69 Dunmoor Road Strathdownie

Waste Management Plan – Cattle Feedlot

13 January 2026

Entegra
SIGNATURE STRUCTURES

1 Project Overview

Prepared for:

Project:	Proposed Beef Cattle Feedlot Barn
Address:	69 Dunmoor Road, Strathdownie VIC 3312
SPI:	21~B\PP3819
Council:	Glenelg Shire Council
Date:	January 13, 2026
Prepared by:	- Entegra Signature Structures (in consultation with relevant experts).

Project Overview

The proposed beef feedlot development comprises a fully covered facility (zincalume metal roof covering) on agricultural land at 69 Dunmoor Road, Strathdownie, within the Farming Zone of the Glenelg Planning Scheme. It supports efficient beef cattle finishing in a controlled environment, enhancing animal welfare, productivity, and environmental outcomes while complying with the Victorian Code for Cattle Feedlots (August 1995).

The 528 m long x 30 m wide barn features a manure pack / loose straw bedding system. Initial bedding absorbs moisture, with manure accumulating over time. Straw is used to top up weekly in the cooler months on an as needed basis – dependent on density of cattle in pens. This keeps the manure pack from becoming sloppy and allows for controlled build-up of the manure pack.

The fully covered feedlot provides maximum protection of the environment through the separation of rainwater from the feedlot pens which significantly reduces odour and completely controls any effluent run-off from the pens. The maximum capacity of the feedlot is 2,500 head of cattle.

2 Waste Management Plan

Control of effluent seepage from pens

The strategy for containing effluent seepage from the pens is as follows:

- C1/ The construction of the pad for the barn will be as per standard construction techniques with road base type material – as per samples tested for permeability – which will be compacted and built up in 150mm layers. The final layer will have increased clay content and worked to ensure lower permeability and a hard flat surface essential for the dry scrape system.
- C2/ All rainwater will be kept out of the pens with the fully covered barn system.
- C3/ The ridgeback design of the barn increases airflow changes which not only increases the comfort of the cattle but reduces the moisture contained in the bedding.
- C4/ The pens will initially have a spreading of loose hay / straw when cattle are first introduced into the pens to provide an interface between the pen base and the manure pack. The manure pack will build up over weeks and months from which there will be minimal possibility of any leaching of effluent through the pen floors.
- C5/ Both the feed lane and the stock lane on either side of the barn are graded in towards the barn and to the east which further acts as a barrier to effluent seepage from the pens.

Solid Waste Management (Manure and Bedding)

The strategy for solid waste management is as follows:

- S1/ The pens will initially have a spreading of loose hay / straw when cattle are first introduced into the pens to provide an interface between the pen base and the manure pack. This will be monitored, - stock are monitored regularly for their welfare, and then pens are generally topped up with hay/straw weekly on an as needed basis to maintain a dry, comfortable surface. Manure accumulates within the pack, promoting partial decomposition (volatile solids breakdown) on the floor. Full clean-outs via dry-scraping will occur four times per year, aligning with Code recommendations for cleaning at least every 13 weeks to optimise animal performance, minimise odour, and ensure safe conditions.

Quantity Estimation

Manure production in covered bedded systems is higher due to bedding inclusion. Base excreted manure is approximately 1,000–1,200 kg wet weight/SCU/year (400–600 kg total solids [TS]/SCU/year, assuming 25–40% moisture and volatile solids loss of 60–75% during accumulation). Bedding addition (straw at 2–3 kg/SCU/day average, 90% dry matter) contributes 730–1,095 kg/SCU/year (657–985 kg TS/SCU/year).

- **Total Annual Harvested Waste**: 1,700–2,300 kg wet weight/SCU/year (1,000–1,500 kg TS/SCU/year), with bulk density 650–800 kg/m³. For 2,500 SCU, this equates to 4,250–5,750 tonnes wet weight/year (approximately 5,300–7,200 m³).
- **Factors Influencing Quantity**: Accumulation period (13 weeks), climate (drier under cover), bedding rate (adjusted seasonally; higher in winter), and minimal soil inclusion (concrete/gravel floor retained during scraping).

Storage and Treatment

- **Stockpile Pad:** Designated impervious/low-permeability area (clay-lined if required) within CDA, sized for 3–6 months storage (e.g., 2,000–3,000 m³ capacity). Located to minimize odour drift (e.g., away from boundaries).
- **Run-off Containment:** The stockpile pad will be bunded to protect against overland flow of clean water and will only need to contain rainwater actually falling onto the stockpile pad. This will be contained by draining to the east with a swale drain on the east side of the pad running through to an effluent containment pond on the northeast of the stockpile pad. This will only have effluent run-off after a major rain events and will contain this run-off water so that it can be contained and applied on an as needed basis to the same areas as the solid waste is applied.

