not legal and could result in your prosecution for providing false or misleading information or operating without a valid environmental authority.



Signature

18 August 2023

Date

Tim Brain
Department of Environment and Science
Delegate of the administering authority
Environmental Protection Act 1994

Enquiries:

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Privacy statement

Pursuant to section 540 of the EP Act, the Department is required to maintain a register of certain documents and information authorised under the EP Act. A copy of this document will be kept on the public register. The register is available for inspection by members of the public who are able to take extracts, or copies of the documents from the register. Documents that are required to be kept on the register are published in their entirety, unless alteration is required by the EP Act. There is no general discretion allowing the Department to withhold documents or information required to be kept on the public register. For more information on the Department's public register, search 'public register' at www.qld.gov.au. For queries about privacy matters please email privacy@des.qld.gov.au or telephone 13 74 68.

Obligations under the *Environmental Protection Act 1994*

In addition to the requirements found in the conditions of this environmental authority, the holder must also meet their obligations under the EP Act, and the regulations made under the EP Act. For example, the holder must comply with the following provisions of the Act:

- general environmental duty (section 319)
- duty to notify environmental harm (section 320-320G)
- offence of causing serious or material environmental harm (sections 437-439)
- offence of causing environmental nuisance (section 440)
- offence of depositing prescribed water contaminants in waters and related matters (section 440ZG)
- offence to place contaminant where environmental harm or nuisance may be caused (section 443)

Other permits required

This permit only provides an approval under the *Environmental Protection Act 1994*. In order to lawfully operate you may also require permits / approvals from your local government authority, other business units within the department and other State Government agencies prior to commencing any activity at the site.

Development Approval

This permit is not a development approval under the *Planning Act 2016*. The conditions of this environmental authority are separate, and in addition to, any conditions that may be on the development approval. If a copy of this environmental authority is attached to a development approval, it is for information only, and may not be current. If you are unsure that you have the most current version of the environmental authority relating to this site please visit <https://apps.des.qld.gov.au/env-authorities/> to access all environmental authorities currently approved.

Conditions of environmental authority

PART 1

Environmentally relevant activities	Locations
ERA 15 - Fuel burning - Using fuel burning equipment that is capable of burning at least 500kg of fuel in an hour	Oakey Abattoir, Oakey Connection Road, Oakey, QLD 4401
ERA 25 - Meat Processing - 2(c) - Processing, including rendering, in a year, the following quantity of meat or meat products - more than 50,000t	Lot 1 on RP850984 Lot 13 on RP36450 Lot 1 on SP195597 Lot 2 on SP195597 Lot 3 on SP195597
ERA 53 - Organic material processing - (a) Processing more than 200t of organic material in a year by composting the organic material	Lot 4 on SP195597 Lot 5 on AG4200 Lot 6 on AG4200 Lot 7 on AG4200
ERA 63 - Sewage Treatment - 1(b-i) - Operating sewage treatment works, other than no-release works, with a total daily peak design capacity of more than 100 but not more than 1500EP if treated effluent is discharged from the works to an infiltration trench or through an irrigation scheme	Lot 8 on AG4200

The environmentally relevant activities conducted at the location as described above must be conducted in accordance with the following conditions of approval.

Agency interest: General	
Condition number	Condition
1-G1	All reasonable and practicable measures must be taken to prevent or minimise environmental harm caused, or likely to be caused, by the activities.
1-G2	Other than as permitted by this environmental authority, the release of a contaminant into the environment must not occur.
1-G3	Written procedures must be developed and documented of all activities that: (a) identify all potential risks to the environment from the activity, including during and outside routine operations, during closure and in an emergency (e.g. fire); and (b) identify measures to prevent or minimise the potential for environmental harm for each of the potential risks identified; and (c) establish an inspection and maintenance program for plant and equipment including calibration and servicing that is in accordance with manufacturer's instructions; and (d) establish a staff training program on obligations under this environmental authority and the <i>Environmental Protection Act 1994</i> to be conducted as part of staff inductions and that training be completed at least annually; and (e) establish processes to review environmental risks, incidents, performance and complaints.

1-G4	Written procedures required by condition 1G-3 must be: (a) implemented; and (b) reviewed at least annually; and (c) provided to the administering authority upon request at the time and in the format requested.
1-G5	Plant and equipment necessary to comply with the conditions of this environmental authority must be installed, operated and maintained: (a) in a proper and effective manner; and (b) in accordance with any written procedures developed under condition 1G-3 for the plant and equipment.
1-G6	Records must be kept of all persons trained under condition 1G-3(d) and the date they received the training.
1-G7	All plans required by the conditions of this environmental authority must be: (a) developed and endorsed in writing as being compliant with the conditions of this environmental authority by an appropriately qualified person; and (b) implemented in accordance with the requirements stated within the plan; and (c) in effect at all times during the carrying out of the activity; and (d) re-endorsed in writing as being in compliance with the conditions of this environmental authority by an appropriately qualified person at least annually; and (e) provided to the administering authority upon request in the time requested.
1-G8	All records required by the conditions of this environmental authority must be provided to the administering authority upon request by the time and in the format requested.
1-G9	All information and records required by the conditions of this environmental authority must be kept for a minimum of five years.
1-G10	Chemicals and fuels in containers of greater than 15 litres must be stored within a secondary containment system.
1-G11	All analyses required under this environmental authority must be carried out by a laboratory that has National Association of Testing Authorities (NATA) certification, or an equivalent certification, for such analyses. The only exception to this condition is for <i>in situ</i> monitoring of pH.
1-G12	All testing and monitoring required by the conditions of this environmental authority: (a) must be carried out in the manner specified by this environmental authority; and (b) must be carried out on samples that are representative of the material being tested; and (c) must be carried out using monitoring devices that are calibrated and maintained according to the manufacturers' specifications; and (d) must be carried out, interpreted and recorded by an appropriately qualified person.
1-G13	A receiving environment monitoring program must be designed and implemented by an appropriately qualified person(s) to monitor the effects of the activity on land and groundwater.
1-G14	The receiving environment monitoring program required by condition 1-G13, must include at least the following: Soil survey A soil survey is required to ensure that the capacity of the land to assimilate nitrogen, phosphorus, salts and organic matter is not exceeded. The survey needs to include: 1. Soil and sub-soil analysis, including assessment of the soils from representative locations, including type, structure, pH, phosphorus adsorption level and capacity, nutrient status, salinity and sodicity, and cation exchange capacity of the irrigation release areas; and 2. Determination of the quantity and quality of contaminants applied to the soils from the recycled water irrigation; and

