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Dear Hamish

Response to EPA Submission on State significant modification application SSD-9418-Mod-2

This letter provides Bettergrow Pty Ltd's (Bettergrow) response to the New South Wales (NSW) Environment Protection Authority (EPA) submission dated 3 March 2026 regarding their State Significant Development modification application SSD-9418-Mod-2 for the Ravensworth Composting facility (the 'facility') at 74 Lemington Road, Ravensworth, NSW (the 'site').

A response has been provided for each issue raised in the EPA submission.

Issue raised:

1. The pasteurisation durations assessed in the AQIA may not be consistent with material to be received

Section 2.2 of the AQIA states that FOGO delivered to the Premises under the Proposal would undergo the following treatment prior to being received.

- Decontamination: Removal of hazardous materials, metals, packaging materials and plastics
- Pasteurisation: Heating the recovered material typically above 55°C for at least 72 hours (consistent with AS 4454–2012: *Composts, soil conditioners and mulches*)

Since the Proponent does not currently accept FOGO material at the Premises, odour monitoring was conducted at a separate composting facility in Dandenong South that processes FOGO material. The Odour Report tested the following material types.

- Raw FOGO (< 1 day old) – 1 sample
- Decontaminated material (~3 weeks old) – 1 sample
- Pasteurised material (1–19 days old) – 6 samples.

Section 3 of the Odour Report states that pasteurisation involves loading decontaminated material into tunnels or sealed vessels where it is held for several weeks (~4 weeks) under aerated conditions to promote biological breakdown. Once pasteurisation is completed, the material is discharged and formed into windrows for further processing.

The EPA notes that the "1–19 days old" pasteurised material tested in the Odour Report represents material after the pasteurisation period (of several weeks) has already occurred. The EPA is concerned that the FOGO material proposed to be received at the

Premises may undergo only the minimum pasteurisation duration of 72 hours. The actual material received under the Proposal may therefore be significantly more odorous than the estimations provided in the AQIA based on findings of the Odour Report.

Recommendation:

The Proponent revise the AQIA to demonstrate the following:

- a) Demonstration that the odour emission rates used in the AQIA constitute a reasonable 'worst-case operational scenario' for FOGO material to be received under the Proposal. The AQIA must address expected pasteurisation durations of the received material.
- b) Perform a sensitivity analysis to demonstrate the predicted odour impacts under a worst-case scenario where all FOGO material received at site has undergone a minimum pasteurisation time (i.e. 72 hours).

Response:

It is important not to confuse the minimum pasteurisation requirement under AS 4454-2012 (i.e. $\geq 55^{\circ}\text{C}$ for 72 hours) with the operational conditions of the facility from which odour data were obtained, and the characteristics of the material proposed to be accepted at the project.

As described in the odour sampling report, the Valoriza facility processes material in enclosed tunnels for a period of approximately four weeks prior to discharge to windrows. The odour monitoring undertaken therefore represents material that has undergone full-scale pasteurisation and stabilisation consistent with industry practice, rather than the minimum regulatory threshold of 72 hours.

A discrete source representing 1-day-old pasteurised material, which is considered representative of the material likely to be received at the project, was explicitly included in the modelling, with a significantly high Specific Odour Emission Rate (SOER) of 4.1 OUV/m²/s. This is consistent with the odour monitoring, which identifies freshly discharged pasteurised material as representing the worst-case emission estimation. In practice, additional time for transport and handling would result in further maturation and a reduction in odour prior to receipt at the site.

With respect to the EPA's concern regarding material processed for only 72 hours, it is noted that the proposed material to be received at the site is described as decontaminated and pasteurised, which in practice reflects a stabilised product consistent with commercial processing facilities, rather than minimally treated material. Even if such minimally treated material were to be received, the modelling approach is conservative, as it applies elevated emission rates to a larger area and duration than would occur under actual operations.

