

3 June 2026

David Ansen
Department of Planning, Housing and Infrastructure

Via: Major Projects Portal

EPA Advice on Assessment – Ravensworth Composting Facility – SSD-9418-MOD-3

Dear Mr Ansen

I am writing in response to your request for the NSW Environment Protection Authority (EPA) to review the Submissions Report for the proposed Ravensworth Composting Facility MOD 3 proposal for the Throughput increase and receipt of Food Organics and Garden Organics (FOGO) from Municipal and C&I sources (SSD-9418-MOD-3) at 74 Lemington Road, Ravensworth (premises) currently operated by Bettergrow Pty. Limited (Applicant).

The EPA has reviewed the following documents:

- *Modification Report – Ravensworth Composting Facility- State Significant Development – Modification 3* – Element Environment – 31 October 2025 (Modification Report).
- *Air Quality Impact and Greenhouse Gas Assessment, Bettergrow Ravensworth Composting Facility, Modification 3* - Todoroski Air Sciences Pty Ltd - 30 October 2025 (AQIA).
- *Modification 2 & Modification 3 of State Significant Development 9418 for Bettergrow Pty Ltd Odour Emission Monitoring at Valoriza Dandenong* – Ektimo Pty Ltd - 25 August 2025 (Odour Report).
- *Surface Water Impact Assessment – Ravensworth Composting Facility – 74 Lemington Road, Ravensworth NSW* – Senversa Pty Ltd – 29 October 2025 (SWIA)

The EPA understands the proposal is for:

- A 50,000 tonne per annum increase in the processing capacity of the premises from 200,000 tonnes per annum to 250,000 tonnes per annum,
- Receiving and processing raw FOGO recovered material at the premises,
- Installation of a weighbridge at the premises, and
- Up to 5 additional light vehicles and 14 additional heavy vehicles to access the premises per day.

Bettergrow Pty. Limited currently holds environment protection licence No. 7654 (Licence) issued under section 43 of the *Protection of the Environment Operations Act 1997* (POEO Act). The Licence authorises the scheduled activity of composting to be carried on at the premises.

The EPA has reviewed the Modification Report and considers that additional information is needed to address the matters identified below, and recommends the Department of Planning, Housing and Infrastructure (DPHI) consider the following comments as part of its assessment.

Matters to be addressed prior to determination

- Air/Odour

The EPA requires additional information to support its review of the Air Quality Impact Assessment.

- Waste/Resource Recovery

The EPA requires additional information on the proposed waste type volumes and the composting or blending staging of all waste types at the premises.

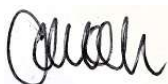
- Surface Water Management

Clarification of measures to reduce the potential for contamination of clean water diversions and leachate management.

The EPA requires additional information to support its review of the proposed air/odour, surface water and leachate management at the premises. Detailed comments are provided in **Attachment A**.

Please contact Carolyn Alford via email at environmentprotection.planning@epa.nsw.gov.au if you have any questions about this matter.

Yours sincerely



CHRIS MARSH
A/Unit Head – Industry Assessments
Environment Protection Authority

Encl: Attachment A – EPA Comments

Attachment A

SSD-9418-MOD3– Bettergrow Ravensworth Composting – Proposed raw FOGO composting and increased processing capacity – Detailed EPA comments

The EPA has reviewed the Modification Report and supporting documents. Detailed comments and requests for additional information to assess the proposal are provided below.

Air

1. Adopted odour emission rates are unclear

Section 5.5 of the AQIA states that odour emission rates for the modelled odour sources were estimated based on site specific sampling conducted at the Bettergrow Ravensworth composting facility (the facility), as well as an additional facility that receives raw FOGO material. The data was then supplemented with literature values based on a review of studies from comparable operations. The AQIA states that the maximum odour levels for each week (week 0-8) were used to estimate the source odour emission rate (SOER) over the duration of the composting process. Figure 5-6 indicates a maximum SOER for FOGO recovered material of ~7.4 OUV/m²/s, however, table 5-5 specifies that the SOER applied in the assessment was 1.8 OUV/m²/s, which represents an inconsistency between figure 5-6 and the data used for modelling.

The SOER applied to the raw FOGO material appears to be consistent with the two odour flux samples taken as part of the Odour Report. However, FOGO waste can be highly variable depending on the particular waste stream. Therefore, the adopted SOER for raw FOGO material should be representative of a reasonable worst case. The EPA notes that the modelled FOGO SOER requires further clarification, to demonstrate its suitability for assessment purposes.

Recommendation

The EPA recommends that DPHI requests the Applicant amend the assessment to ensure that the adopted Source Odour Emission Rate (SOER) for Food Organics and Garden Organics (i.e. at week 0) is representative of a reasonable worst case scenario.

