



ACT Hume Food Organics and Garden Organics Facility

Noise emission assessment

Transport Canberra and City Services Directorate

14 April 2023

→ The Power of Commitment



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Executive Summary

This noise and vibration assessment (NVIA) for the proposed ACT Hume FOGO facility being developed by Transport Canberra and City Services Directorate forms part of the environmental impact statement (EIS) and addresses the relevant requirements of the *Environment Protection Regulation (2005) made under the Environment Protection Act (1997)*.

The proposal involves the establishment of a food organics and garden organics (FOGO) facility to strengthen Canberra's circular economy and meet Territory and Federal targets. The facility would be designed to have an annual processing capacity of 70,000 tonnes per year to meet future demand. The proposal site is located on Block 5, Section 26 Hume, off John Corey Road. The majority of noisy operations such as the delivery of waste and the use of mobile plant within the proposal site would occur during day time hours. However, tunnel composting would require 24 hour continuous operation and would require various items of fixed plant to operate over the night period.

The proposal is located in the south of the ACT, near the NSW border. The proposal site exists in a largely rural area, with a large industrial precinct to the south, a solar farm to the west and broadacre land to the north. The nearest residential land zone is located two kilometres to the south-west in the suburb of Macarthur.

As part of the completion of the noise impact assessment, the relevant ACT Noise Zones within the study area were identified and the associated noise standards applied to the proposal site. The indicative environmental noise levels were predicted at the boundary of the proposal site and assessed to the relevant noise standard to determine compliance. The noise contour results demonstrated that, in general, the noise levels at the property boundary are compliant with the relevant noise standard limit of 65 dBA during the day and 55 dBA during the night. As such, no project specific mitigation measures are recommended for the proposal. General management measures to control noise from the facility have been provided.

No vibration intensive activities are expected to occur during the operation of the proposed facility.

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Glossary of terms

Term	Definition
A weighting	The human ear responds more to frequencies between 500 Hz and 8 kHz and is less sensitive to very low-pitch or high-pitch noises. The frequency weightings used in sound level measurements are often related to the response of the human ear to ensure that the meter better responds to what you actually hear.
ACT	Australian Capital Territory
ACT EPR	The ACT Environment Protection Regulation is the regulatory document made under the Environmental Protection Act (ACT, 1997)
Compliance point	The process of checking that source noise levels meet with the noise limits in a statutory context. This is considered to be the boundary of the proposal site.
dBA	dBA represents the logarithmic A-weighted decibel scale which is used to measure the ratio of the sound pressure level against the relative pressure
EIS	Environmental Impact Statement
EPA	The Environment Protection Act (ACT, 1997) is the regulatory framework to help reduce and eliminate the discharge of pollutants into the air, land and water.
EPR	Environmental Protection Regulation
EPSDD	Environment, Planning and Sustainable Development Directorate
FOGO	Food Organics and Garden Organics is a kerbside collection service which collects food waste and processes it into compost and other products
Hertz	The measure of frequency of sound wave oscillations per second. 1 oscillation per second equals 1 hertz.
HRRE	Hume Resource Recovery Estate
L _{A10}	The A-weighted sound pressure level that is exceeded for 10% of the measurement period.
L _{Aeq}	Equivalent sound pressure level. The steady sound level that, over a specified period of time, would produce the same energy equivalence as the fluctuating sound level actually occurring.
L _w	Sound power level
Noise EPP	The Noise Environmental Protection Policy is a document designed to help people understand the noise component of the Environment Protection Act (ACT, 1997)
NSW	New South Wales
NVIA	Noise and Vibration Impact Assessment
Octave-band	A division of the frequency range into bands, the upper frequency limit.
SPL _i	The internal Sound Pressure Level.
Study area	Land in the vicinity of, and including, the proposal site. The 'study area' is the wider area surrounding the proposal site.

1. Introduction

1.1 Proposal background

The Australian Capital Territory (ACT) Government is working to reduce waste to landfill and increase resource recovery. The strategic direction for the management of waste in the Territory is set out in the 'ACT Waste Management Strategy 2011-25' (ACT Government, 2011). The strategy commits the ACT Government to minimise organic waste going to landfill and recovering organic waste resources. It also sets a target of increasing the rate of resource recovery to over 90 percent by 2025, with no recoverable waste sent to landfill.

The Federal Government also has a target of halving the amount of organic waste sent to landfill for disposal by 2030, as set out in the 'National Waste Policy Action Plan' (DEE, 2019).

A waste feasibility study was established in mid-2015 to identify a pathway towards achieving the ACTs waste management targets and examine options to drive better resource recovery. In 2018, the ACT Government released the final recommendations from the study as the 'Waste Feasibility Study: Roadmap and Recommendations Discussion Paper' (ACT NoWaste, 2018). Key recommendations from this were to identify a site and establish an organics progressing facility to process food organics and garden organics (FOGO) and the implementation of a kerbside FOGO collection.