Nevertheless, a sensitivity assessment has been undertaken to demonstrate the potential effect of more odorous material being received. A review of odour sampling from composting operations identifies a maximum SOER of 7.7 OUV/m²/s for newly formed windrows. This represents a highly conservative scenario where all incoming material behaves as freshly processed material across the modelled area.

A comparison of the predicted odour contours using an SOER of 7.7 OUV/m²/s (instead of 4.1 OUV/m²/s) is shown in **Figure 1**. The results indicate that while the spatial extent of odour impacts increases, predicted odour levels remain below the applicable criteria at all residential receivers in Camberwell and at surrounding industrial receivers.

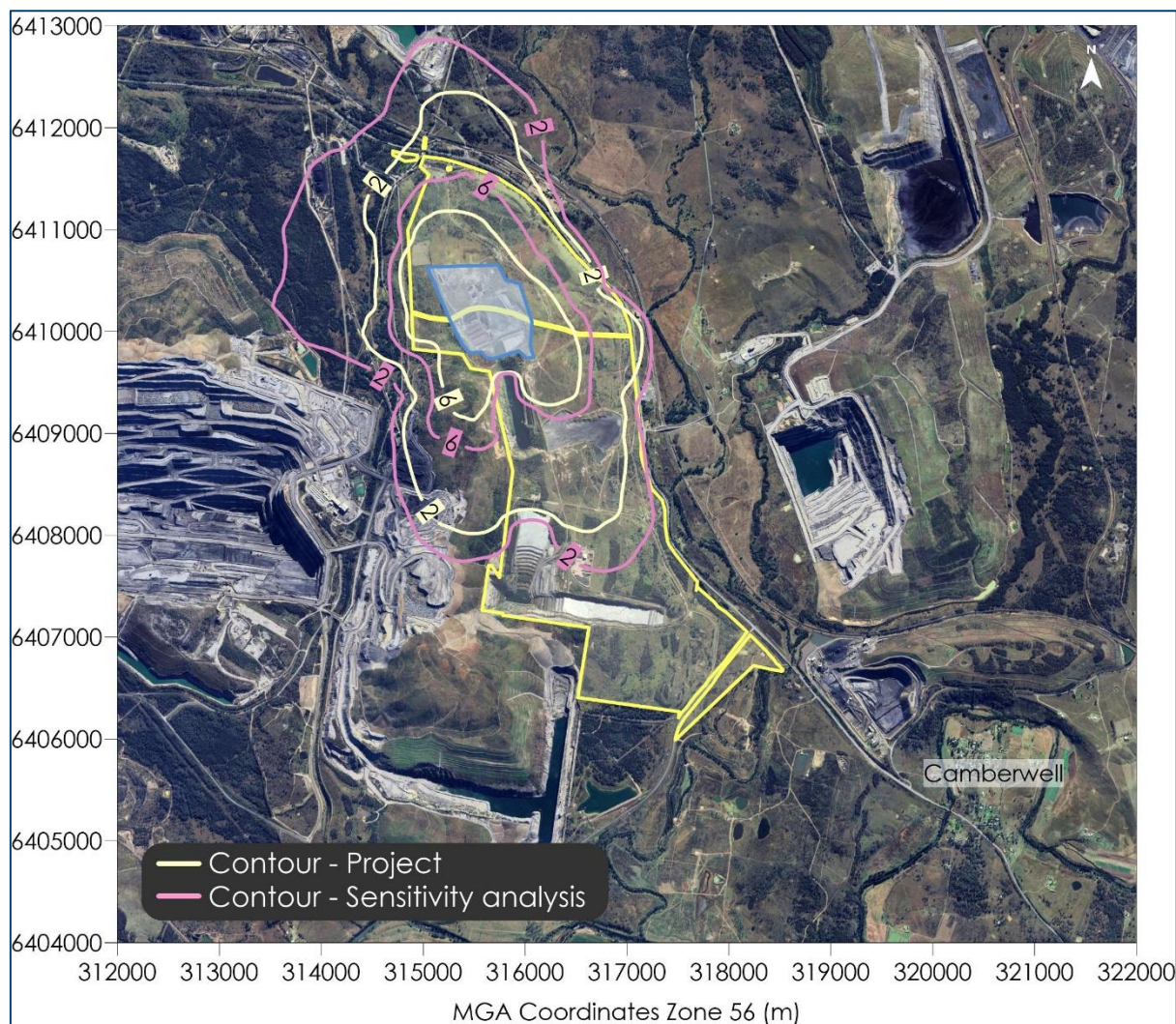


Figure 1: Predicted 99th percentile nose-response average odour concentration – sensitivity analysis

Issue raised:

2. Key assumptions used in the AQIA are not adequately supported or justified

Table 3.1 of the Modification Report states that the Premises is expected to receive 70,000 tonnes per year of FOGO. The AQIA is also based on several assumptions, including:

- Composting processing and blending area size: ~187,000 m² (AQIA, Table 5-4)
- Assumed source odour emission rate (the SOER) for the entire composting processing and blending area: 0.12 OUV/m²/s (AQIA, Table 5-5)
- 1-day old decontaminated and pasteurised FOGO: SOER 4.1 OUV/m²/s (Odour Report)
- 2-19 day old decontaminated and pasteurised FOGO: SOER 0.27 OUV/m²/s (Odour Report)

Based on the assumptions above, the following items remain unclear in the AQIA.

Whether the applied SOER of 0.12 OUV/m²/s for the composting processing and blending area reflects the predicted materials within the area including an annual FOGO throughput of 70,000 tonnes.

What portion of the 187,000 m² composting area is assumed to contain fresh (1-day-old) decontaminated and pasteurised FOGO, which has a significantly higher SOER (4.1 OUV/m²/s).

Recommendation:

The Proponent clarify and justify all odour emission assumptions used in the AQIA including (but not limited to):

- a) Demonstrate that the SOER of 0.12 OUV/m²/s is appropriate for the composting processing and blending area, should the facility process 70,000 tonnes of decontaminated/pasteurised FOGO annually.
- b) Clarify, how the SOER of 0.12 OUV/m²/s was calculated and what odour emission rate was assumed for the decontaminated and pasteurised FOGO material.
- c) Identify and justify the portion of the composting processing and blending area modelled to contain 1-day-old decontaminated and pasteurised FOGO material.

Response:

As described in Section 5.5 of the Air Quality Impact Assessment (AQIA) (Todoroski Air Sciences, 2025), decontaminated and pasteurised FOGO and/or food recovered material would only be accepted at the site once odour levels have reduced to levels comparable with existing on-site materials. Upon receipt, the material would be immediately blended with other organic feedstocks and incorporated into windrows. As such, the material is not expected to remain in an unblended state for extended periods of time. Measured data in Figure 5-6 of the AQIA demonstrates a rapid reduction in odour levels for the decontaminated and pasteurised FOGO and/or food recovered material, and further dilution through blending is expected to result in emissions consistent with existing composting materials.

The adopted SOER of 0.12 OUV/m²/s represents an average of measured emission rates for composting materials across a range of ages and compositions, as presented in Table 5-3 and Table 5-4 of the AQIA. This includes both green waste and decontaminated/pasteurised FOGO materials and is consistent with established practice for mixed-age composting operations. Applying this average uniformly across the composting and blending area is conservative, as it assumes higher-emitting material is always present across the entire area.

A summary of the SOER values used to derive the adopted value is provided in **Table 1**.

