



memorandum

TO Paul Barrett FROM Jonathan Harland
Hawkes Bay Regional Council DATE 3 December 2020
RE Review of the Odour Assessment for Te Mata Mushrooms Waipukurau Site

Hawkes Bay Regional Council (HBRC) has engaged Pattle Delamore Partners Limited (PDP) to undertake a review of an odour assessment (the Report) prepared for the Te Mata Mushroom Company (TMM) by Air Quality Professionals Pty Ltd (AirQP) for its Waipukurau site. This memo sets out the review of the odour effects and makes general comments about the Report.

1.0 Introduction

TMM is seeking a consent for discharges to air from a proposed compost making facility on Mt Herbert Road, Waipukurau, which will provide incubated compost to TMM's growing facility. The proposed composting facility will be designed by GTL Europe, which specialise in composting and mushroom cultivation systems.

The raw materials will consist mainly of pea straw, chicken litter and gypsum, but on occasion may also include other additives such as maize. This material is then composted using the following phases:

- ∴ Active aerated composting in closed bunkers.
- ∴ Maturation and pasteurisation in closed tunnels.
- ∴ Mixing mushroom spawn and incubation.

The bunkers used in this system are kept under a slight negative pressure, with the odorous air from these locations treated via a biofilter before being discharged to atmosphere. There will also be fugitive odours from the site such as when phase 1 compost is moved between the bunkers or when mixing is occurring, as well as odour from the leachate pond.

AirQP has assessed the potential odours from this site on a number of sensitive receptors (mainly dwellings but also a local Wahi Tapu site Tukituki Trail and the Mountain Bike Park) using air dispersion modelling. Air dispersion modelling was undertaken using CALPUFF, and the CALMET meteorological data required by CALPUFF was developed based on reviewing 10 years of nearby meteorological data of which 2014 was chosen to represent an "average" year and 2017 was chosen to represent a "worst case" year based on the higher frequency of low windspeeds.

The assessment has modelled a number of different scenarios, and overall the assessment concludes that the odour discharges from the proposed compost making facility will result in "less than minor" effects at all of the identified sensitive receptors.

2.0 General Comments

In general, the report covers most of the matters that are considered necessary for a report of this type. Based on the modelling presented in the assessment, the residential receptors are all predicted to have a fairly low odour concentration, and the effects at these locations could be considered to be less than minor. However the modelling indicates the Tukituki Trail, Wahi Tapu site and the Gum Tree Farm Mountain Bike Park will on occasion experience odour concentrations higher than 5 OU. For example, given the potential concentration and character of the odour, and that there is between 900-2000 people per month that use the Tukituki Trail it is quite likely someone passing by may experience an odour they would consider the odour offensive/objectionable.

Therefore, there are a number of areas where PDP considers additional information is required so that an appropriate assessment can be undertaken. The following sets out the additional information we require:

- ∴ Please provide a detailed drawing and site layout of the proposed composting facility.
- ∴ We understand that chicken manure is brought onto site approximately once per week where it will be immediately mixed outside with gypsum and then stored in a covered bunker within the Mixing Hall. How long does the process take to mix the gypsum with the chicken manure and how is the odour controlled?
- ∴ The Mixing Hall will be fitted with a point source extraction which will capture most of the odour emissions from the bale breaker machine. Can you please provide some specifications of the extraction system and confirm if this air will be treated via the biofilter before being discharged to atmosphere?
- ∴ PDP is aware of another mushroom composting operation that fully encloses the entire operation. Considering that compost is moved from the phase 1 bunkers to the Mix Hall can you please explain how the proposed plant is considered best practice?
- ∴ What will happen if there are excess amounts of leachate in the pond and if so how will it be disposed of? If irrigated to land, please provide an assessment of odour effects for this process.
- ∴ It will be helpful to have a draft Odour Management Plan (OMP) to understand how the site intends to control odorous activities.
- ∴ Can you please provide further information on how you have come to an emission rate of 0.5 OU.m³/m²/s for the leachate pond?
- ∴ Can you provide further justification on the use of 10,000 OU.m³/s for the fugitive emission rate?
- ∴ If the access via the applicants site is going to be continued for users of the Gum Tree Farm Mountain Bike Park please provide assessment of level of odour effects at this location.
- ∴ We understand that the neighbouring land has been subdivided, please provide assessment of likely odour effects at these locations.
- ∴ In light of The Otway Oasis Society Incorporated (NZEVC 169) vs the Waikato Regional Council decision, are there any other nearby locations where residences could be established, and if so can you please provide an assessment of effects for these locations?
- ∴ Given the significance and sensitive nature of the Wahi Tapu site please assess this location against the 99.9th percentile assessment criteria.
- ∴ It is likely that the users of Tukituki Trail and Mountain Bike Park would expect a high level of amenity at these locations and that users may spend extended periods of time within these locations such as at the picnic area, therefore please assess these locations against the 99.9th percentile assessment criteria.

3.0 Closure

PDP is happy to talk through these comments directly with TMM consultants if that would be helpful.

Prepared by



Jonathan Harland

Service Leader – Air Quality