The 'ACT Climate Change Strategy 2019 to 2025' (ACT Government, 2019) also identifies FOGO collection for all households and the investigation of organic waste processing as key priorities. An opt-in FOGO collection pilot is currently underway in the ACT (Belconnen), which has so far diverted more than 480 tonnes of material from landfill (ACT Government, 2022).

There is currently no processing facility within the ACT that can accept and process FOGO material. ACT NoWaste is therefore proposing to develop a new FOGO facility (the 'proposal') in Hume to strengthen the Territory's circular economy and help meet Territory and Federal Government landfill diversion and resource recovery targets.

The proposal is defined as the construction and operation of a new FOGO facility with the capacity to receive up to 70,000 tonnes per year of FOGO for in-vessel composting.

1.1.1 Approval and assessment requirements

This report has been prepared by GHD Pty Ltd (GHD) as part of the environmental impact statement (EIS) for the proposal. The EIS supports the application for approval of the proposal and to address the requirements provided by the ACT Department of Environment, Planning and Sustainable Development Directorate dated 7 June 2022.

The proposal is subject to approval by the planning and land authority within the Environment, Planning and Sustainability Development Directorate.

1.2 Purpose of this report

An environmental impact statement (EIS) has been prepared by GHD Pty Ltd (GHD) on behalf of ACT NoWaste to assess environmental (including noise and vibration) and social impacts associated with the proposal and address matters specified within the ACT Government Environment, Planning and Sustainable Development Directorate's (EPSDD) scoping document requirements. The noise and vibration requirements are reproduced below (reference: 8.3.11):

"Provide a noise and vibration impact assessment regarding the operation of the facility prepared in accordance with the "Guidelines for the preparation of Noise Management Plans for development applications Environment Protection Authority, February 2014"

The guideline referenced has now been superseded by a newer version developed in March 2021. This Noise and Vibration Impact Assessment (NVIA) aims to address the requirements of the updated guideline (ACT Government, 2023).

1.3 Scope of works

This report assesses the potential for noise and vibration impacts on the sensitive receivers surrounding the proposal site during operation and includes mitigation and management measures to reduce impacts, where required. No vibration intensive activities or equipment is proposed during operation and as such, no vibration impacts are anticipated. In view of this, no further assessment of potential vibration impacts is deemed necessary.

The scope of work of this NVIA can be summarised as:

- Identification of the noise sources associated with the proposal, the noise zones applicable at the boundary of the site and the location of the nearest sensitive receivers to the proposal site.
- Establishment of relevant noise criteria at the boundary of the site based on the requirements of the Environmental Protection Regulation 2005 and the Noise Environment Protection Policy (Environment Protection Authority, 2010).
- The development of a 3D noise model of the study area the FOGO facility using SoundPLAN 8.2 software. Source noise levels of plant and equipment have been estimated based on noise measurements of similar equipment.
- The assessment of operational noise from the proposal with reference to the ACT's *Environmental Protection Regulation* (EPR) 2005 and the *Noise Environmental Protection Policy* (Noise EPP) 2010.
- Where required, mitigation and management recommendations have been provided to minimise potential noise impacts as a result of the operation of the facility.

1.4 Overview of the site and the proposal

The proposal would be located within the current bounds of the Hume Resource Recovery Estate (HRRE) on Block 5, Section 26 Hume, off John Corey Road. Figure 1.1 shows the footprint of the proposed facility.

The proposal involves the construction and operation of a new FOGO facility with capacity to receive up to 70,000 tonnes per year of FOGO for in-vessel composting, including:

- Receival hall.
- Primary composting hall with tunnel modules.
- Maturation and refining hall.
- Product storage shed.
- Odour management system.
- Ancillary supporting infrastructure including:
 - Administration/control room building.
 - Machinery shed/workshop.
 - Weighbridges.
 - Access roads.
 - Hardstand parking.
 - Stormwater and leachate management.

The proposal would divert organic waste from landfill and produce various grades of FOGO-derived products such as mulch, compost and soil conditioners.

The process would comprise the following main elements:

- Waste receival and decontamination.
- Shredding, mixing and moistening.
- Pasteurisation and composting in enclosed tunnels with forced aeration and moisture control.
- Maturation in static piles and product refinement within the enclosed maturation building.
- Product load-out.



Legend

Proposal site

Cadastre

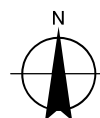
Watercourses

Paper Size ISO A4

0 25 50

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55



Transport Canberra and City Services
Hume Food Organics and Garden Organics Facility
Noise and Vibration Impact Assessment

Project No. 12540460
Revision No. 0
Date 30/08/2023

Site location

FIGURE 1.1

1.5 Limitations

This report: has been prepared by GHD for Transport Canberra and City Services Directorate and may only be used and relied on by Transport Canberra and City Services Directorate for the purpose agreed between GHD and Transport Canberra and City Services Directorate as set out in Section 1.2 of this report.

GHD otherwise disclaims responsibility to any person other than Transport Canberra and City Services Directorate arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report. GHD disclaims liability arising from any of the assumptions being incorrect.