Table 1: Summary of SOER values

Source description	SOER (OUV/m ² /s)	Study
One week old (3-part green organic (GO) and 1-part biosolids)	0.045	Advanced Environmental Dynamics (2019)
Five week old (3-part GO and 1-part biosolids)	0.03	
Finished Product (3-part GO and 1-part biosolids)	0.032	
2 and 5 day old decontaminated and pasteurised material	0.26	Ektimo (2025)
19 day old decontaminated and pasteurised material	0.23	
Average	0.12	

Higher emissions associated with freshly processed (1-day-old) material have been separately accounted for by assigning a discrete area of approximately 6,500 m² (~3.5% of the total 187,000 m² area). This represents a conservative upper limit of the daily receipt footprint. The modelling assumes this material is present continuously; however, in practice it would be rapidly blended and incorporated into windrows. Over an approximate 8-week composting cycle, this

material would only be present for a very small proportion of time (~1–2%), and over a much smaller effective area.

Accordingly, the modelling overstates both the spatial extent and the temporal persistence of peak odour emissions from freshly processed material. The adopted SOER of 0.12 OUV/m²/s is considered appropriate and conservative for representing the composting and blending area, including the proposed throughput of 70,000 tonnes per annum (tpa) of FOGO, as emissions are governed by material condition and active surface area rather than throughput alone.

Issue raised:

3. Sensitive receptors have not been assessed appropriately in the AQIA

Section 2 of the AQIA states that the nearest privately-owned residential receptors to the Premises are located in the vicinity of Camberwell (~6km from the Premises). It is also stated that there are other receptors located closer to the Premises (along Hebden Road and Lemington Road) which are said to be between approximately 2 and 5 km from the Premises. The AQIA notes that these residences are on mining land (owned by Glencore and Yancoal) and are subject to noise, air quality, visual amenity, traffic and other environmental impacts from mining operations, and therefore are not considered as sensitive receptors for this assessment.

However, a sensitive receptor is defined in the *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales* (Approved Methods) as “a location where people are likely to work or reside”. The industrial receptors that surround the Premises should therefore be considered as sensitive receptors in the AQIA, which should be considered in the AQIA. 5

Recommendation:

The AQIA be revised to include industrial receptors as sensitive receptors in the AQIA. The AQIA must ensure that the impacts of the facility’s operations are appropriately considered and addressed regarding sensitive receptors.

Response:

The definition of a sensitive receiver as per the *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales* (Approved Methods) (NSW EPA, 2022) is acknowledged and includes ‘a location where people are likely to work or reside; **this may** include a dwelling, school, hospital, office or public recreational area.’

While this definition captures a broad range of land uses, its application must be considered within the context of land use zoning and compatibility. As outlined in Section 3.1.2 of the AQIA, a clear distinction is made between residential and other highly sensitive receivers, which forms the basis for the assessment, and industrial and mining land uses, which are inherently compatible with higher-emitting activities and are not typically assessed against residential criteria.

Applying residential-level criteria to all locations where people may be present, irrespective of zoning, would be inconsistent with NSW planning principles and the intent of the Approved Methods. It would remove the distinction between industrial and residential land uses and impose unreasonable constraints on established industrial precincts.

The receivers along Hebden Road and Lemington Road are located on mine-owned land, subject to existing mining-related environmental impacts, likely to be uninhabited and situated within a predominantly industrial/resource extraction setting. Accordingly, these receivers are not considered representative of sensitive receivers for compliance assessment, which is appropriately undertaken at privately-owned residential locations (e.g. Camberwell).

Notwithstanding this, the potential odour impacts from the project at the industrial receivers, the nearest mine-owned receivers and privately-owned receivers are shown in **Figure 2**. The modelling predictions show no material odour impact from the project at these locations.

The AQIA approach is therefore consistent with the intent of the Approved Methods, and no revision is warranted.