Utilisation and Disposal

- **Beneficial Reuse:** Manure/bedding spread as fertilizer on agricultural land (Dunmoor and adjacent blocks, per site photos). Application at agronomic rates (5–20 tonnes/ha/year) based on soil tests, crop needs, and nutrient budgets to avoid over-fertilization.
- **Application Protocol:** Via spreader during suitable weather; buffers to waterways); records of volumes, dates, locations.
- **Monitoring:** Annual soil sampling for nutrients (N, P, K), salinity (EC), and pH; adjust rates to prevent buildup. Salt budget maintained to ensure no net salinity increase.
- **Disposal**: Priority on-farm utilization; no routine off-site disposal anticipated.

Operation and Management (Element 8 Compliance)

- **Feeding and Watering:** Automated troughs and bunks; minimal spillage. Troughs positioned for drainage, cleaned regularly.
- **Routine Cleaning and Maintenance:** Bedding topped up (2–3 kg/SCU/day average) to maintain dry pack; full scrape 4 times/year. Interface layer retained for impermeability.
- **Pack Removal:** Moist conditions preferred; equipment selected for smooth finish (e.g., box scrapers).
- **Manure Stockpile:** Turned for composting; monitored for stability, odour.

- **Disposal Runoff/Manure:** Contained within CDA; utilised as above.
- **Vermin/Weed Control:** Regular inspections, baiting, fencing; weed seeds managed via composting.
- **Carcass Disposal:** Prompt composting in dedicated area (windrows with carbon cover); compliant with Code and EPA guidelines.
- **Monitoring:** Records of bedding additions, clean-outs, applications, soil tests; annual review/reporting to Council/EPA.
- **Cessation of Operations:** Remove all wastes, rehabilitate site (e.g., spread remaining manure, revegetate if needed).

Land Capability and Landscape Integration

- **Land Capability Assessment:** Supported by geotechnical report (250628) and permeability data (PERM-1-2508658/9). Soils suitable for barn foundation and manure application; low risk of erosion/leaching.
- **Application Areas:** Agricultural paddocks (e.g., green/blue blocks); capability for nutrient uptake confirmed via soil tests.

