Draft Basic Assessment Report

PROPOSED EXPANSION OF CATTLE FEEDLOT ON FARM KLIPPLAATDRIFT 224 RE

SOETVELDE FEEDLOT PTY ~

Ventersdorp, North West Province

Prepared By:
Environmental Management Group
(Pty) Ltd
P.O. Box 37473
Langenhovenpark, 9330
Tel: 051 412 6350
Fax: 086 556 2125
Contact Person(s):
C. Barendze: cb@envmgp.com

Report details

DFFE reference number:	Pending Assessment
Document purpose	This Draft Basic Assessment (BA) Report forms part of a series of reports and information sources that are being provided during the BAR Process for the proposed expansion of cattle feedlot in Ventersdorp, North West Province. In accordance with the 2014 NEMA EIA Regulations (as amended), the purpose of the BA Report is to: • Present the details of and need for the proposed project; • Describe the affected environment, including the planning context, at a sufficient level of detail to facilitate informed decision making; Provide an overview of the BA Process being followed, including public consultation; • Assess the predicted positive and negative impacts of the project on the environment; • Provide recommendations to avoid or mitigate negative impacts and to enhance the positive benefits of the project; • Provide an Environmental Management Programme (EMPr) for the design, construction and operational phases of the project. The Draft BA Report is being made available to all stakeholders for a 30-day review period. All comments on the Draft BA Report (submitted within the 30-day review period) will be considered in the preparation of the finalised BA Report. This finalised BA Report will then be submitted to the North West Department of Economic Development, Environment, Conservation and Tourism in accordance with Regulation 19 (1) of the 2017 NEMA EIA Regulations, for

	decision-making in terms of Regulation 20 of the 2017 NEMA EIA Regulations (as amended).

Project title	Proposed expansion of cattle feedlot on farm Klipplaatdrift 224 RE, Ventersdorp, North West Province.
Prepared by	Environmental Management Group (Pty) Ltd
Lead author	S. van Rooyen EAPASA: 2019/309; SACNASP: 116554; IAIA 5901
Co-author	Chantelle Barendze Junior Environmental Assessment Practitioner MSc Environmental Sciences
Applicant	Soetvelde Feedlot Pty
Report Status	Draft Basic Assessment Report
Submission Date	18 August 2023

Development type	Expansion of cattle feedlot
Associated infrastructure	- Feedlot pens to accommodate 3000 cattle at 9 – 15 m^2 per animal; - Manure lagoons and stockpile area; - Feed trough and aprons, water trough and shades;
Broad scale locality	North West Province
Fine scale locality	Farm Klipplaatdrift 224 RE
Site area	Klipplaatdrift, Ventersdorp

Executive summary

Background:

Soetvelde Pty has appointed Environmental Management Group (Pty) Ltd as the independent environmental assessment practitioner to undertake the Basic Assessment (BA) for the proposed expansion of the cattle feedlot in Ventersdorp, North West. The BA Report process is being undertaken in accordance with the requirements of the EIA Regulations of 2014 (as amended), promulgated in terms of the National Environmental Management Act (NEMA: Act No. 107 of 1998).

This report deals with the expansion of a cattle feedlot, Ventersdorp. The development area is surrounded by already established, still to be established and ongoing agricultural developments.

Project description:

The proposed development entails the expansion of the existing cattle feedlot that currently hosts approximately 490 cattle for commercial production on the farm Klipplaatdrift 224 RE, Ventersdorp, North West. The expansion will comprise of the increase of stock density from 490 large stock units to 3 000 large stock units. The increase in stocking density will have to be accommodated by construction 24 additional feedlot pens of similar size to the existing feedlot pens (1200 m^2 per feedlot pen). On completion, the cattle feedlot will include 30 pens (6 existing feedlot pens, 24 new feedlot pens). The physical footprint of the expansion will comprise of approximately 6 ha (Figure 1).

The site is situated within the Klipplaatdrift region on farm Klipplaatdrift 224 RE, Ventersdorp in the North West Province. The development site approximately 15 km South-West of Ventersdorp and falls under the jurisdiction of the JB Marks Local municipality.