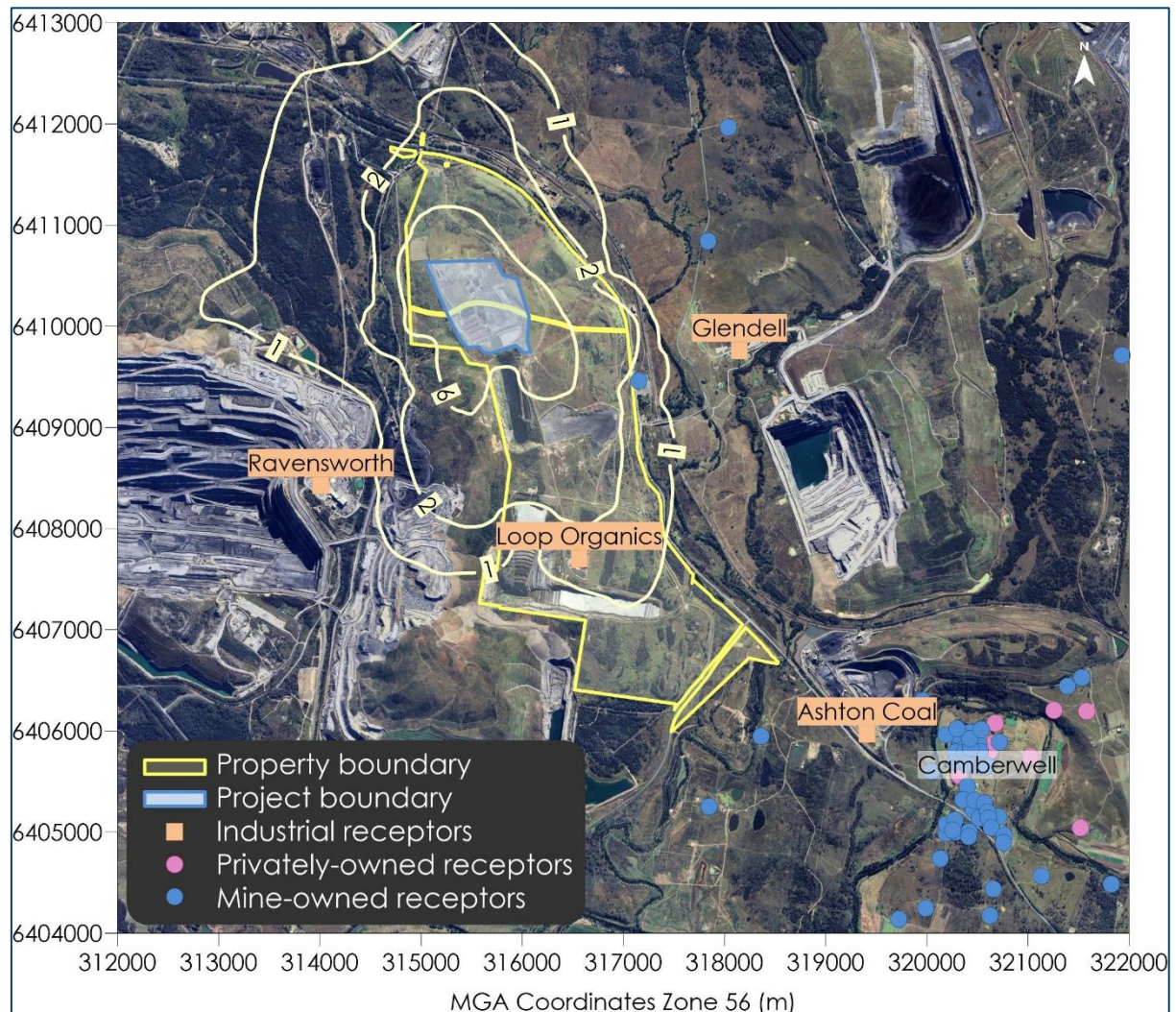


Figure 2: Predicted 99th percentile nose-response average odour concentration – Incremental impact

Issue raised:

4. The AQIA has not considered future land uses.

The Approved Methods states that an air quality impact assessment should consider the location of known or likely future sensitive receptors. The EPA note that the land-use may change in the area surrounding the premises in future, therefore the location/s of any likely future sensitive receptors should also be specifically included in the receptor file.