1.6 Assumptions

This report has been prepared under the following list of assumptions:

- Some source noise levels used in modelling have been obtained from the Energy from Waste Facility, Eastern Creek (SSD 6236) – Noise Impact Assessment, where measurements of similar operational activities were taken.
- Conservative assumptions for some source noise levels have been made based on measured sound level data.
- Conservative assumptions of the building façade construction have been made for the purposes of modelling break-out noise. Additionally, conservative assumptions have been made regarding the lengths of time access doors to the facilities are to remain open during operation.

2. Existing environment

2.1 Noise zones

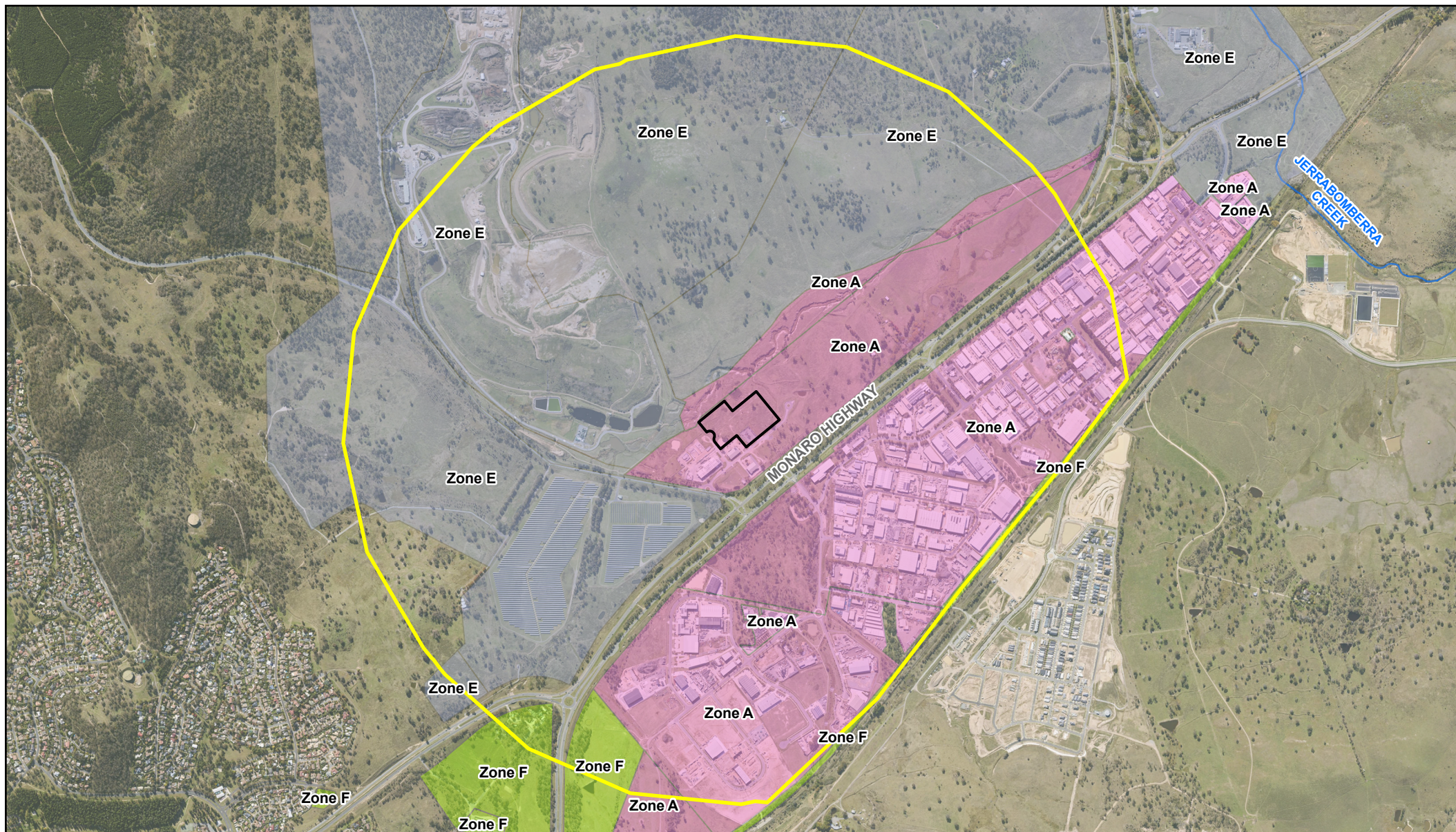
2.1.1 Study area and noise zones

The study area has been selected to be 1.5 kilometres from the proposal site boundary as no operational noise impacts are anticipated beyond this distance. Potential noise impacts are assessed based on noise zones defined in the ACT *Environment Protection Regulation 2005* (EPR). The noise zones are based on land uses outlined in the ACT Territory Plan.

The noise zones that have been identified within the study area, shown in Figure 2.1 and provided in the EPR are outlined below in Table 2.1. Sensitive receivers that have been identified within each noise zone are presented in Table 2.1.