	3. Reporting of monitoring results and an assessment of the impact of the releases on the irrigation areas; and 4. Ongoing assessment of water, nutrient and salt balances and irrigation rate and return period to ensure sustainable use of the irrigation area. Groundwater monitoring The monitoring should: 1. Be able to determine the impacts of the licensed activity on the groundwater quality in the underlying aquifer; and 2. Include, but not be limited to, a sufficient number of bores (minimum of three) installed at locations and depths which yield representative groundwater samples from at least the uppermost aquifer so as to: a) establish the quality of groundwater that has not been affected by seepage or drainage of contaminants to groundwater from the activity; and b) detect any seepage of contaminants to groundwater from the licensed place; and 3. Include monitoring of background groundwater quality, hydraulically up-gradient of any release of contaminants to groundwater; and 4. Include monitoring of downstream groundwater quality, hydraulically down gradient of all storage ponds, sewage treatment plant and irrigation areas; 5. Include the following groundwater parameters for monitoring: a) Standing water level b) pH c) Electrical conductivity d) Chloride e) Total dissolved solids f) Sodium absorption ratio g) Total nitrogen h) Nitrate i) Total phosphorus j) Total coliforms k) E. coli 6. Six monthly monitoring of the quality of groundwater to detect any possible release(s) of contaminants; and 7. Consider the potential use of groundwater in the vicinity off-site by other parties.
1-G15	When required by the administering authority, monitoring must be undertaken in the manner prescribed by the administering authority to investigate a complaint of environmental nuisance arising from the activity. The monitoring results must be provided within 20 business days to the administering authority upon its request.
1-G16	All reasonable and practicable measures must be taken to exclude vectors and pest species to the extent necessary to prevent: 1. Environmental nuisance to occupiers of neighbouring premises; and 2. Any danger or risk to the health of any persons.
1-G17	Any contravention of a condition of this environmental authority must be reported to the administering authority as soon as practicable, and within 24 hours of becoming aware of the contravention.
1-G18	The following details must be recorded for all environmental complaints received: (a) date and time the complaint was received; and (b) if authorised by the person making the complaint, their name and contact details; and (c) nature and details of the complaint including date and time the complaint was received; and (d) investigations carried out in response to the complaint as required by 1-G19; and (e) the results of investigations; and (f) measures taken under 1G-20

1-G19	An investigation must be undertaken into all environmental complaints within 5 business days of receiving the complaint, or a longer period agreed to in writing by the administering authority to determine: (a) the potential circumstances and actions on site that may have contributed to the basis of the complaint; and (b) reasonable measures that could be implemented to address the basis of the complaint.
1-G20	Measures identified under 1-G19(b) must be taken within: (a) four weeks of the investigation required by 1-G19(b) being finalised; or (b) a longer period agreed to in writing by the administering authority.
1-G21	A weather station must be installed, operated, calibrated and maintained on site which continuously and electronically records: (a) rainfall (mm/day); and (b) wind speed (km/hour); and (c) wind direction (cardinal direction, e.g. north-easterly); and (d) air temperature (degrees Celsius); and (e) relative humidity (%).
1-G22	The weather station required by condition 1-G21 must be installed and operated in compliance with the Australian/New Zealand Standards: (a) AS/NZS 3580.1.1:2016 (Methods for sampling and analysis of ambient air – Guide to siting air monitoring equipment) or, if a more recent version or replacement of that standard has been released, in accordance with the more recent or replaced standard; and (b) AS 3580.14:2014 (Methods for sampling and analysis of ambient air – Meteorological monitoring for ambient air) or, if a more recent version or replacement of that standard has been released, in accordance with the more recent or replaced standard.
Agency interest: Air	
Condition number	Condition
1-A1	Other than as permitted within this environmental authority, odours or airborne contaminants must not cause environmental nuisance at a sensitive place or commercial place.
1-A2	Dust and particulate matter emissions must not exceed the following concentrations at any sensitive place or commercial place: 1. Dust deposition of 120 milligrams per square metre per day, when monitored in accordance with Australian Standard AS 3580.10.1 (or more recent editions); or 2. A concentration of particulate matter with an aerodynamic diameter of less than 10 micrometre (µm) (PM10) suspended in the atmosphere of 150 micrograms per cubic metre over a 24 hour averaging time, when monitored in accordance with Australian Standard AS 3580.9.6 (or more recent editions) or any other method approved by the administering authority.

1-A3

Contaminants must only be released to air from the point sources in accordance with *Table 1–Point source air release limits* and the associated requirements.

Table 1–Point source air release limits

Authorised release point		Contaminant	Maximum Release Limit	Minimum release height (m)	Minimum velocity (m/sec)
Number	Description				
A1	Stack – Coal-fired boiler	Solid Particles	250 ² mg/Nm ³	30m above the boiler house floor	8 ¹
A2	Stack – Gas-fired boiler	Oxides of Nitrogen (NOx)	350 ³ mg/Nm ³	6m above the highest point	5 ¹
A3	Stack – Gel Bone Plant	All	n/a	12m above ground level	15
A4	Stack – Digester	All	n/a	12m above ground level	15

Associated requirements

1. Efflux velocity of emissions from A1 and A2 is measured when the plant is operating at its maximum capacity.
2. Effluent gas calculation for solid particles concentration is corrected to 12% by volume of carbon dioxide.
3. Calculation of NOx concentration is at 7% oxygen reference level.