In accordance with the NSW Technical Framework¹, the Proponent should contact the relevant local councils to determine if any developments are planned or approved in the area likely to be affected by the activity. In addition, advice should be sought as to the probability of change in preferred land use for the area in the short, medium and long term. If the likelihood of changes is high and the probable change in land use is expected to

create compatibility issues for the odour-generating activity, this should be factored into the assessment.

Recommendation:

The AQIA consider the location of known or likely future sensitive receptors in the area surrounding the Premises.

Response:

A review of the Singleton Council development application register on 25 March 2026 did not identify any proposed or approved developments that would result in any compatibility issues with the proposed modification, or any new sensitive receivers that may be impacted by the proposed modification in the future.

The following strategic strategies, plans and policies were reviewed to identify short, medium and long term plans for future development in Ravensworth and its surrounding areas:

- *Hunter Regional Plan 2041* (Hunter Regional Plan) (NSW Department of Planning and Environment, 2022);
- *Singleton Council Local Housing Strategy 2041* (Singleton Council, 2024);
- *Singleton Draft Rural Land Use Strategy* (Rural Land Use Strategy) (Singleton Council, 2025);
- *Singleton Council Local Strategic Planning Statement 2041* (Singleton Council LSPS) (Singleton Council, 2020).

The compatibility of the proposed modification with planned future land uses are discussed in **Table 2**. The review concludes that the proposed modification would not result in any compatibility issues with planned future land use.

Table 2 Future land use strategies, plans and policies

Future land use strategy/plan/policy	Compatibility of proposed modification with planned future land uses
<i>Hunter Regional Plan 2041 (Hunter Regional Plan) (NSW Department of Planning and Environment, 2022)</i> Potential post-mining land use opportunities identified in the Hunter Regional Plan for the Ravensworth Operations area include intensive agriculture, food and fibre processing and offensive industry. Potential post-mining land use opportunities for the surrounding mining land (including the Hunter Valley Operations, Mount Owen Operations, Liddell Coal Operations, Liddell and Bayswater Power Station, Glendell Open Cut Operations, Ashton Coal Project) include industrial, manufacturing, energy, intermodal (inland rail), intensive agriculture, food and fibre processing and offensive industry.	Proposed post-mining land uses in Ravensworth and surrounding areas are not expected to result in any compatibility issues with the proposed modification.
<i>Singleton Council Local Strategic Planning Statement 2041 (Singleton Council LSPS) (Singleton Council, 2020)</i> The nearest strategic growth areas to the existing Ravensworth Composting Facility ('site') identified in the Singleton Council LSPS are at Jerry's Plains, approximately 14 kilometres (km) south-west of the site, and Singleton, approximately 20 km from the site.	Strategic growth areas identified in the Singleton local government area (LGA) are a significant distance away from the site, and is not expected to result in any compatibility issues with the proposed modification.
<i>Singleton Draft Rural Land Use Strategy (Rural Land Use Strategy) (Singleton Council, 2025)</i>	The proposed modification aligns with Planning Principle 4 for rural land in the Singleton LGA, as it supports a circular economy, ecological restoration

Future land use strategy/plan/policy	Compatibility of proposed modification with planned future land uses
The Rural Land Use Strategy outlines seven planning principles to provide a clear framework for the long term planning, management and protection of Singleton's rural land. The following planning principle is relevant to the proposed modification: Planning Principle 4 – Repurpose former mining land for rural diversification: Unlock the potential of rehabilitated mining land to contribute to a net-zero future, support ecological restoration, agricultural productivity, and create employment and investment opportunities in compatible industries. The Rural Land Use Strategy identifies land to the north-east of Singleton, more than 20 km away from the site, for potential rural residential development.	and agricultural productivity in the region, and generate employment and investment opportunities in the region. Land identified in the Singleton LGA for potential rural residential development is a significant distance away from the site, and it is not expected to result in any compatibility issues with the proposed modification.
Singleton Council Local Housing Strategy 2041 (Local Housing Strategy) (Singleton Council, 2024) The Local Housing Strategy identifies land that may be rezoned for residential use around Singleton, approximately 20 km away from the site, and Branxton, further to the south-east of Singleton, to address future housing gaps.	Land identified in the Singleton LGA for potential rezoning for residential use is a significant distance away from the site, and it is not expected to result in any compatibility issues with the proposed modification.