Table 2.1 Noise zone descriptions

Noise zone	ACT land description	Sensitive receivers
A	Land in an industrial zone	– A materials recovery facility directly to the south-west of the proposal site. – A soft-landing mattress recycling facility directly to the south of the proposal site. – Other commercial and industrial buildings between Monaro Highway and the NSW border.
E	– Land (other than land in the city centre, town centres and group centres) in a restricted access recreation zone – A broadacre zone	– Mugga Lane Solar Park to the west of the proposal site. – Mugga Lane Resource Management Centre to the north of the proposal site. – Wanniasa Hill Special Purpose Reserve to the west of the proposal site. – Two residential rural receivers north-east of the proposal site. – The proposed Southern Memorial Park west of the proposal site.
F	Land (other than land in the city centre, town centres and group centres) in – a commercial CZ5 zone – a TSZ2 services zone – a community facility zone – a leisure and accommodation zone.	– Rose Cottage to the south-west of the proposal site. – Other open areas as shown in Figure 2.1.
G	All other land, other than land in the Central National Area (Fairbairn)	– No residential dwellings or other sensitive receivers have been identified within Zone G in the study area



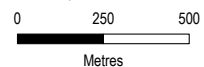
Legend

- Study area
- Proposal site
- Watercourses

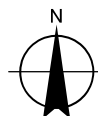
Noise zone

- Zone A
- Zone E
- Zone F

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Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55



Transport Canberra and City Services Directorate
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Noise and Vibration Impact Assessment

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Noise zone map

FIGURE 2.2

3. Construction noise

The *Noise Environment Protection Policy* (Environment Protection Authority, 2010) is a policy designed to help people understand the ACT's *Environmental Protection Regulation* (EPR) 2005, which is made under the *Environmental Protection Act* (EPA) 1997. Section 9.4 of the Noise EPP states:

9.4 Building work

Some noise during building work is inevitable. Measures can be taken to reduce the noise and these are described in Australian Standard AS 2436: Guide to Noise Control on Construction Maintenance and Demolition Sites. Subject to time restrictions outlined below, noise from building work is permitted to exceed the noise standard provided the work is carried out in accordance with AS 2436.

9.4.1 Building work requiring building approval

For building work which requires building approval under the Building Act 2004, division 3.3, the time restrictions which apply depend upon the length and duration of the work.

- *In industrial areas, city centre and town centres, noise from building work can only exceed the noise standard between 6am and 8pm.*
- *In other areas:*
 - *Noise from work which takes less than two weeks to finish can exceed the noise standard between 7am and 8pm Monday to Saturday and 8am and 8pm on Sunday and public holidays.*
 - *Noise from work which takes longer than two weeks to finish can only exceed the noise standard between 7am and 6pm Monday to Saturday, excluding public holidays.*

Therefore, as construction works are to occur between 7 am and 6 pm Monday to Saturday, exceedances of the noise standard are permitted and no further assessment of construction noise is required.

4. Operational noise criteria

Operational noise associated with the facility is also assessed towards the ACT's *Environmental Protection Regulation* (EPR) 2005, with reference to the *Noise Environmental Protection Policy* (Noise EPP) 2010. The EPR sets the noise standards which are the maximum level of noise which may be emitted by an activity as measured at the compliance point.

As a general rule, the compliance point is any point as near as practicable to the boundary of the parcel of land. In a case where compliance to the noise standard is considered excessive, an environmental authorisation or approval can be obtained to change the compliance point, and in effect, change the noise level permitted. When such a compliance point is specified, it is done by applying the following principles:

- The compliance point should make it easy as possible to measure the sound concerned.
- In combination with the setting of the noise level permitted, the choice of compliance point should ensure that the overall noise authorised or approved is consistent with the provisions and Objects of the Act (Being the Objectives of the EPA) and the Noise EPP.

The noise standards and applicable time periods are provided in Schedule 2, Part 2.2 of the EPR are shown below in Table 4.1 and the proposal site lies exclusively within an area designated as noise zone A. The relevant ACT noise standard time periods for Zone A are shown in Table 4.2 and the noise conditions for this zone are provided in Table 4.4. Operational noise levels are to be predicted and assessed to the vertical plane of the proposal site boundary (i.e. L10 65 dB during the day and L10 55 dB during the night).

Table 4.1 ACT noise standards

Noise zone	ACT land description	Noise standard, dB(A)	
		Day	Night
A	Land in an industrial zone	65	55
E	Land (other than land in the city centre, town centres and group centres) in – a restricted access recreation zone – a broadacre zone	50	40
F	Land (other than land in the city centre, town centres and group centres) in – a commercial CZ5 zone – a TSZ2 services zone – a community facility zone – a leisure and accommodation zone.	Same as the noise standard for the adjoining noise zone with the loudest noise standard for the time period	
G	All other land, other than land in the Central National Area (Fairbairn)	45	35

Table 4.2 ACT noise standard time periods

Noise zone	Day	Night
A, B2, C2, D, E, F, G	Monday to Saturday: 7 am to 10 pm Sunday and public holidays: 8 am to 10 pm	Any other time