1-A4	Monitoring of contaminant releases to air must be undertaken in accordance with <i>Table 2 - Monitoring frequency</i> and the associated monitoring requirements and records of the results must be kept.		
	Table 2 - Monitoring frequency		
	Determination Required	Release Point	Minimum frequency
	Solid Particles	A1 Stack – Coal-fired boiler	Annually
	Odour emission rate (OUV/s)	A3 Stack – Gel Bone Plant	Annually
	Odour emission rate (OUV/s)	Rendering Plants	Annually
	Odour emission rate flux (OUV/s)	Biofilter	Annually
Associated Requirements			
1. For release point A1, a continuous smoke recording apparatus is to be in operation for the coal-fired flue gas in the chimney. 2. Monitoring must comply with the Australian Standard AS 4323.1 Stationary Source Emissions – Selection of Sampling Positions. 3. For the required determinations the following tests must be performed: a) gas velocity and volume flow rate; b) temperature; c) water vapour concentration (for non-continuous sampling); d) where practicable samples taken must be representative of the contaminants discharged when emissions are expected to be normal, except for specific purpose samples to be taken during periods of upset conditions, commissioning, start-up and shut-down; and e) during the sampling period the following additional information must be gathered: - production rate; and - plant status.			
Agency interest: Water			
Condition number	Condition		
1-WT1	Other than as permitted within this environmental authority, contaminants must not be released to any waters.		

Agency interest: Land																							
Condition number	Condition																						
1-L1	The only contaminants to be released to land, in addition to mature compost, are treated effluent in accordance with <i>Table 3 - Treated effluent release limits to irrigation area</i> and the associated requirements. Table 3 - Treated effluent release limits to irrigation area <table><tr><th>Quality Characteristic (units)</th><th>Minimum</th><th>80th Percentile</th><th>Maximum</th></tr><tr><td>BOD5 (mg/L)</td><td>-</td><td>-</td><td>100</td></tr><tr><td>Suspended Solids (mg/L)</td><td>-</td><td>100</td><td>-</td></tr><tr><td>pH (pH units)</td><td>6.5</td><td>-</td><td>8.5</td></tr><tr><td>Oil and grease</td><td>-</td><td>-</td><td>10</td></tr></table> Associated requirements 1. The irrigation areas must be in accordance with Appendix 1: Irrigation Layout. 2. Monitoring must be in accordance with the administering authority's Water Quality Sampling Manual and all monitoring devices must be effectively calibrated and maintained. 3. Samples must be taken from the irrigation pump well (wet weather pond). 4. Releases of treated effluent must not be outside of the areas indicated at Appendix 1. 5. Monitoring must be undertaken when treated effluent is being irrigated, unless irrigation has ceased for longer than the relevant parameters specified minimum frequency. 6. Volume of release must be determined or estimated by an appropriate method, for example, a flow meter, and records kept of such determinations and estimates.			Quality Characteristic (units)	Minimum	80 th Percentile	Maximum	BOD5 (mg/L)	-	-	100	Suspended Solids (mg/L)	-	100	-	pH (pH units)	6.5	-	8.5	Oil and grease	-	-	10
Quality Characteristic (units)	Minimum	80 th Percentile	Maximum																				
BOD5 (mg/L)	-	-	100																				
Suspended Solids (mg/L)	-	100	-																				
pH (pH units)	6.5	-	8.5																				
Oil and grease	-	-	10																				
1-L2	Notwithstanding the quality characteristic limits specified in <i>Table 3 – Treated effluent release limits to irrigation area</i> the contaminants released must not have any properties nor contain any organisms or contaminants in concentrations that are capable of causing environmental harm.																						

1-L3	Treated effluent released to land must be done in accordance with documentation that ensures: 1. Drainage to groundwater and subsurface flows of contaminants to surface waters are minimised; and 2. Surface pondage and run-off of effluent is prevented; and 3. Degradation of soil structure is minimised; and 4. Soil sodicity and the build-up of nutrients and heavy metals in the soil and subsoil are minimised; and 5. Spray drift or overspray does not carry beyond effluent disposal areas; and 6. Effluent disposal areas are maintained with an appropriate crop in a viable state for transpiration and nutrient uptake; and 7. Vegetation is not damaged; and 8. Sufficient buffer zones are maintained between irrigation sites and sensitive environmental receptors.																																	
1-L4	When weather conditions or soil conditions preclude the release of treated sewage effluent to land, effluent must not be irrigated to land.																																	
1-L5	Treated effluent may be removed from the site and used for irrigation purposes for cropping or other agricultural purposes, with the written consent of any third party involved.																																	
1-L6	Matured compost may be used on the site or sold to a third party.																																	
Agency interest: Noise																																		
Condition number	Condition																																	
1-N1	Other than as permitted within this environmental authority, noise generated by the activity must not cause environmental nuisance to any sensitive place or commercial place.																																	
1-N2	Noise from the activity must not include substantial low frequency noise components and must not exceed the levels identified in <i>Table 4 – Noise limits</i> and the associated requirements at any nuisance sensitive place or commercial place. Table 4 – Noise limits <table><tr><th rowspan="3">Noise level measured in dB(A)</th><th colspan="3">Monday to Saturday</th><th colspan="3">Sunday and Public Holidays</th></tr><tr><th>7am–6pm</th><th>6pm–10pm</th><th>10pm–7am</th><th>9am–6pm</th><th>6pm–10pm</th><th>10pm–9am</th></tr><tr><th colspan="6">Noise measured at the nearest sensitive place</th></tr><tr><td>L_{A10}, adj, 15 min</td><td>45</td><td>45</td><td>40</td><td>45</td><td>45</td><td>40</td></tr><tr><td>L_{A1}, adj, 15 min</td><td>50</td><td>50</td><td>45</td><td>50</td><td>50</td><td>45</td></tr></table> Associated requirements 1. All monitoring devices must be correctly calibrated and maintained. 2. The method of measurement and reporting of noise levels must comply with the latest addition of the administering authority's Noise Measurement Manual. 3. Any monitoring of noise emissions from the activity must be undertaken when the activity is in operation.	Noise level measured in dB(A)	Monday to Saturday			Sunday and Public Holidays			7am–6pm	6pm–10pm	10pm–7am	9am–6pm	6pm–10pm	10pm–9am	Noise measured at the nearest sensitive place						L _{A10} , adj, 15 min	45	45	40	45	45	40	L _{A1} , adj, 15 min	50	50	45	50	50	45
Noise level measured in dB(A)	Monday to Saturday			Sunday and Public Holidays																														
	7am–6pm		6pm–10pm	10pm–7am	9am–6pm	6pm–10pm	10pm–9am																											
	Noise measured at the nearest sensitive place																																	
L _{A10} , adj, 15 min	45	45	40	45	45	40																												
L _{A1} , adj, 15 min	50	50	45	50	50	45																												

