

Monday 5 November 2018

Elf Farm Supplies Pty Ltd
108 Mulgrave Road
MULGRAVE NSW 2756

Our Reference 160787-01-03L-DD

For the attention of Blake Edwards

**Operational Noise Compliance Measurement
Mushroom Substrate Plant – 108 Mulgrave Road, Mulgrave**

1.0 INTRODUCTION

This report provides the findings for the site inspections, measurements of operational noise levels and assessment of compliance with the operational noise assessment objectives set out in Approval MP 08_0255 MOD 1 dated 14 March 2016 for the Mushroom Substrate Plant at 108 Mulgrave Road, Mulgrave.

2.0 NOISE ASSESSMENT OBJECTIVE

With reference to Approval MP 08_0255 MOD 1 dated 14 March 2016, operational noise assessment objectives for the Mulgrave Mushroom Substrate Plant are as follows:

- 19. The Proponent shall ensure that the operational noise generated by the Substrate Plant site does not exceed the criteria in Table 2.*

Table 2 Operational Noise Impact Assessment Criteria, dB(A)

Receiver/Location	Day/Evening L_{Aeq} (15 minute)	Night L_{Aeq} (15 minute)
<i>R1 – 46 Mulgrave Road, Mulgrave</i>	43	43
<i>R2 – Mulgrave Industrial Area</i>	42	42
<i>R3 – 2 Railway Road, Mulgrave</i>	42	37
<i>R4 – 126 Mulgrave Road, Mulgrave</i>	44	41
<i>R5 – Chisholm Place, South Windsor</i>	44	42

Note: Noise generated by the Project is to be measured in accordance with the relevant procedures and exemptions (including certain meteorological conditions) of the NSW Industrial Noise Policy.

It is noted that *Receiver Location R2* was a residential dwelling located in an industrial area. This dwelling has been demolished and the site is currently vacant land being advertised for sale for industrial unit development.

Accordingly, the noise assessment objective at *Receiver Location R2* is revised to 70dB(A) $L_{Aeq,15min}$ when occupied.

3.0 PREDICTED OPERATIONAL NOISE

Table 1 presents the predicted cumulative operational noise levels, extracted from Atkins Acoustics and Associates' Report No. 40.6411.R1:CFCD4 Rev03 (Operation and Construction Noise Impact Assessment – Mushroom Substrate Plant, Mulgrave) dated June 2010 and Report No. 45.6932.L2:CFCD7 (Acoustic Review – Modified Operations – Mushroom Substrate Plant, Mulgrave) dated 17 February 2015. The predicted operational noise levels vary, depending on meteorological conditions.

Table 1 Predicted $L_{Aeq,15min}$ Operational Noise Level, dB(A)

Receiver Location	Predicted $L_{Aeq,15min}$ Noise Level, dB(A)	
	Atkins Acoustics Report No. 40.6411.R1:CFCD4 Rev03	Atkins Acoustics Report No. 45.6932.L2:CFCD7
R1 – 46 Mulgrave Road, Mulgrave	31-42	37-43
R2 – Mulgrave Industrial Area	35-38	38-40
R3 – 2 Railway Road, Mulgrave	32-36	35-37
R4 – 126 Mulgrave Road, Mulgrave	35-39	37-41
R5 – Chisholm Place, South Windsor	31-38	39-42

4.0 NOISE MEASUREMENT

Site inspections and noise measurements during day, evening and night operations were conducted from:

- 2:15pm-5:00pm on Thursday afternoon 25 October 2018. Weather conditions were fine and calm with occasional breeze at times;
- 6:40pm-8:50pm on Wednesday evening 31 October 2018. Weather conditions were fine and calm with occasional slight breeze at times; and
- 10:00pm-12:15am Wednesday night/Thursday morning 31 October/1 November 2018. Weather conditions were fine and very calm/still.

Noise measurements were conducted at:

- R1 outside the fence of the residential dwelling (between the residence and the Mushroom Substrate Plant) within the industrial premises (Plant Haul Heavy Haulage) at 46 Mulgrave Road, Mulgrave during daytime. During evening and night, the property was not accessible and measurements were conducted on the eastern site boundary along Mulgrave Road, at similar distance to the Mushroom Substrate Plant. In any case, it would not be possible to undertake noise measurements at the residence during evening and night due dogs on the premises (dogs barking constantly at strangers. The owners controlled the dogs during the daytime noise measurement).

- R2 outside the fence of the vacant lot at 103 Mulgrave Road, Mulgrave. This property was previously identified as a residence within an industrial area. However, the residence has been demolished and the currently vacant land is being advertised for sale for industrial unit development.
- R3 outside the fence of the residence at 2 Railway Road, Mulgrave.
- R4 outside the nearest dwelling of 124 Mulgrave Road, Mulgrave between the residence and the Mushroom Substrate Plant. This property was identified as 126 Mulgrave Road, Mulgrave previously. However, checking with NSW Government Spatial Services and the property owner confirmed that the property address is 124 Mulgrave Road, Mulgrave.
- R5 at the fence of the vacant land of 4 Chisholm Place, Windsor

Observations during the site inspections and measurements confirmed that background and ambient noise environment was controlled by other noise sources unrelated to the Mushroom Substrate Plant. These include road traffic, birds, roosters, dog barking, intermittent train pass-bys, train horn, signal from rail level crossing, train idling at Mulgrave Railway Station waiting for trains in opposite direction to pass (controlled by the rail level crossing), PA announcements at Mulgrave Railway Station and insects and frogs in the evening and at night.