Other Operational and Compliance Items

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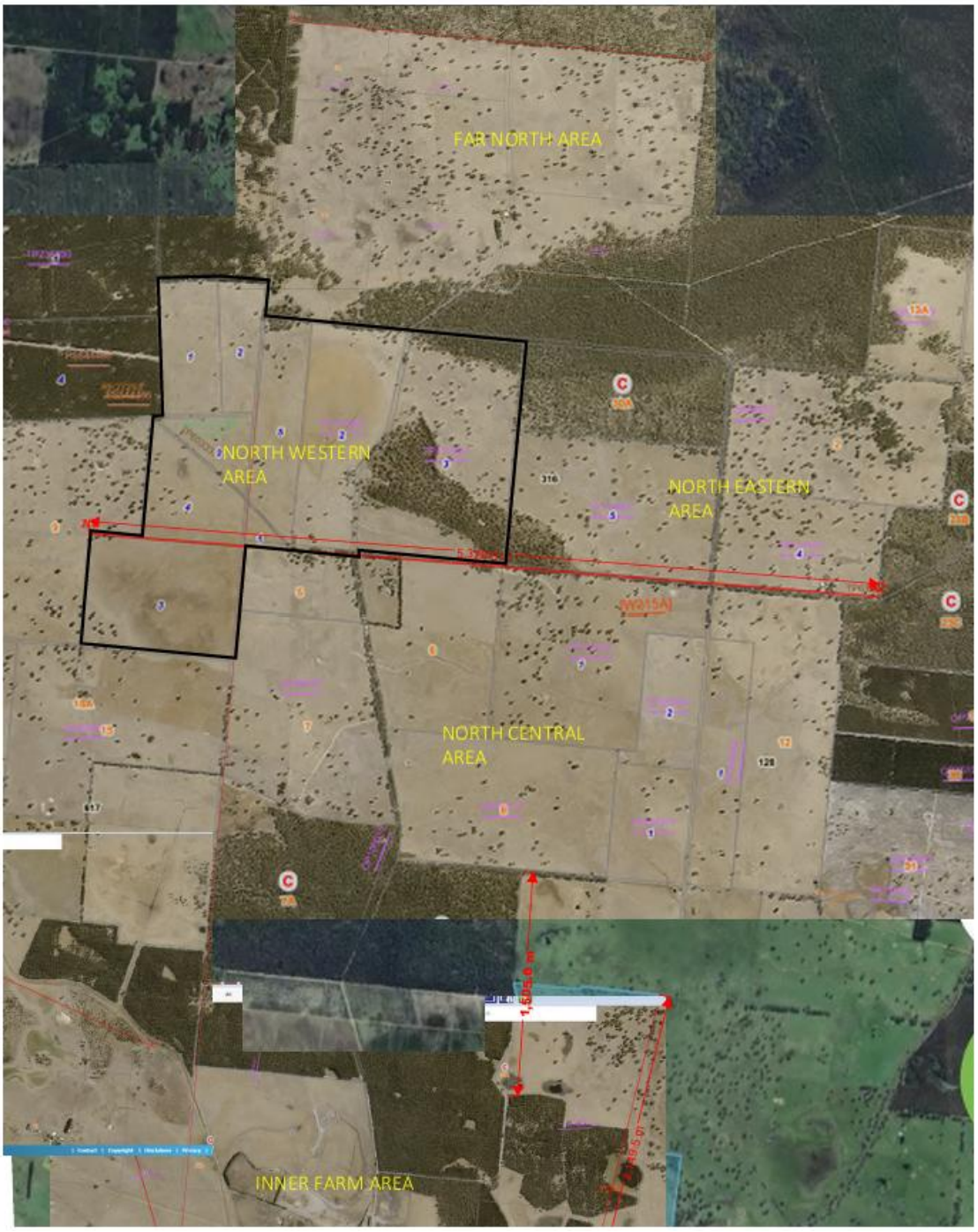