Agency interest: Waste	
Condition number	Condition
1-WS1	All waste generated in carrying out the activity must be reused, recycled or removed to a facility that can lawfully accept the waste.

PART 2

Environmentally relevant activity	Location
ERA 53 - Organic material processing - (a) Processing more than 200t of organic material in a year by composting the organic material	Lot 2 on SP195597 Lot 3 on Plan SP195597

The environmentally relevant activity conducted at the location as described above must be conducted in accordance with the following conditions of approval.

Agency interest: General	
Condition number	Condition
Feedstock Management	
2-G1	Activities under this environmental authority must be conducted in accordance with the following limitations: 1) Composting activities undertaken on site must be conducted within the designated areas for the activity, as specified in Appendix 1 – Irrigation Layout, Appendix 2: Fig 1 Location of Composting Area and Table 1 - GPS Coordinates; and 2) Only the following feedstock (not contaminated by prohibited material) can be used in the composting process: i) Screened paunch material; ii) Screened yard wash-down manure; and iii) Boiler ash generated on site – (in accordance with End of Waste Code for Coal Combustion Products ENEW07359717).
2-G2	All testing and monitoring required by the conditions of this environmental authority: (a) for finished compost monitoring required by condition 2-G9, must be carried out in accordance with the test methods listed for the relevant parameters in AS 4454:2012 (Composts, soil conditioners and mulches) or, if a more recent version or replacement of that standard has been released, in accordance with the more recent or replaced standard; and (b) for PFAS monitoring, must: i. use analysis techniques that achieve lowest practicable limits of reporting (LOR <0.5 µg/kg solids; LOR <0.001 µg/L for liquids) and maximise extraction of PFAS from samples; and ii. comply with recommendations in the PFAS National Environmental Management Plan (NEMP)¹ Version 2.0 or more recent editions adopted by the Queensland Government; and iii. incorporate paired standard and Total Oxidisable Precursor (TOP) Assay analysis to determine PFAS concentrations and must include at least: (A) Perfluoroalkyl carboxylic acids (C₄-C₁₄); and (B) Perfluoroalkyl sulfonic acids (C₄-C₁₀); and

¹ The PFAS NEMP is available online on the Australian Government Department of Agriculture, Water and Environment website at <https://www.environment.gov.au/>.

	(C) Perfluoroalkane sulfonamides (C₈); and (D) Perfluoroalkane sulfonamido acetic acids (FASAA) (C₈ perfluoro); and (E) N-alkyl perfluoroalkane sulfonamido acetic acids (MeFASAA, EtFASAA) (C₈ perfluoro); and (F) n:2 Fluorotelomer sulfonic acids (n= 4, 6, 8 & 10); and iv. incorporate quality assurance checks for Total Oxidisable Precursor (TOP) Assay²; and v. give due regard to any advice from the administering authority concerning improvements in analysis techniques for the waste types accepted.
2-G3	A Feedstock Management Plan must be developed, which includes: (a) methods for characterising all feedstock and determining its odour rating by reference to: i. "Odour Rating" in Schedule 1—Odour: <i>Table 1 – Odour rating of composting feedstock</i>; (b) feedstock storage requirements based on the odour ratings and physical compositions of each type of feedstock; and (c) feedstock processing requirements based on the odour ratings and physical compositions for each type of feedstock; and (d) procedures for the sampling and testing the Carbon to Nitrogen ratio (C:N Ratio) of any feedstock accepted on the site; and (e) procedures to assess whether the feedstock received at the site is suitable for the processing techniques being used; and (f) procedures to assess potential feedstock received at the site to determine whether it is lawfully able to be used as a feedstock, including under the conditions of this environmental authority; and (g) procedures for rejecting unsuitable and/or unlawful feedstock; and (h) procedures for reporting unlawful waste delivery to the administering authority.
2-G4	Feedstock must not be used for the activity unless it is assessed in accordance with the Feedstock Management Plan required by condition 2-G3.
2-G5	The following records must be kept for all feedstock received and anything which is rejected as feedstock under the Feedstock Management Plan required by condition 2-G3: (a) description of feedstock; and (b) weight or volume of feedstock; and (c) feedstock odour rating as assessed under the Feedstock Management Plan required by condition 2-G3; and (d) details of any samples taken (including sample ID, laboratory holding time, storage method and storage location); and (e) measurements, observations and characterisation results of feedstock; and (f) the name of any person undertaking any measurements, observations, or characterisation of feedstock.

² Refer to recommendations in the Australasian Land & Groundwater Association (ALGA) funded TOP Assay reliability study (Ventia 2019). Ventia (2019) Improving Measurement Reliability of the PFAS TOP Assay. Australasian Land and Groundwater Association Report 20 June 2019, 1-96pp.