Table 4.3 *Project noise standards*

Noise zone	ACT land description	Noise standard, dB(A)	
		Day	Night
A	Land in an industrial zone	65	55

It is recognised that certain activities have the potential to generate noise above the relevant noise standard. Exceedances of the noise standards are permitted for certain activities under the EPR if additional conditions are met. The full list of noise conditions can be found in Schedule 2 of the EPR. The following exemption applies to the project:

Table 4.4 *Noise conditions*

Item	Noise	Conditions
5	Noise emitted in the course of maintaining or repairing something	a) The noise is emitted- i) Between 7 am and 8 pm on Monday to Saturday; or ii) Between 8 am and 8 pm on Sunday or a public holiday; and b) Any noise exceeding a zone noise standard is emitted for periods totalling not more than 40 hours in any 8-week period; and c) The equipment used in maintained and operated in accordance with the manufacturer's instructions

5. Operational noise impact assessment

5.1 Operational hours

It is intended that the facility would operate on a single shift basis with waste acceptance (opening hours) from Monday to Friday to coincide with and accommodate deliveries from municipal kerbside collection trucks, as well as bulk product load-out to wholesale offtake. Weekends would therefore be available for carrying out planned (and unplanned) repairs and maintenance, thereby providing a high level of processing continuity assurance. Peak truck traffic times would typically be between 9:30 am and midday, and 1:30 pm to 5:00 pm Monday to Friday.

Active operation times for various mobile and fixed plant and equipment would be around 6 to 7 hours per day (day period only). This includes decontamination and feedstock preparation, tunnel loading/unloading, compost maturation pile maintenance, product screening and refinement, and finished product load-out. Night-time operation and movements of mobile plant is not required.

Tunnel composting is a 24 hour continuous process enabling effective pasteurisation and rapid active composting cycles. Accordingly, blowers, fans and pumps are operating (or cycling) continuously, including nights and weekends. Fans and pumps are selected and/or configured as low noise emitting equipment such that noise emissions from the facility would comply with regulatory requirements.

5.2 Typical operational activities

FOGO waste processing at the proposed facility involves the following key operational activities:

- FOGO waste delivery to receival hall via kerb side collection trucks and other large commercial heavy vehicles. Vehicles would be received via dedicated weighbridge located at site along a purpose-built access road. It is estimated there would be a total of 80 heavy vehicle traffic movements per day, Monday to Friday.
- Organic waste would be accepted or rejected within the receival hall.
- Following visual inspection and decontamination, the waste would be screened, and the accepted waste would then be shredded, mixed, and moistened.
- Following pre-processing, the organic waste would be transported for primary composting in tunnel modules.
- After primary active composting in the enclosed tunnels, further passive composting would occur via static pile maturation in the maturation hall, adjacent the primary composting tunnels.
- Following a static maturation period of two to six weeks, the product would be sorted and loaded to be removed from site by articulated transfer vehicles (e.g., single-semi, short-combination, or B-double trucks).

All internal movement of waste, such as from the primary composting tunnels to the maturation hall would be achieved using wheel loaders or other mobile machinery. Each hall would have an extensive odour management system, with each hall having air extracted and directed via ducting and blowers to a biofilter.

Although not considered typical of everyday operations, FOGO products would occasionally be loaded from the semi-enclosed and covered product storage area and removed from site by articulate transfer vehicles via mobile plant such as a wheeled loader.