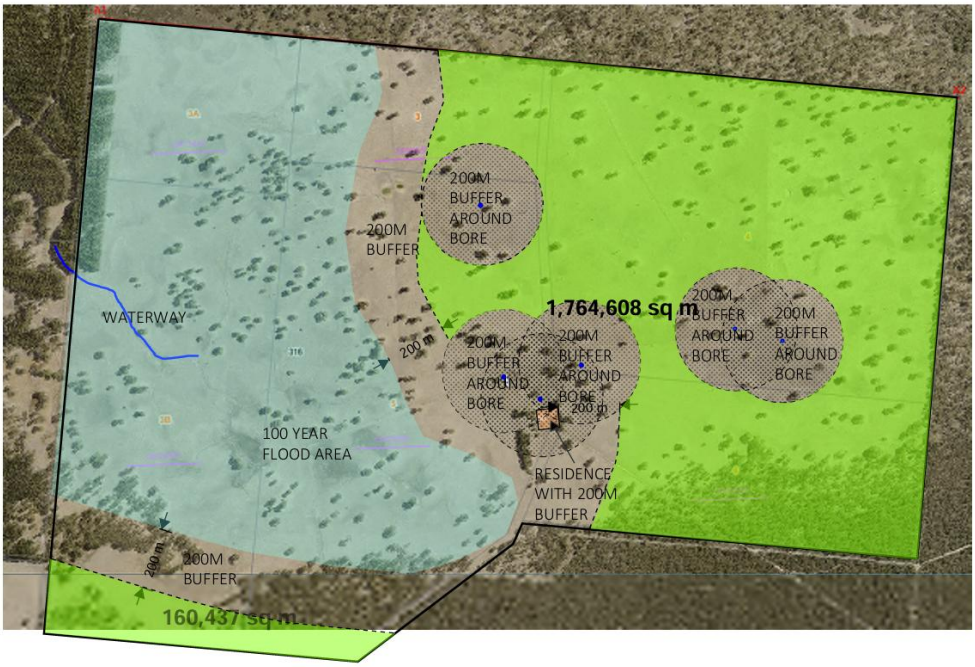
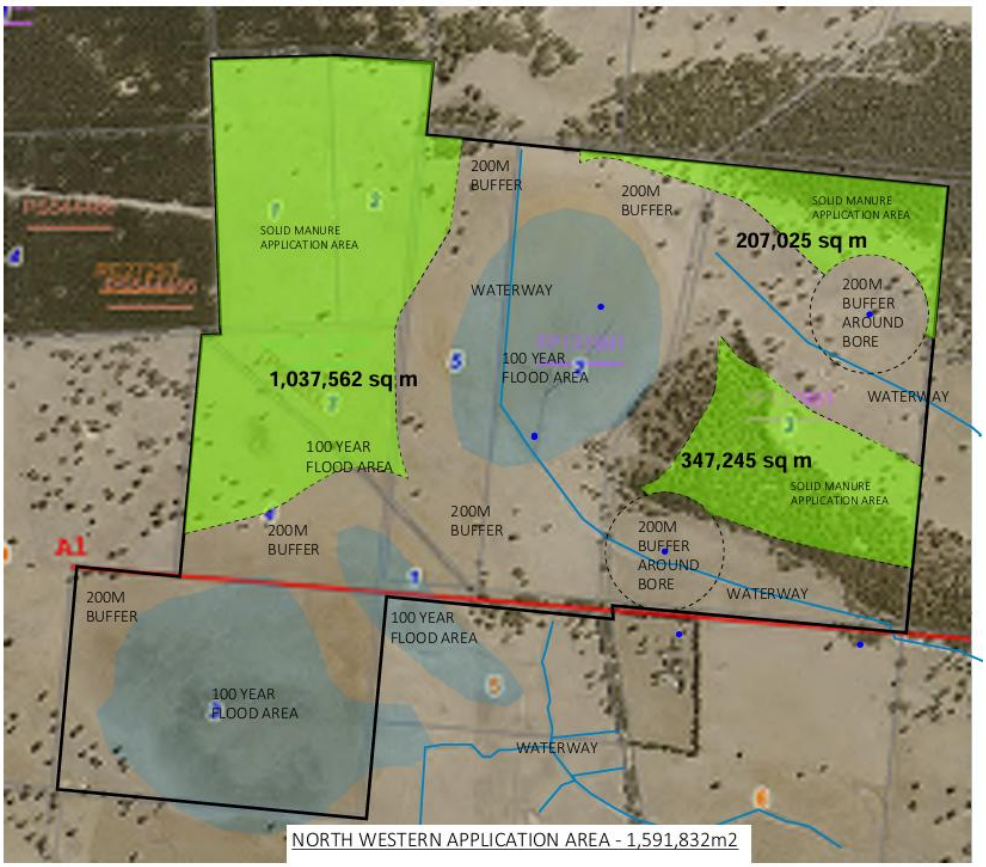
3 Application Areas