Compost management	
2-G6	A Compost Process Management Plan must be developed, which includes: (a) composting process parameters for the feedstock and processing techniques being used on site, which includes process parameters for: i. C:N ratio; and ii. porosity or bulk density; and iii. moisture content; and iv. pH; and v. oxygen content; and vi. temperature range; and (b) information to support the appropriateness of the composting process parameters with regard to the feedstock and processing techniques being used on site; and (c) methods and frequencies for monitoring composting material to assess that the composting process parameters are being met; and (d) at a minimum, annual reviews of the effectiveness of the composting process parameters at achieving pasteurisation and minimising odour impacts.
2-G7	Composting material must comply with composting process parameters identified in the Compost Process Plan required by condition 2-G6.
2-G8	The following records must be kept for all monitoring undertaken to assess that the composting process parameters are being met: (a) records of any analysis, measurements or observations of composting material and the name/s of the person/s undertaking the assessment; and (b) records of any samples taken (including sample ID, laboratory holding time, storage method and storage location).

2-G9

All finished compost must be monitored for the quality characteristics and at the frequency listed in *Table 5 – Finished Compost Quality Characteristic Limits*.

Table 5 – Finished Compost Quality Characteristic Limits

Quality Characteristic	Quality Characteristic Limit	Minimum Monitoring Frequency
pH	≥5.0	One representative composite sample consisting of at least five individual grab samples which must be collected before the earlier of the following occurring (a) 90 days having passed since the mixing of the feedstock to commence composting; or (b) 90 days having passed since the previous composite sampling event; or (c) 300 dry solid tonnes (dst) of finished compost being produced
Electrical conductivity	≤10 (dS/m)	
Arsenic	≤20 (mg/kg)	
Cadmium	≤1 (mg/kg)	
Chromium (total)	≤100 (mg/kg)	
Copper	≤150 (mg/kg)	
Lead	≤150 (mg/kg)	
Mercury	≤1 (mg/kg)	
Nickel	≤60 (mg/kg)	
Selenium	≤5 (mg/kg)	
Zinc	≤300 (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)	
HCB	≤0.02 (mg/kg)	
Lindane	≤0.02 (mg/kg)	
BHC	≤0.02 (mg/kg)	
PCBs	Not detected	
<i>E.coli</i>	<100 (MPN/gram)	
Faecal coliforms	<1000 (MPN/gram)	
<i>Salmonella</i> sp.	Not Detected in 50 grams (dry weight equivalent)	
Enteric viruses	< PFU per 4 grams total solids	
Helminth ova (<i>Ascaris</i> sp. and <i>Taenia</i> sp.)	<1 per 4 grams total solids	
PFOS	1 (µg/kg)	
PFHxS	1 (µg/kg)	
PFOA	1 (µg/kg)	
Sum of PFBA, PFPeA, PFHxA, PFHpA (above LOR)	1 (µg/kg)	
Sum of all C ₉ to C ₁₄ perfluoro carboxylic acids (above LOR)	1 (µg/kg)	
Sum of all perfluoro sulfonamides (above LOR)	1 (µg/kg)	
Sum of all n:2 Fluorotelomer sulfonic acids (above LOR)	1 (µg/kg)	
PFAS leachability	To be kept to minimum practicable (µg/L)	
Glass, metal, rigid plastics	≤0.5 (% dry matter weight/weight)	

	<table> <tr> <td>Plastics – light, flexible, film</td><td>≤0.05 (% dry matter weight/weight)</td></tr> <tr> <td>Viable plant propagules</td><td>Not detected</td></tr> </table>	Plastics – light, flexible, film	≤0.05 (% dry matter weight/weight)	Viable plant propagules	Not detected
Plastics – light, flexible, film	≤0.05 (% dry matter weight/weight)				
Viable plant propagules	Not detected				
2-G10	Finished compost must comply with the quality characteristics limits listed in <i>Table 5– Composting Material Quality Characteristic Limits</i> .				
Agency Interest: Air					
Condition number	Condition				
2-A1	An Odour Management Plan must be developed and implemented which includes: (a) identification of all odour sources, and potential odour sources at the site, including odours and potential odours generated from the activity; and (b) a requirement that odour investigations be completed by an appropriately qualified person; and (c) an analysis of routine and non-routine processes and operating conditions that could result in, and potentially result in, odour emissions; and (d) measures to avoid the generation and minimise the impacts of odours; and (e) at a minimum, annual reviews of the effectiveness of the measures.				
Agency Interest: Water					
Condition number	Condition				
2-WT1	Stormwater runoff from disturbed areas generated by a storm event up to and including a 24 hour storm event with an average recurrence interval (ARI) of 1 in 25 years (3.92% annual exceedance probability) must be beneficially re-used in the carrying out of the activity.				
2-WT2	Any stormwater which filters through composting piles or stored feedstock must be managed as leachate.				
2-WT3	Leachate must be collected and stored in: (a) Ponds that maintain aerobic conditions; or (b) An enclosed leachate tank.				
2-WT5	All ponds and tanks used for leachate collection and storage must be designed, installed, operated and maintained by an appropriately qualified person to: (a) Prevent ponding of leachate in any area other than the designated leachate collection and/or storage areas; and (b) Prevent the reintroduction of leachate into composting material; and (c) Prevent the leachate directly entering a stormwater basin; and (d) Drain leachate away from composting material; and (e) Drain leachate to a collection drain.				

Agency Interest: Land	
Condition number	Condition
2-L1	An area which provides an impervious barrier to subsoil and groundwater must be used for: 1. receiving, mixing and storing processing materials for the composting activity; and 2. collecting and storing leachate.
Agency Interest: Rehabilitation	
Condition number	Condition
2-R1	Upon completion of the activity, land that has been disturbed by the activities conducted under this environmental authority must be rehabilitated in a manner such that: (a) there is no visual evidence of erosion or sedimentation occurring; and (b) the potential for environmental nuisance caused by dust is minimised; and (c) the quality of water, including seepage, released from the site does not cause environmental harm; and (d) the quality of water in any residual water body does not have the potential to cause environmental harm; and (e) the landform is in stable condition; and (f) land is re-profiled to a level consistent with surrounding soils; and (g) land is re-profiled to original contours and established drainage lines; and (h) land is vegetated with groundcover which is not a declared pest species, and which is established and actively growing.