Issue raised:

5. The AQIA has not considered potential options available to control odour

Under the NSW Technical Framework, it is important that proponents consider what options are available to control odour for new and modified activities during the assessment/planning stages of a proposal.

Section 6.2 of the NSW Odour Technical Framework states the proposal must include any additional feasible mitigation measures that could be implemented if the facility emits offensive odour after it is operational.

The Proponent should therefore identify measures beyond the proposed operations which could be implemented should odour impacts occur after plant modifications have taken place.

Recommendation:

The Proponent must investigate and outline additional odour control options that could be applied at the Premises, should odour impacts occur once proposed operations have been implemented.

Response:

The Ravensworth Composting facility implements industry-recognised best practice for large-scale open windrow composting, with controls designed to prevent the formation of anaerobic conditions and associated odour generation. Odour emissions from the existing composting activities are currently managed and minimised in accordance with the *Composting Management Plan, Including Management for CA-05 Biosecure Treatment of Phylloxera Host Plant Material for Recycling* (Bettergrow, 2025) and associated Standard Operating Procedures (SOPs), as part of Bettergrow's ongoing commitment to effective odour control and compliance with regulatory requirements.

The current odour management measures implemented at the facility include, but are not limited to, the following:

- **Moisture management:** Moisture content within compost windrows is actively managed and maintained within the target range of approximately 45–50% (w/w). Excess moisture, which may contribute to anaerobic conditions and odour generation, is avoided through operational controls and regular monitoring.
- **Carbon to nitrogen ratio:** Feedstock blending is undertaken to achieve an optimal carbon to nitrogen (C:N) ratio of approximately 25–30:1, which supports aerobic decomposition and minimises the potential for nitrogen-based odour emissions.
- **Aeration and windrow turning:** Windrows are regularly turned to ensure adequate aeration and to maintain aerobic conditions throughout the composting process. This practice reduces the likelihood of anaerobic zones developing within the windrows.
- **Temperature monitoring and control:** Windrow temperatures are routinely monitored. Operational controls are implemented to prevent sustained temperatures exceeding approximately 67°C, as excessive temperatures may contribute to anaerobic conditions and increased odour potential.
- **Management following rainfall events:** Following periods of heavy rainfall, windrows that may become saturated are assessed and managed through additional turning and drying as required, to restore aerobic conditions and minimise odour generation.
- **Particle size control:** Best practice for green waste (and FOGO) composting is to maintain a balanced, heterogeneous mix of larger and smaller particle sizes. This enhances structural porosity and supports effective aeration.
- **Covering of odorous materials:** Where odour is detected or there is a potential for odour generation, compost materials are covered with green waste or more mature compost to suppress odour release.
- **Equipment and infrastructure:** Bettergrow has invested millions in modern European-designed windrow composting assets, which enhances aeration during turning operations and further assists in odour management.

As mentioned in Section 6.2.5 of the Modification Report, decontaminated and pasteurised FOGO and/or food recovered material is more likely to arrive on-site more than 24 hours after it was removed from the pasteurisation tunnels, with odour levels significantly reduced to existing odour levels on-site as the material matures.

Nevertheless, to manage any potential additional odour emissions, the decontaminated and pasteurised FOGO and/or food recovered material would be incorporated into a windrow containing biosolids and green waste as soon as practicable. Where immediate incorporation is not possible, the material would be temporarily covered with green waste until incorporation into a biosolids composting windrow can occur. These measures are expected to effectively minimise potential odour emissions once decontaminated and pasteurised FOGO and/or food recovered material arrive onsite.

Kind Regards



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