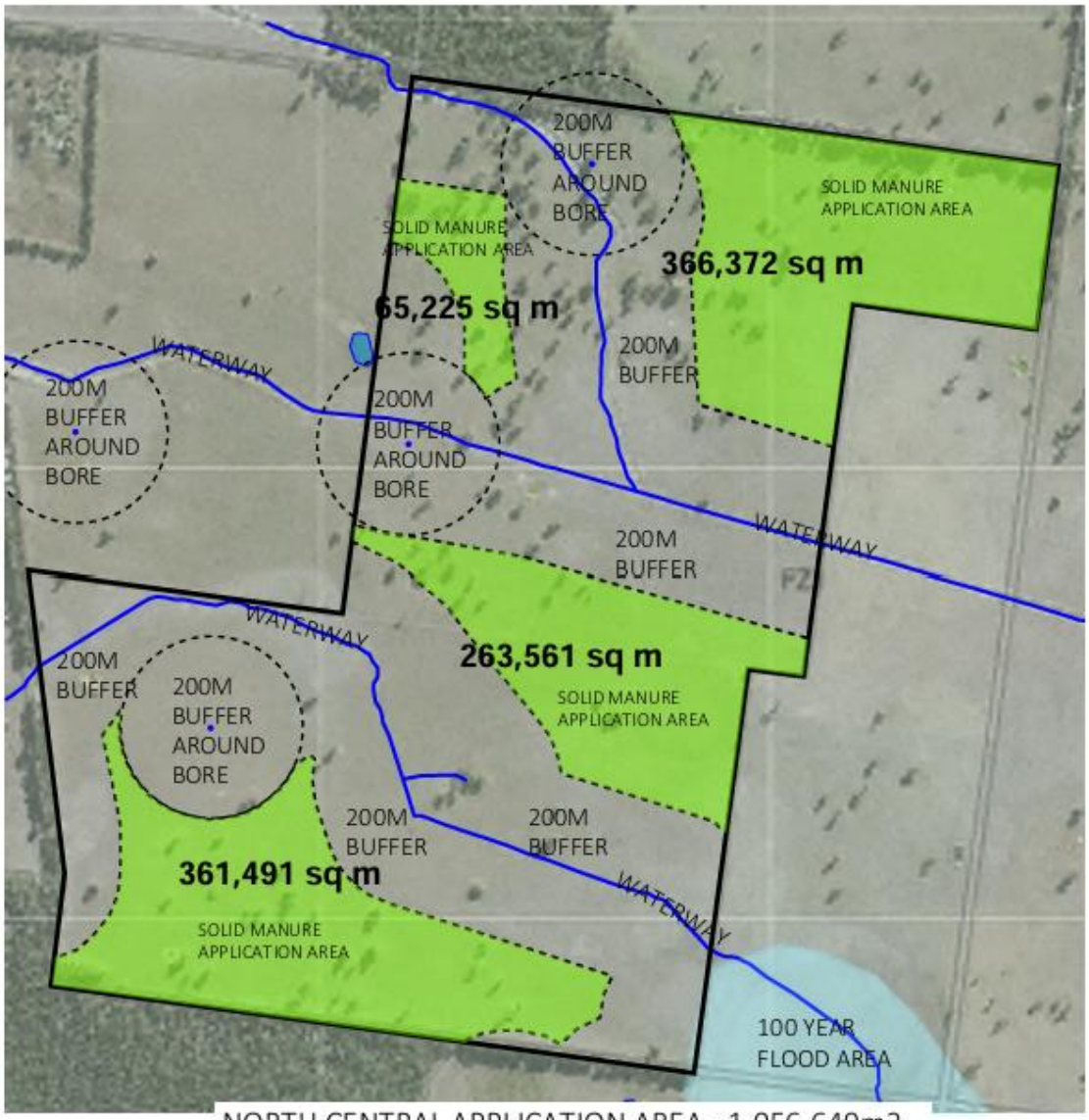




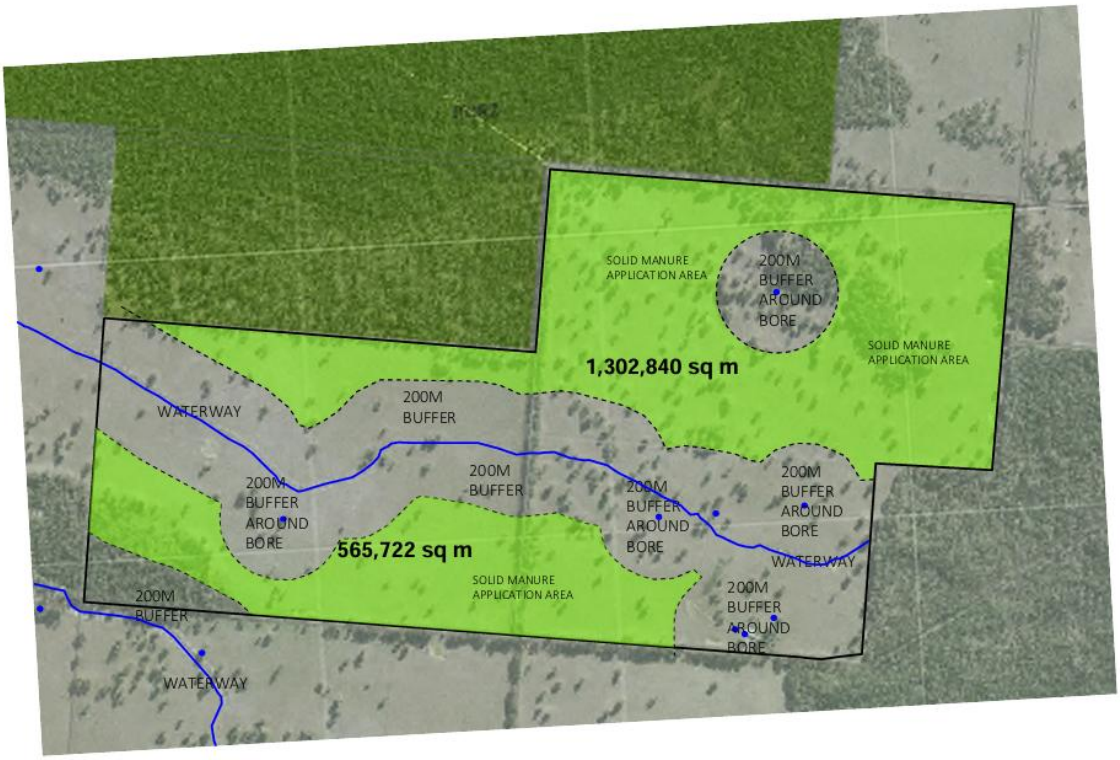
FAR NORTHERN APPLICATION AREA - 1,925,045m2



NORTH WESTERN APPLICATION AREA - 1,591,832m2



NORTH CENTRAL APPLICATION AREA - 1,056,649m2



NORTH EASTERN APPLICATION AREA - 1,868,562m2

4 Conclusion

The proposal is a high-quality design response that complies with the Glenelg Planning Scheme and the Victorian Code of Practice for Cattle Feedlots (August 1995).

The overall site has the capacity to suitably accommodate the necessary waste management practices to support the proposal.

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