Definitions

Key terms and/or phrases used in this document are defined in this section. Where a term is not defined, the definition in the *Environmental Protection Act 1994*, its regulations or environmental protection policies must be used. If a word remains undefined it has its ordinary meaning.

24 hour storm event with an average recurrence interval (ARI) of 1 in 25 years means the maximum rainfall depth from a 24 hour duration precipitation event with an average recurrence interval of once in 25 years. For example, an Intensity-Frequency-Duration table for a 24 hour duration event with an average recurrence interval of 1 in 25 years, identifies a rainfall intensity of 8.2mm/hour. The rainfall depth for this event is therefore 24 hour x 8.2mm/hour = 196.8mm.

Activity means the environmentally relevant activities, whether resource activities or prescribed activities, to which the environmental authority relates.

Administering authority means the Department of Environment and Science or its successors or predecessors.

Aerobic conditions is demonstrated by stored leachate having a dissolved oxygen concentration of ≥ 1 mg/L as measured in-situ at a minimum of three different depths (top, middle and bottom) across the entire water column.

Annual exceedance probability means the probability that a given rainfall total accumulated over a given duration will be exceeded in any one year.

Appropriately qualified person(s) means a person or persons who has professional qualifications, training, skills and experience relevant to the EA requirement and can give authoritative assessment, advice and analysis in relation to the EA requirement using the relevant protocols, standards, methods or literature.

BOD5 means the 5-day biochemical oxygen demand determined using standard tests (e.g. those used by NATA laboratories). This test is not inhibited for nitrification, otherwise would be referred to as "carbonaceous" BOD.

C:N ratio means the ratio of elemental carbon (C) to elemental nitrogen (N) by weight in organic material.

Commercial place means a place used as a workplace, an office or for business or commercial purposes and includes a place within the curtilage of such a place reasonably used by persons at that place.

Composting material refers to waste or other material received on the site, which is mixed and undergoing a composting process until it becomes finished compost.

Contaminant as defined under section 11 of the *Environmental Protection Act 1994*.

Contaminated land means land defined as contaminated land under the *Environmental Protection Act 1994*.

Declared pest species means a pest species listed as restricted matter in Schedule 2 of the *Biosecurity Act 2014*.

Disturbed area/s include areas:

- That are susceptible to erosion; and/or
- That are contaminated by the activity; and/or
- Upon which stockpiles of soil or other materials are located.

Emergency as defined under section 466B of the *Environmental Protection Act 1994*.

Environmental harm as defined under section 14 of the *Environmental Protection Act 1994*.

Environmental nuisance as defined in Chapter 1 of the *Environmental Protection Act 1994*.

Environmental value as defined under Chapter 1 of the *Environmental Protection Act 1994*.

Feedstock means the organic material/s used or intended to be used for organic material processing.

Finished compost means an organic product/s that has undergone controlled aerobic and thermophilic biological transformation through the composting process to achieve pasteurisation.

Generator means a person who sells, or gives away, or otherwise provides, a feedstock.

Groundwater means water that occurs naturally in, or is introduced artificially into, an aquifer.

Impervious barrier means a barrier with a thickness of at least 600 mm with an in-situ permeability (K) of less than 10^{-9} ms^{-1} .

L_{A10 adj,15 min} means the adjusted A weighted sound pressure level (adjusted for tonal character and impulsiveness of the sound) exceeded for 10% of any 15 minute measurement period, using fast response.

L_{A1 adj,15 min} means the adjusted A weighted sound pressure level (adjusted for tonal character and impulsiveness of the sound) exceeded for 1% of any 15 minute measurement period, using fast response.

Land as defined in Schedule 4 of the *Environmental Protection Act 1994*.

Leachate means a liquid that has passed through or emerged from or is likely to have passed through or emerged from, a material that contains soluble, suspended or miscible contaminants.

Measures have the broadest interpretation and includes plant, equipment, physical objects, monitoring, procedures, actions, directions and competency.

NATA means National Association of Testing Authorities.

PFU means plaque-forming unit.

Prohibited material includes:

Feedstock Material	Description
Asbestos and asbestos containing materials	
Bilge waters	Sea and fresh water from vessel pump outs.
Biosecurity waste	(a) waste that is goods subject to biosecurity control under the <i>Biosecurity Act 2015</i> (Cwlth); or (b) goods under the <i>Biosecurity Act 2015</i> (Cwlth) that are or were in contact with waste mentioned in paragraph (a).
Dye waste (water based)	By-product from industrial dyeing processes.
Effluent waste and wastewater	Liquid industrial or domestic effluents and waste streams, including contaminated groundwater and stormwater, except those of known origin and composition solely containing organic material as defined in the definition of environmentally relevant activity organic material processing ERA 53.
Filter cake and presses	Any concentrated solid and semi-solid waste streams from water treatment process (e.g. centrifuge, filter press), excluding material that complies with <i>the requirements of End of Waste Code ENEW07503318</i> . ³
Filter and ion exchange resin backwash waters	Any backwash and reject water from a filtration (e.g. sand or membrane filter) or ion exchange process, excluding material that complies with <i>the requirements of End of Waste Code ENEW07503318</i> . ³
Forecourt water	Run off from service station forecourts.
Hide curing effluent	Effluent and wastes from tanneries including, but not limited to, the various steps involved in preparing animal hide e.g. washing for removal of hair, fat removal, chemical treatment.
Leachate waste	A liquid that has passed through, or emerged from, or is likely to have passed through or emerged from, a landfill or from a non-organic waste or contaminated soil deposit.