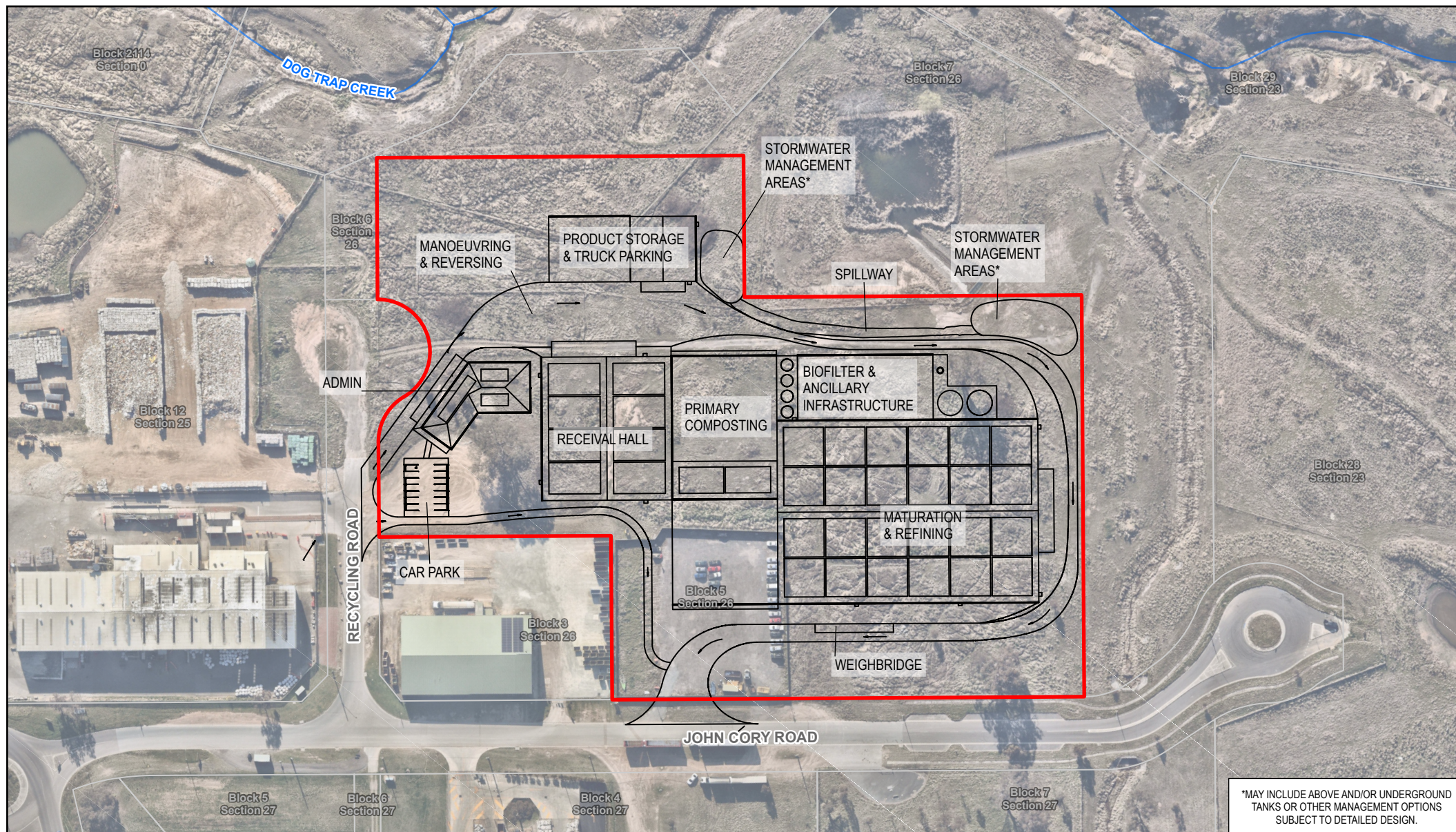
5.3 Operational equipment

5.3.1 Modelled noise sources

The key sources of noise predicted (refer to Table 5.1 and Table 5.2) to occur from the facility include truck movements along the internal site access road. As 80 movements have been predicted in one day, a worst-case scenario of 20 vehicle movements in an hour has been modelled. The following assumptions have also been made to represent a worst-case noise emission scenario from the site (assuming all noise generating equipment would be occurring simultaneously):

- The shredding of raw FOGO waste is another key source of noise and has been modelled as occurring within the Receiver Hall where the access doors have modelled to be open for 8 minutes every hour as a worst-case. A wheel loader has been modelled in the Receiver Hall as the primary method of moving FOGO waste.
- The Primary Composting Hall has been modelled as containing a wheeled loader to transport FOGO between the halls, where the access doors have modelled to be open for 8 minutes every hour as a worst-case.
- The Maturation and Refining Building has been modelled as containing a wheeled loader to move waste around, as well as a screener to sort the final composted products for removal. The access doors have modelled to be open for 8 minutes every hour as a worst-case.
- The biofilter has been assumed to contain an axial-flow fan.
- The odour management system has been modelled with four axial flow fans placed on the roof of each facility building modelled.
- The mechanic repair workshop has been conservatively modelled as having an L_i level of 90 dBA with all doors closed.
- A wheeled loader (external) operating on the southern side of the product storage area.

The locations of the operational equipment sources can be seen below in Figure 5.1.



Legend

- Proposal site
- Cadastre

- Proposal site layout
- Watercourses

Paper Size ISO A4
0 20 40
Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55



Transport Canberra and City Services
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Project No. 12540460
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Date 17/10/2023

Indicative concept layout

FIGURE 5.1

Table 5.1 *Modelling sources*

Source	Source Description	Sound Levels, dBA	Source / assumption
Access Road	Line source – 20 vehicle movements per hour	Lw 108 per vehicle	Construction Noise and Vibration Strategy Appendix C – 30 tonne truck. Daytime hours only
Receiver Hall	Industrial building source with four doorways open 8 minutes per hour	SPLi 85	Energy from Waste Facility, Eastern Creek (SSD 6236) – Noise Impact Assessment Daytime hours only
Primary Composting Hall	Industrial building source with two doorways open 8 minutes per hour	SPLi 85	Conservative assumption based on the use of a loader within a large reverberant industrial building Daytime hours only
Maturation and Refining Building	Industrial building source with four doorways open 8 minutes per hour	SPLi 85	Conservative assumption based on the use of a loader and a screener within a large reverberant industrial building Daytime hours only
Biofilter (day operations)	Industrial building source with two openings open for 8 minutes an hour	SPLi 85	Conservative assumption to represent the sound power level of an axial fan Daytime hours only
Biofilter (night operations)	Industrial building source with all doors and openings closed	SPLi 85	Conservative assumption to represent the sound power level of an axial fan Night hours only
Ventilation fans	Point sources – four on the roof of the receiver hall, primary composting room, and maturation room	Lw 85	Conservative assumption to represent the sound power level of an axial fan 24 hour operation
Workshop/Machinery Shed	Industrial building source	SPLi 90	Conservative assumption based on the use of a power tools within a small building Daytime hours only
Wheeled loader (small)	Wheeled loader operating continuously outside the product storage area	Lw 105	Conservative assumption to represent the sound power level of a small wheeled loader Daytime hours only