In the evening and at night, industrial type noise from east (east of Hawkesbury Valley Way) was clearly audible at receiver locations R1 to R4 during the site inspections. Acoustic Consulting Engineers Pty Ltd could not identify the noise source(s). A local resident commented that the noise was due to concrete batching plant.

Except for Receiver R5, noise from the Mushroom Substrate Plant was inaudible and unidentifiable at all times during the site inspections and measurements.

At Receiver R5, industrial noise hum from the west was observed (during evening and night) to be higher than that from the east. From the site inspection, it was not clear whether industrial noise from the east was due to the Mushroom Substrate Plant or concrete batching plant to east of Hawkesbury Valley Way.

From the site inspections of Thursday afternoon 25 October 2018, Wednesday evening 31 October 2018 and Wednesday night/Thursday morning 31 October/1 November 2018, it is considered that noise from Mushroom Substrate Plant was minimal and below the assessment objectives presented in *Section 2.0*.

For information purposes, *Table 2* presents the measured noise levels and notes from site observations. As discussed above, the measured noise levels were from noise sources unrelated to the Mushroom Substrate Plant and are provided for information only.

Table 2 *Measured Noise Level and Site Observation*

Receiver Location		Measured 15-minute Noise Level, dB(A)	Identified Noise Sources
<i>2:15pm-5:00pm on Thursday afternoon 25 October 2018</i>			
R1	46 Mulgrave Road, Mulgrave	52dB(A) $L_{Aeq,15min}$ 46dB(A) $L_{A90,15min}$	Road traffic, birds and dog barking
R2	103 Mulgrave Road, Mulgrave	63dB(A) $L_{Aeq,15min}$ 52dB(A) $L_{A90,15min}$	Road traffic and adjoining industry (Trueform Frames and Trusses Pty Ltd) at 99 Mulgrave Road
R3	2 Railway Road, Mulgrave	58dB(A) $L_{Aeq,15min}$ 48dB(A) $L_{A90,15min}$	Road traffic, birds, roosters, dog barking, trains, train horn and rail level crossing signal
R4	124 Mulgrave Road, Mulgrave	56dB(A) $L_{Aeq,15min}$ 47dB(A) $L_{A90,15min}$	Road traffic, birds, roosters, trains, train horn and rail level crossing signal
R5	4 Chisholm Place, South Windsor	49dB(A) $L_{Aeq,15min}$ 43dB(A) $L_{A90,15min}$	Birds, dog barking, distant road traffic and trains
<i>6:40pm-8:50pm on Wednesday evening 31 October 2018</i>			
R1	46 Mulgrave Road, Mulgrave	50dB(A) $L_{Aeq,15min}$ 46dB(A) $L_{A90,15min}$	industrial type noise hum to the east of Hawkesbury Valley Way, insects, frogs and distant road traffic (trucks and truck brakes)
R2	103 Mulgrave Road, Mulgrave	62dB(A) $L_{Aeq,15min}$ 44dB(A) $L_{A90,15min}$	road traffic, trains, rail level crossing signal and industrial type noise hum to the east of Hawkesbury Valley Way
R3	2 Railway Road, Mulgrave	51dB(A) $L_{Aeq,15min}$ 43dB(A) $L_{A90,15min}$	industrial type noise hum to the east of Hawkesbury Valley Way, distant road traffic, birds, trains, PA announcements at Mulgrave Railway Station and dog barking
R4	124 Mulgrave Road, Mulgrave	49dB(A) $L_{Aeq,15min}$ 43dB(A) $L_{A90,15min}$	birds, distant road traffic, trains and industrial type noise hum to the east of Hawkesbury Valley Way
R5	4 Chisholm Place, South Windsor	46dB(A) $L_{Aeq,15min}$ 36dB(A) $L_{A90,15min}$	industrial type noise hum to the west and to east of Hawkesbury Valley Way, frogs, insects, distant road traffic and trains

Table 2 *Measured Noise Level and Site Observation (contd.)*

Receiver Location	Measured 15-minute Noise Level, dB(A)	Identified Noise Sources
<i>10:00pm-12:15pm on Wednesday night/Thursday morning 31 October/1 November 2018</i>		
R1 46 Mulgrave Road, Mulgrave	48dB(A) $L_{Aeq,15min}$ 44dB(A) $L_{A90,15min}$	industrial type noise hum to east of Hawkesbury Valley Way, insects, frogs and distant road traffic
R2 103 Mulgrave Road, Mulgrave	47dB(A) $L_{Aeq,15min}$ 32dB(A) $L_{A90,15min}$	road traffic, industrial noise was not present
R3 2 Railway Road, Mulgrave	47dB(A) $L_{Aeq,15min}$ 34dB(A) $L_{A90,15min}$	road traffic, insects, frogs and dog barking, industrial noise was not present
R4 124 Mulgrave Road, Mulgrave	46dB(A) $L_{Aeq,15min}$ 41dB(A) $L_{A90,15min}$	industrial type noise hum to east of Hawkesbury Valley Way, road traffic, trains, train idling at Mulgrave Railway Station waiting for train in opposite direction to pass, PA announcement at Mulgrave Railway Station, insects, frogs and dog barking
R5 4 Chisholm Place, South Windsor	45dB(A) $L_{Aeq,15min}$ 33dB(A) $L_{A90,15min}$	industrial type noise hum to the west and to east of Hawkesbury Valley Way, frogs, dog barking and trains

We trust the information in this report is satisfactory. Please do not hesitate to contact our office should further information or clarification be required.

Yours sincerely,



Dan Dang
Principal Acoustic Engineer
Acoustic Consulting Engineers Pty Ltd