³ Available online at <https://environment.des.qld.gov.au/>

Feedstock Material	Description
	Materials containing persistent organic pollutants including polybrominated diphenyl ethers (PBDEs), polychlorinated biphenyls (PCBs), polyfluorinated organic compounds ⁴ and polyaromatic Hydrocarbons (PAHs).
	Materials originating from activities or sites associated with PFAS contamination, ⁵ except where representative analysis results for the load undertaken in accordance with the PFAS monitoring requirements outlined in condition 2-G2 indicate an absence of PFAS.
	Municipal solid waste (excluding segregated compostable organic waste that does not include another prohibited material under this environmental authority).
Paint and industrial coatings products and wash	Paint and industrial coatings products and water and solvent wash down water containing paint and industrial coatings residues.
Particle board	Any part of an engineered wood panel product, manufactured from wood particles, coated in adhesive resin and pressed together into a finished panel.
Sullage waste (greywater)	Greywater / wastewater from domestic or commercial buildings excluding sewage but including waters drained from showers, sinks and laundries.
Treatment tank sludges and residues	Any treatment tank sludge or residue, excluding sludges and residues containing only plant or animal based organic matter or material that complies with <i>the requirements of End of Waste Code</i> ENEW07503318. ³
Treated timber waste	Any treated timber waste that does not meet the requirements of End of Waste Code ENEW07607119. ³
	Waste containing restricted stimulation fluids
	Waste known to be contaminated with glass, metal, rubber and coatings that cannot be eliminated through processing
	Waste treated by immobilisation or fixation
Water based inks	Liquid wastes from ink use or manufacture.
Water and solvent based paints and industrial coatings	Liquid waste paint, including where undiluted.

Receiving environment monitoring program means a monitoring program designed to monitor and assess the potential impacts of controlled and/or uncontrolled releases of contaminants to the environment from the activity.

Records are documents made or issued in respect of this environmental authority, including contravention notifications, written procedures, analysis results, plans, monitoring reports and monitoring programs required under a condition of this authority.

Restricted stimulation fluids as defined in section 206 of the *Environmental Protection Act 1994*.

Secondary containment system means a system designed, installed and operated to prevent any release of contaminants from the system, or containers within the system, to land, groundwater, or surface waters.

⁴ Materials containing per and poly-fluoroalkyl substances (PFAS) are considered separately

⁵ Operators should refer to Appendix B of the PFAS NEMP for details of activities associated with PFAS contamination. The PFAS NEMP is available online on the Australian Government Department of Agriculture, Water and Environment website at <https://www.environment.gov.au/>

Sensitive place includes the following and includes a place within the curtilage of such a place reasonably used by persons at that place:

1. a dwelling, residential allotment, mobile home or caravan park, residential marina or other residential premises; or
2. a motel, hotel or hostel; or
3. a kindergarten, school, university or other educational institution; or
4. a medical centre or hospital; or
5. a protected area under the *Nature Conservation Act 1992*, the *Marine Parks Act 2004* or a World Heritage Area; or
6. a public park or garden; or
7. for noise, a place defined as a sensitive receptor for the purposes of the Environmental Protection (Noise) Policy 2019.

Stable condition for the purposes of this document means the land is safe and structurally stable and there is no **environmental harm** being caused by anything on or in the land.

Stabilised biosolids means biosolids processed to reduce or eliminate the potential for putrefaction and which, as a result, reduces pathogens, vector attraction and offensive odours..

Vector means an insect or other organism transmitting germs or other agents of disease

Waters includes river, stream, lake, lagoon, pond, swamp, wetland, unconfined surface water, unconfined water, natural or artificial watercourse, bed and bank of any waters, dams, non-tidal or tidal waters (including the sea), stormwater channel, stormwater drain, roadside gutter, stormwater run-off, and groundwater and any part thereof.

You means the holder of the environmental authority.