Table 5.2 *Source noise levels used in the noise model*

Noise source	Source type	Octave-band noise level, Hz dBA									
		31.5	63	125	250	500	1000	2000	4000	8000	O/A
Truck	Lw	75	86	94	99	103	103	100	97	90	108
Receiving Hall	SPLi	50	64	71	76	79	79	78	75	69	85
Axial fan (each)	Lw	45	53	70	79	79	77	78	76	72	85
Primary Composting and Maturing Room	SPLi	55	67	71	75	78	81	79	74	69	85
Workshop / Machinery	SPLi	50	57	67	74	80	83	84	84	82	90
Small wheeled loader	Lw		87	91	95	98	101	99	94	89	105

5.3.2 Break-out noise from buildings

The Receiver Hall, Primary Composting Hall, Maturation and Refining Building and Workshop/Machinery shed have all been assumed to be constructed of a material equivalent to 0.6 mm thick corrugated steel sheeting. This material would generally achieve a sound transmission indices performance of Rw 22.

5.3.3 Modelling methodology

Acoustic modelling was undertaken using SoundPLAN 8.2 noise modelling software to predict indicative environmental noise levels to the boundary of the proposal site. The general parameters used in the noise model are presented in Table 5.3.

Table 5.3 Noise modelling parameters

Variable	Parameter used
Software	SoundPLAN 8.2
Calculation method	ISO 9613-2: Acoustics — Attenuation of sound during propagation outdoors — Part 2: General method of calculation
Topography	1 m LiDAR elevation data was sourced from NSW Government – Spatial Services
Receiver and grid heights	1.5 m above the ground floor
Ground absorption	0.5 for all areas (0 is non-porous ground such as concrete and 1 is porous ground such as grass)
Temperature	20 deg Celsius
Humidity	80%
Doors	Vehicle access doors for the Reception Hall, Primary Composting Room and the Maturation Room should be automatic and be fast-shutting

5.4 Predicted operational noise contours

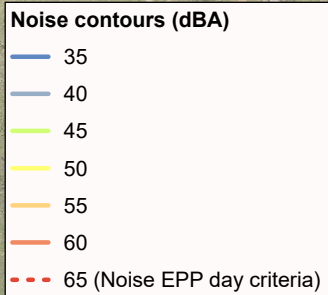
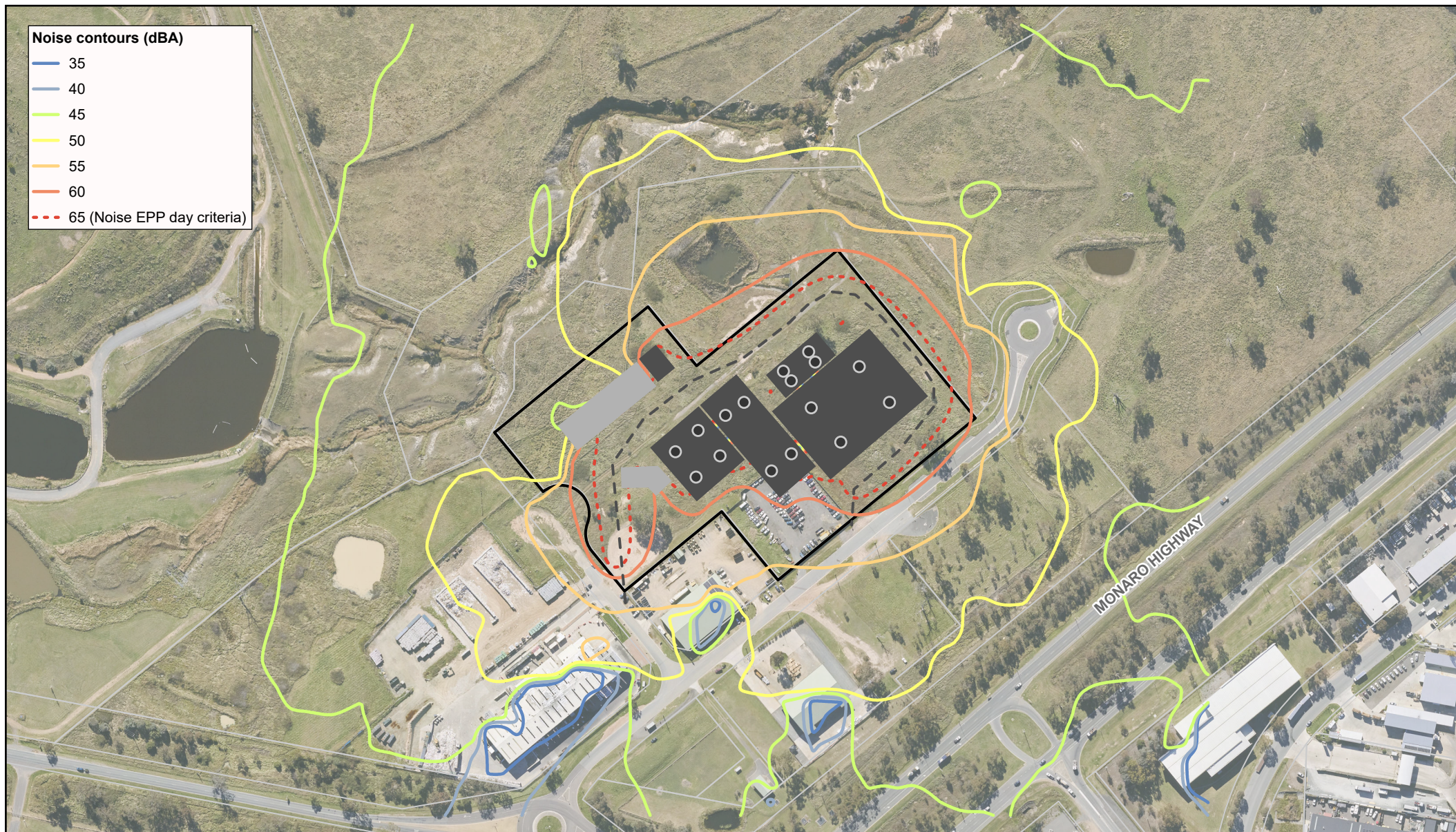
The operational noise contours at 1.5 metres from ground level are shown in Figure 5.2 for the day period operations, along with the location of modelled noise sources (buildings, point sources and truck movements).