2. Odorous activities associated with FOGO composting do not appear to have been considered in the AQIA

The AQIA modelled the composting processing and blending area of the facility as a total area source (187,000 m²). The source odour emission rate (SOER) was then applied over this area based on the age of the material as shown in table 5-5. The EPA note that this assumption may represent the odour potential of the facility under standard conditions, however, activities with a higher odour potential do not appear to be considered, as outlined below:

- *Shredding and blending*: Based on table 1.2 of the Modification Report, part of the mobile plant at the facility includes a shredder. Shredding and blending activities can cause increased levels of odour due to the release of trapped gases. The odour associated with shredding / blending does not appear to have been considered in the AQIA.
- *Windrow turning*: Although a necessary part of the composting process, windrow turning can cause a temporary increase in odour emissions. The odour associated with windrow turning does not appear to have been considered in the AQIA.
- *Non-ideal conditions*: Windrows are required to be maintained under specific environmental conditions (e.g. moisture and temperature) to prevent anaerobic conditions from developing. Moisture from rain events can fill pore spaces, potentially contributing to anerobic conditions and increased odour levels. The Modification Report notes that during the composting process, temperature and moisture levels for each windrow are monitored and adjusted as needed, however it is unclear how excessive moisture levels are controlled during the

composting process, particularly during prolonged wet periods. Therefore, it is unclear if current mitigation measures are sufficient to minimise offsite odour impacts, given the significant changes to feedstocks and receival capacity proposed.

- **Additional areas:** Figure 5-4 of the AQIA shows the composting, processing and blending area of the facility which was modelled as part of the assessment. However, it appears that there are additional piles located to the north of the composting, processing and blending area, that are within the boundary of the facility. Additional compost piles do not appear to have been considered in the assessment.
- **Leachate dams:** The SOER adopted for the leachate dams is 1 OUV/m²/s, which appears to be based on site-specific sampling conducted during 2018. The EPA notes that the sampling conducted may be representative of the operations of the facility at the time when sampling was conducted i.e. a receival of up to 76,000 tonnes per annum (tpa) of biosolids and garden organics. However, under the proposal, the facility intends to accept 250,000 tonnes per annum, including ~100,000 tonnes of FOGO waste, 42,500 tonnes of biosolids and 10,000 tonnes of manure. The EPA notes that the leachate dams are regarded as a significant source of odour for the site, therefore, a small increase in the SOER may result in a significant increase in the odour potential for the facility. The EPA advises that the adopted SOER for the leachate dams should be appropriate regarding the proposed volume and type of feedstock received at the facility.

Recommendation

The EPA recommends that DPHI requests the Applicant considers all potential odour sources, including (but not limited to) those outlined above as part of the odour dispersion modelling, as described below:

- **Odour source identification – the AQIA should be revised to include the following odour sources, or appropriate justification for their exclusion:**
 - **Shredding and blending activities,**
 - **Windrow turning activities,**
 - **Additional areas must be considered (i.e. piles located to the north of the composting, processing and blending area),**
 - **Leachate dams: The SOER for leachate dams must reflect the proposed volume and type of feedstock to be received at the facility.**
- **The AQIA should be amended to clearly describe how odour emissions will be managed and mitigated under a range of operating scenarios, including:**
 - **Non-ideal conditions (i.e. prolonged wet weather).**

3. Additional controls do not appear to have been considered in the assessment

Under Appendix B of the Modification Report, the mitigation and management measures for the project remain the same as the existing approved development. The EPA note that under the proposal, the facility would accept an additional 50,000 tonnes of waste per annum (increasing the processing capacity of the facility from 200,000 to 250,000 tpa), including ~100,000 tonnes of FOGO waste, 42,500 tonnes of biosolids and 10,000 tonnes of manure. The odour potential of the proposal is therefore significantly greater than that of the current operation however it does not appear that additional odour controls have been considered. Open composting systems, such as turned windrows are generally suitable where feedstocks are lower risk, and where sites have sufficient separation from sensitive receivers. However, as processing volumes increase, or where higher risk feedstocks are accepted (such as FOGO), additional controls are usually required. Although the facility is located a significant distance from sensitive receptors, the risk of potential odour impacts is not completely removed, therefore additional controls should be further

considered.

The EPA note that the Loop Organics facility, (located immediately to the south of the Bettergrow facility) accepts FOGO waste. Although the Loop Organics facility is significantly smaller than that of the proposal (accepting a maximum of 55,000 tonnes per annum), the following mitigation measures are included in their environment protection licence:

- Geofabric covers are used with Category 3 food organics material,
- Category 3 food organics material must be covered at the end of each operational day until the material is stabilised.

The EPA note that Loop Organics facility also utilise a sorting shed, which has not been considered as part of the proposal.