The proposed feedlot facility will be secured via an existing perimeter fence and be accessed via an existing road and gate already installed. The following associated infrastructure will be included:

- Feedlot pens to accommodate 3 000 cattle at 1 000 – 1 200 m^2 per pen;
- Manure lagoons and stockpile area;
- Feed trough and aprons, water trough and shades;

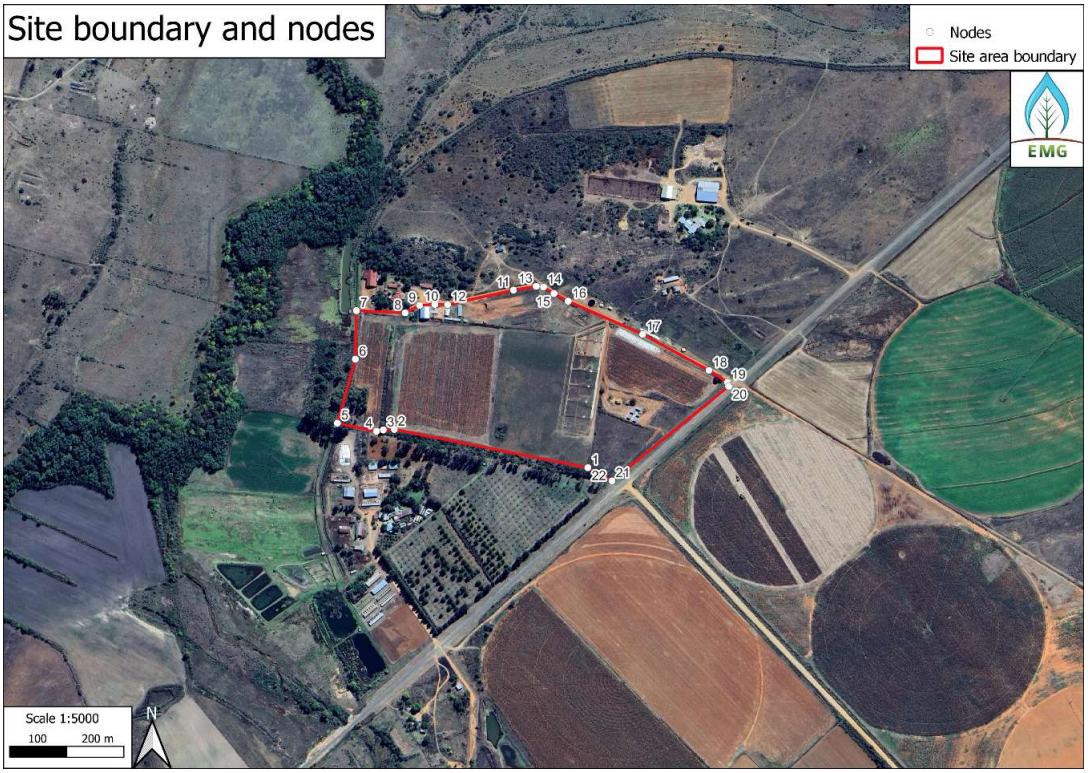

Figure 1: Site boundary and nodes of the proposed expansion of cattle feedlot on farm Klipplaatdrift 224 RE, Ventersdorp

Table 1: Coordinates of nodes indicated in figure 1

Nr	Latitude	Longitude
1	26° 25' 26.4252" S	26° 46' 55.6608" E
2	26° 25' 24.0024" S	26° 46' 43.4244" E
3	26° 25' 24.042" S	26° 46' 42.726" E
4	26° 25' 24.1248" S	26° 46' 42.3012" E
5	26° 25' 23.6136" S	26° 46' 39.828" E
6	26° 25' 19.5708" S	26° 46' 40.9656" E
7	26° 25' 16.5072" S	26° 46' 41.034" E
8	26° 25' 16.6476" S	26° 46' 44.112" E
9	26° 25' 16.176" S	26° 46' 45.0264" E
10	26° 25' 16.1112" S	26° 46' 45.984" E
11	26° 25' 16.1256" S	26° 46' 46.794" E
12	26° 25' 15.2112" S	26° 46' 50.9556" E