The ACT's EPR 2005 and the *Noise Environmental Protection Policy* (Noise EPP) 2010 require that operational noise levels do not exceed the ACT noise standard, being 65 dBA during the day period, when assessed at the boundary of the site. The 65 dBA contour is shown in dotted blue in Figure 5.2 and Figure 5.3 it can be seen that the 65 dBA noise level is generally contained within the site boundary. The 65 dBA noise contour marginally extends beyond the site north-eastern and southern boundaries due to the truck movements travelling in close proximity to the boundary and would be considered acoustically insignificant. The worst-case scenario assumption of 20 vehicle movements in one hour contributes to this marginal exceedance of the property boundary.

The operational noise contours at 1.5 metres from ground level are shown in for the night period operations. The modelling indicates that the 55 dBA noise contour does not extend beyond the site boundary of the site and complies with the ACT noise standard.

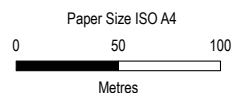
In view of the above, it is considered that the requirements of the Noise EPP are met.

The nearest noise sensitive receivers include two rural residences located approximately 1.2 kilometres and 1.8 kilometres to the north-east of the proposal, as well as the planned Southern Memorial Park located approximately 800 metres to the west. Considering noise levels from facility operations are modelled to be generally below 65 dBA for the day period and below 55 dBA for the night period at the property boundary of the facility, no noise impacts are expected at these receivers given the large separation distance between the facility and the residential dwellings.

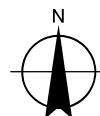


Legend

- Proposal site
- Industrial buildings
- Site buildings
- Cadastre
- Access road surface
- Axial fan source



Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55



Transport Canberra and City Services
Hume Food Organics and Garden Organics Facility
Noise and Vibration Impact Assessment

**Predicted operational noise contours
(day operations)**

Project No. 12540460
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FIGURE 5.2

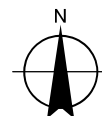


Legend

- Proposal site
- Industrial buildings
- Site buildings
- Cadastre
- Access road surface
- Axial fan source

Paper Size ISO A4
0 50 100
Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55



Transport Canberra and City Services
Hume Food Organics and Garden Organics Facility
Noise and Vibration Impact Assessment

**Predicted operational noise contours
(night operations)**

Project No. 12540460
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Date 30/08/2023

FIGURE 5.3

6. Management measures

The results of the noise modelling and assessment indicate that noise emission from the proposal is predicted to comply with the requirements of the Noise EPP when assessed at the boundary of the proposal site. As such, no project specific mitigation measures are recommended for this project beyond ensuring the assumptions used in this report accurately represent a worst-case noise generating scenario.

7. Conclusion

Transport Canberra and City Services has engaged GHD to assess the potential operational noise and vibration impacts from the proposal. Operational noise impacts were assessed in accordance with the EPR and the Noise EPP. Noise emission levels from the site during a worst-case noise generating scenario is predicted to comply with the noise zone threshold of 65 dBA during the day period and 55 dBA during the night period when assessed at the boundary of the site. As such, no management measures have been provided.

There are no significant vibration-intensive equipment associated with the operation of the proposal as such, no vibration impacts are anticipated.

8. References

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