The EPA consider that to maintain consistency with other FOGO composting facilities and to minimise odour impacts associated with the proposal, the Applicant must consider additional mitigation measures to reduce the risk of offsite odour impacts. The EPA recommends that all reasonably practicable measures to minimise or control odour from the facility must be considered.

Recommendation

The EPA recommends that DPHI require the Applicant to consider all additional reasonably practicable mitigation measures to reduce the risk of offsite odour impacts from the proposal.

4. The cumulative odour assessment does not appear to be reasonable worst case

Table 5-2 of the AQIA has outlined that the approximate area for the Composting Processing & Blending Area of the Loop Organics facility is 71,500 m². The specific odour emission rate (SOER) for the Loop Organics facility was based on site-specific monitoring conducted at the Bettergrow Ravensworth facility in 2019. The site-specific measurements returned an average SOER of 0.034 OUV/m²/s based on the testing conducted, which is similar to that of fresh greenwaste (0.027 OUV/m²/s). However, under the Environment Protection Licence of Loop Organics (EPL 20892), the facility is able to accept General Solid Waste (putrescible) i.e. food waste as defined in Composting in Schedule 1 of the POEO Act. The assumed SOER of 0.034 for the Loop Organics facility is therefore not considered to be consistent with the waste that may be received at the site. The EPA considers that the assessment should ensure the cumulative odour assessment is representative of the types of waste which are accepted by Loop Organics.

Recommendation

The EPA recommends that DPHI request the Applicant amends the cumulative odour assessment to consider representative types of waste which are accepted by Loop Organics (including the receipt and composting of FOGO waste).

5. Sensitive receptors do not appear to have been assessed appropriately

Section 2 of the AQIA states that the nearest privately-owned residential receptors to the facility 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 site. 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 EPA notes that all sensitive receptors “i.e. locations where

people are likely to work or reside” should be considered in an AQIA to ensure that potential impacts from a proposed activity are well understood and appropriately addressed/mitigated where necessary. The AQIA should clearly outline all potential off site sensitive receptors, which would include residences on mine owned land and industrial receptors, to ensure that impacts from the proposal are understood and appropriately managed.

Recommendation

The EPA recommends that DPHI request the Applicant amend the AQIA to consider all sensitive receptors as defined by the Approved Methods to ensure that the impacts of the facility’s operations are appropriately considered and addressed.

6. The AQIA does not appear to have identified engineering contingencies that could be implemented should odour impacts occur under the proposal

The AQIA and the Modification Report (Appendix B) provides a list of the existing and proposed mitigation measures. Mitigation measures nominated for odour include:

- All odorous wastes are to be mixed immediately with less odorous wastes to reduce odour generation.
- Compost materials will be watered to a moisture content such as not to create an anaerobic environment.
- Odour monitoring will be undertaken as required should an issue be identified at a sensitive receiver.

The EPA notes that the nominated measures outlined in Appendix B of the Modification report are the same as the existing modified development (Modification 1) controls. It is also noted that Appendix B does not explicitly identify engineering contingencies or additional operational contingencies that could be implemented should odour impacts occur once operational.

To ensure the risk of odour impacts has been appropriately communicated, the EPA considers that the Applicant should nominate specific contingencies measures that could be implemented should odour impacts occur once operational. In nominating contingencies consideration could be given, but not necessarily limited to:

- enclosing part of the facility,
- covering of odorous material with geofabric materials,
- implementation of end of pipe engineering controls for reducing odorous emissions, and
- ceasing receipt of highly odorous material (including FOGO).

Where the Applicant can nominate specific engineering contingencies that could be implemented at the planning stage, the overall risk of odour impacts is reduced. Per the NSW Odour Technical Framework, it is important that the Applicant considers 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 EPA recommends that DPHI request the Applicant investigate and outlines additional odour control options that could be applied, should odour impacts occur once proposed operations have been implemented.

Waste and Resource Recovery

1. The applicable resource recovery orders and exemptions for raw FOGO recovered materials should be clarified.

Section 3.4 of the Modification Report states that raw FOGO material will be received and processed at the premises in accordance with 'The Compost Order 2016' issued by the EPA. However the facility also receives biosolids, which in Table 3.1, are proposed to be blended into the compost. This is not in compliance with the Compost Order 2016. If the feedstocks of raw FOGO and biosolids are proposed to be mixed, the compost produced would need to be supplied under the 'Biosolids Order 2014' or a specific resource recovery exemption for that compost material.