Schedule 1—Odour rating of composting feedstock

Table 1 – Odour rating of composting feedstock

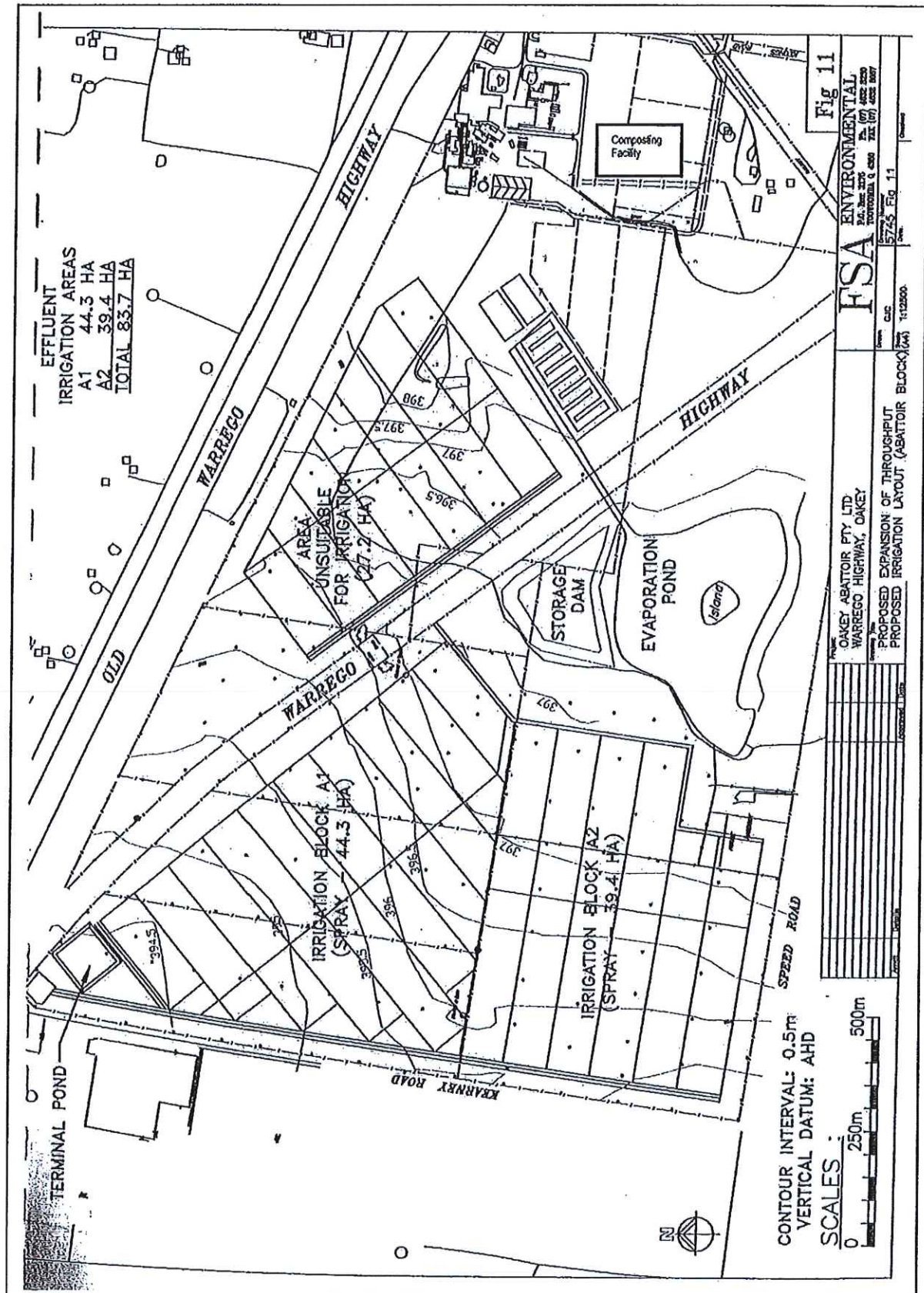
Feedstock	Examples	Odour Rating
Abattoir waste	Meat processing leftovers, bone material, blood, tallow waste, abattoir waste including animal effluent and residues from meat processing, including abattoir effluent, liquid animal wastes (blood) and sludge	Very high
	Paunch material	High
Animal manure	Horse manure, chicken manure, cow manure, livestock manure, or any manure produced by animals, wastewater from holding yards.	High
Animal waste and animal processing waste	Any dead animals or part/s of dead animals, remains of animals or part/s of remains of animals (e.g. chickens from poultry farms), egg waste, milk waste, mixtures of animal manure and animal bedding organics	Very High
Bark, lawn clippings, leaves, mulch, pruning waste, sawdust, shavings, woodchip and other waste from forest products	Cane and sorghum residues including bagasse, forest mulches, cypress chip, green waste, mill mud ⁶ , pine bark, sawmill residues non-treated (including sawdust, bark, wood chip, shavings etc.), tub ground mulch (from land clearing and forestry waste), peat, seed hulls/husks, straw, and other natural fibrous organics, wood chips (forestry waste and land clearing, household maintenance), wood waste (including untreated pallets, offcuts, boards, stumps and logs); worm castings suitable for unrestricted use	Low
Biosolids	Biosolids that are not stabilised biosolids	Very high
	Stabilised biosolids	Medium
Cardboard and paper waste	Paper mulch	Low
	Paper pulp effluent, paper sludge dewatered	Medium
Compostable polylactic acid (PLA) plastics	Compostable plastics produced in accordance with: (a) AS 4736:2006 (Biodegradable plastics) or the most recent or replaced version of that standard or (b) AS 5810:2010 (Biodegradable plastics - Biodegradable plastics suitable for home composting) or the most recent or replaced version of that standard.	Low
A substance used for manufacturing fertiliser for agricultural, horticultural or garden use	Ammonium Nitrate, dewatered fertiliser sludge	High
	Fertiliser water and fertiliser washings, stormwater from fertiliser manufacturing plants containing fertiliser wash water	Medium
Fish processing waste	Fish bones and other fish remains/leftovers, wastewater from fish processing	Very high
	Expired/past used by date non-protein based food from supermarkets, expired beer, vegetable oil wastes and starches, vegetable waste,	Medium

⁶ That meets the Resource quality criteria for the approved use in the Sugar Mill By-Products End of Waste Code (ENEW07359817)

Feedstock	Examples	Odour Rating
Food and food processing waste	yeast waste, food processing effluent (wastewater) and solids (including sludges) from non-protein based food	
	Food processing effluent (wastewater) and solids (including sludges) from protein based food	Very high
	Food organics, expired/past used by date protein based food from supermarkets, brewery and distillery effluent and waste	High
	Expired soft drinks, molasses waste, grain waste (hulls / waste grains), starch water waste, sugar and sugar solutions	Low
Grease trap waste	Oil and grease waste recovered from grease traps	Very high
Green waste	Leaves, grass clippings, prunings, tree branches from household maintenance	Low
Inorganic additives with beneficial properties	Bentonite	None
	Crusher dust	None
	Drilling muds (non-CSG and no additives)	None
	Gypsum	Medium
	Lime and lime slurry (inert)	None
Mushroom compost and mushroom growing substrate		Medium
Poultry processing waste	Feathers, meal and bone leftovers, egg waste including poultry processing poultry abattoir effluent and sludges	Very high
Soils	Acid sulfate soils and sludge	High
	Clean soil, clean mud, sand	None
Stormwater	Low level organically contaminated stormwaters or groundwaters (tested)	Low
Wood waste from untreated timber	Untreated pallets, offcuts, boards, stumps and logs, sawdust, shavings, timber offcuts, crates, wood packaging	Low

Appendices

Appendix 1 – Irrigation Layout



Appendix 2 - Location of Composting Area



Fig 1. Location of Composting Area

Table 1 GPS Coordinates of Composting area.

Latitude	Longitude
-27.428199°	151.702434°
-27.427403°	151.702542°
-27.427798°	151.699793°
-27.427273°	151.700211°

END OF ENVIRONMENTAL AUTHORITY