13	26° 25' 14.97" S	26° 46' 52.3956" E
14	26° 25' 15.024" S	26° 46' 52.86" E
15	26° 25' 15.4272" S	26° 46' 53.5188" E
16	26° 25' 15.9096" S	26° 46' 54.4152" E
17	26° 25' 18.0012" S	26° 46' 59.1204" E
18	26° 25' 20.28" S	26° 47' 3.3108" E
19	26° 25' 21.0324" S	26° 47' 4.4808" E
20	26° 25' 21.288" S	26° 47' 4.5564" E
21	26° 25' 27.2568" S	26° 46' 57.1872" E
22	26° 25' 26.4252" S	26° 46' 55.6608" E

Feedlot water management

The supply of cool, clean, good-quality water is essential for high-density cattle production. The water requirement for cattle is calculated as: 20 litre per LSU per day: 20 litre x 3000 x 365 days = 21 900 m^3 / year.
Drinking water will be supplied in a trough and placed off the ground. This ensures keeping the water clean and free of livestock secretions. Water abstracted from one existing borehole will satisfy the water supply need. The operational activities for the proposed feedlot facility will require authorisation in terms of Section 21 of the National Water Act. The proponent is in the proses of submitting a water use licenses application to the Department of Water and Sanitation (DWS). Mortalities will be immediately removed from the feedlot and trenches will be dug where they will be buried (Appendix J).

Feedlot waste management:

Organic waste produced by the proposed development's operation will be a mixture of manure and soil, forming a biodegradable by-product. According to Font-Palma (2019), healthy feedlot cattle produce manure equivalent to 5-6% of their body weight per day. The proposed cattle feedlot production scheme aims to introduce new cattle every four months with a starting weight of 250 kg and an exit weight of 500 kg. Calculated as the average between the two weight classes, each LSU will produce 562.5 kg manure per month. The concentrated quantities of manure resulting from high-density livestock farming often lead to the proliferation of unwanted pest insects such as flies. To mitigate this, probiotics will be introduced into the livestock feed and will be sprayed onto the feedlots to limit the proliferation of unwanted pests.

The feedlots will be cleaned each month which involves the mechanical removal of manure. The collected waste will be transported to a temporary storage/drying area lined by an

impenetrable material, preventing seepage into the ground. Manure stockpiles will be covered with a 50% shade net until dry. The dried manure will be used as fertiliser on the surrounding cultivated fields.

Stormwater management:

The Soetvelde Feedlots Pty cattle feedlot pens have been designed to utilise the natural slope to allow feedlot runoff to be directed into a stormwater channel that runs along the northern and southern boundary of the proposed site. The runoff from the stormwater channel will then be directed to a sedimentation pond in the eastern region of the proposed site.

A stormwater layout plan has been compiled and is attached (see Appendix J). The mentioned stormwater layout plan will conform to industry best practice design. The stormwater network will redirect runoff from the feedlots into a sedimentation pond, trapping solid waste before entering the evaporation pond (waste lagoon). Both the sedimentation pond and waste lagoon will be lined by an impenetrable material, preventing seepage. The accumulated solids within the sedimentation pond will be cleaned when it reaches 70% capacity. Waste from the sedimentation pond will be transported to the temporary waste storage area to dry out and eventually used as fertiliser. The water within the evaporation pond (waste lagoon) will dry naturally and eventually be used as fertiliser in the surrounding cultivated fields.

Dimensions of the sedimentation pond and waste lagoon are as follows:

Sedimentation pond: (W)16.1 m x (L)39.5 m x (D)1.5 m.
Waste lagoon: (W)48.1 m x (L)158.7 m x (D)1 m.

In order to ensure that the feedlot drainage operates sufficiently, the following need to be considered in the design:

- Stormwater channels that have sufficient capacity to avoid overflow in “normal” rainfall and maintenance conditions;
- Stormwater channels shouldn’t be impeded by excessive sedimentation of vegetation growth;
- Significant scouring of stormwater channels should not occur.

The following monitoring recommendations must take place to ensure that the feedlot drainage system continues to work effectively:

- Visual monitoring of sediment depth and vegetation growth in the stormwater channel;
- Visual monitoring of scouring and damage to the stormwater channel during maintenance operations;
- Records must be kept of the date of cleaning operations and of any repairs or maintenance.

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