The EPA understands that the Applicant currently holds "The Bettergrow Compost Order 2025" and the "The Bettergrow Compost exemption 2025", which specifically allow for the composting of 'any combination of biosolids, spent bleaching clay, paper crumble, mulch, garden organics, food waste manure, paunch, recovered plasterboard and Bayswater mine water" and expires on 11 June 2027. The raw FOGO received on-site could be composted under either:

- the general Compost Order 2016 if the feedstocks to composting are limited to the allowed inputs under this general order (i.e. any combination of mulch, garden organics, food waste, manure and paunch); or
- the specific order and exemption 'The Bettergrow compost order 2025' which permits additional inputs to composting as noted above.

Recommendation

The EPA recommends that DPHI request the Applicant clarifies the applicable resource recovery orders and exemptions the composting operations at the facility will receive and process waste streams under.

2. Material quantities in the Modification Report are not consistent with individual waste classification types and don't clearly identify materials that will be composted or materials that will be blended.

Table 3.1 of the Modification Report outlines the proposed annual throughputs of different types of materials that will be received and processed at the premises per year. The EPA notes that waste types such as Excavated Natural Materials (ENM) and Virgin Excavated Natural Materials (VENM) have been combined into the same throughput stream. ENM and VENM are different waste classes. By combining them into one line with a combined total of 15,000 tonnes per annum, this will make distinguishing one from another difficult. VENM and ENM are both identified as received 'ready for blending' (column 4 of Table 3.1). The EPA assumes these will be blended with the final compost produced on site. A similar term is used for other received materials which should be 'blended and composted' so it is not clear about the intended processing for some of the received materials. It is not clear whether they will go through a composting process, as defined by the compost orders, or if the materials are to be blended at the end of the full process.

The EPA notes that 'Animal waste (manure)' is listed as 'raw – for blending' in Table 3.1. Manure should be added at the start of the composting process as per the Compost Orders and receive the full composting treatment, not simply added to the final compost.

The 'Recycled water from Bayswater Power Station' is listed as 'raw – for blending and compost maintenance'. The 'Bettergrow Compost Order 2025' allows the use of 'Bayswater mine water' as an input to the composting process. This is defined as '*water extracted from Void 4 within Environment Protection Licence 2652 and used as an alternative moisture source for composting*'. It is not clear if these two references refer to the same liquid. If this is not the same liquid, it presents a potential source of pathogen contamination of the compost if it is used after

pasteurisation stage. If it is a different water source, it should also be assessed for potential chemical contamination before it is permitted for use in any stage of the generation of compost.

Recommendation

The EPA recommends that DPHI request the Applicant to amend the Modification Report to:

- **Clearly identify each waste type separately,**
- **Clearly identify the material types proposed to be processed via ‘composting’ as defined in the ‘Compost Order 2016’ or the ‘Bettergrow Compost Order 2025’, and note if they require pasteurisation,**
- **Clearly identify which materials will be blended after composting is completed,**
- **Outline how these proposed material handling procedures will meet each resource recovery order, and**
- **Clarify if the source of water referenced in the assessment is the same as that specified within ‘Bettergrow Compost Order 2025.’**

Surface Water Management

1. Further clarification is required for surface water management controls.

The EPA notes that in the SWIA several potential risks to surface water quality and contamination were identified at the premises. Figure 5-1 of the SWIA shows the outline of the clean water drainage alignment with a number of potential contamination risks, as follows:

- Northern stockpiled area with material stored hydraulically up-gradient of the clean water drainage alignment,
- Eastern clean water drainage line appears discontinuous with access tracks and internal roads visible crossing the line with no segregation evident,
- Chemical spills or leak risks from the refuelling diesel tank and fill location.

The EPA notes that whilst the SWIA recommends SWIA management and mitigation actions for the clean water diversion infrastructure and leachate management systems, it is not clear what measures the Applicant is proposing to implement as part of this modification. As a result, the EPA considers that additional clarification on measures to reduce the risk of contamination of the clean water diversions should be provided.

Recommendation

The EPA recommends that DPHI requests the Applicant provide:

- **Clarification of how the contamination risks above have been addressed.**
- **Clarification of the outcome of the inspection recommended by the SWIA to check the integrity and operational effectiveness of the clean water diversion infrastructure at the premises, and any rectification action identified.**
- **An updated Site Plan with surface water and leachate management features detailed showing how surface water and leachate will be managed to prevent contamination in the proposed expansion of composting operations.**

2. Further clarification is required for leachate management controls.

The EPA notes that the Modification Report does not appear to provide sufficient detail on measures to minimise the generate of leachate. The EPA considers that with the increase in

volume of material processing, there is potential for increased leachate generation. It is not clear if existing management controls are appropriate to manage the potential increase in leachate volume or if additional controls would be required.

Recommendation

The EPA recommends that DPHI request the Applicant clarify the proposed measures to minimise the volume of leachate, and any additional measures required to manage increased risks of leachate generation.