APPENDIX 6

ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPr)

ENVIRONMENTAL MANAGEMENT PROGRAMME FOR THE UNLAWFUL COMMENCEMENT OF A FEEDLOT FACILITY, MARQUARD AREA, SETSOTO LOCAL MUNICIPALITY, FREE STATE PROVINCE

SUBMITTED TO:

Free State Department of Economics, Small Business Development, Tourism & Environmental Affairs (DESTEA):
S24G Unit Manager: Enforcement

113 St. Andrew Street
Bloemfontein
9300

DESTEA Ref No.:

APPLICANT:

Aluf Farming (PTY) Ltd.
P.O Box 244
Demilander Farm
Marquard
9610

SPOOR Environmental Services (PTY) Ltd.

t: +27 (0)12 804 1181 f: +27 (0)86 763 5635 e: info@spoorenvironmental.co.za

p: Postnet Suite 448, Private Bag X025, Lynnwood Ridge, 0040, Pretoria, South Africa

September 2022

REPORT TITLE:	EMPr for the Construction of the Unlawful Commencement of a Feedlot Facility, Marquard Area, Setsoto Local Municipality, Free State Province
APPLICANT:	Aluf Farming (PTY) Ltd.
SPOOR PROJECT REFERENCE:	01/24 aluf feedlot_s24g

DOCUMENT HISTORY

REPORT	DATE	VERSION	STATUS
Aluf Farming EMPr	September 2022	1.0	Draft

APPLICANT

APPLICANT:	Aluf Farming (PTY) Ltd.
CONTACT PERSON:	Mr MD Wessels
POSTAL ADDRESS:	PO Box 244 Marquard 9610 Free State Province
E MAIL:	michiel@aluffarming.co.za

ENVIRONMENTAL ASSESSMENT PRACTITIONER

CONSULTANT:	SPOOR Environmental Services (Pty) Ltd
CONTACT PERSON:	Mr. JC van Rooyen
POSTAL ADDRESS:	Postnet Suite 448, Private Bag X025, Lynnwood Ridge, 0040
TELEPHONE:	012 804 1181
FAX:	086 763 5635
EMAIL:	jcvr@spoorenvironmental.co.za

DECLARATION OF INDEPENDENCE

I, JC van Rooyen as authorised representative of SPOOR Environmental Services hereby confirm my independence as an Environmental Assessment Practitioner and declare that neither I nor SPOOR Environmental Services (PTY) Ltd. have any interest, be it business, financial, personal or other, in any proposed activity, application or appeal in respect of which SPOOR Environmental Services (PTY) Ltd. was appointed as Environmental Assessment Practitioner in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), other than fair remuneration for worked performed, specifically in connection with the Feedlot Facility for Aluf Farming (PTY) Ltd, Setsoto Local Municipality, Free State Province.

Signed_____ Date:_____2022-09-13_____

Disclaimers

Although SPOOR Environmental Services (PTY) Ltd. exercises due care and exactness in rendering services and preparing documents, SPOOR Environmental Services (PTY) Ltd. accepts no liability, and the client, by receiving this document, indemnifies SPOOR Environmental Services (PTY) Ltd. against all actions, claims, demands, losses, liabilities, costs, damages and expenses arising from or in connection with services rendered, directly or indirectly by SPOOR Environmental Services (PTY) Ltd. and by use of the information contained in this document.

==========

The information contained in this document is exclusively for use by the mentioned client and the objectives specified within this document. SPOOR Environmental Services does not accept any responsibility, liability, or duty to any third party who may rely on this document. The contents of this document are confidential and may not be reproduced without the necessary consent or permission from SPOOR Environmental Services.

EXECUTIVE SUMMARY

Introduction

SPOOR Environmental Services (PTY) Ltd. was appointed as the independent Environmental Assessment Practitioner to conduct Environmental Impact Assessment in terms of the S24G rectification application for the Aluf Farming (PTY) Ltd. activities and facilities. The Environmental Impact Assessment Process is being undertaken in terms of Section 24(G) of the National Environmental Management Act (Act no. 107 of 1998) (NEMA) as well as the Regulations listed in terms of the National Environmental Management: Waste Act (Act No. 59 of 2008, (GNR 921).

Locality

The project falls just to the northeast of the central Free State Province. On a more local scale, the site area is located between the towns of Marquard (27km due west of Marquard) and Winburg in the Setsoto Local Municipality, Thabo Mofutsanyane District Municipality of the Free State Province. The cattle feedlot is situated on the Farm Demilander 273, Marquard area.

Discussion

The Applicant is a local Farmer who formalized his operations into an agricultural company with its core business focusing on commercial crop and animal production. Aluf Farming started a feedlot in an existing kraal on the farm, which has grown into a new facility that is able to feed 3000 small stock units (SSU) and 3000 large stock units (LSU) at a time. This new feedlot was built on existing cultivated areas and didn't require the removal of indigenous vegetation. The farm also cultivates maize for use on the farm and the national market. The proposed infrastructure include:

- A feedlot facility with the capacity to process 3000 SSU & LSU at a time,
  - Small stock units consist of 3000 Merino's; and
  - Large Stock Units consist of 3000 Wagyu cattle.
- Two main feedlot facilities divided into smaller units,
- A feed mixing facility (contained in an existing outbuilding),
- An animal processing facility (contained in the existing farm kraal),
- 2x Production boreholes feeding into a main concrete farm dam and associated water pipelines (existing),
- Water pipelines from the concrete dam to the feedlot,
- Existing farmhouse and facility outbuildings,
- Existing access road from the R708.

Environmental Impacts Identified

Anticipated impacts have been identified and described because of the abovementioned processes and the pertinent impacts are summarized in the table below.

Impact Summary

Potential Impacts	Impact Significance (Without Mitigation)
Climate	
High volumes of precipitation.	High
Lightning strikes.	Medium
Geology and Soils	
Surface and sub-soils contamination via manure.	High
Surface and sub-soils contamination via hydrocarbons.	Medium
Hydrology	
Possible contamination of stormwater as a result of oil and fuel leaks on vehicles.	Medium
Possible contamination of stormwater as a result of run-off water from feedlots.	Medium
Possible contamination of groundwater as a result of oil and fuel leaks on vehicles.	High
Biodiversity	
Potential loss and fragmentation of the wetland and the ESA near the vicinity of the proposed development.	Low
The negative fragmentation effects of the development and enable safe movement of faunal species.	Low
The direct and indirect loss and disturbance of faunal species and community.(including potentially occurring species of conservation concern).	Low
Employment	
37 Permanent jobs created.	High (Positive)
Noise	
Possible increase of environmental noise.	Low
Possible increase of occupational noise.	Medium
Air Quality	
Potential Impacts on sensitive receptors, surrounding farmsteads and dwellings.	Low
Nuisance odour impacts	Medium
Contribution to greenhouse gases.	Medium
Traffic	
Movement of large vehicles on and off the facility.	High
Fire	
Potential fire hazard	High

Potential Impacts	Impact Significance (Without Mitigation)
Heritage Features	
Potential alteration or destruction of heritage features within the project boundaries and broader area	Low

Environmental Management Programme (EMPr)

The aim of this Environmental Management Programme (EMPr) is to ensure that the operational phases of the feedlot development comply with the relevant environmental management procedures. The EMPr furthermore aims to organise and coordinate the proposed environmental management and mitigation measures and to describe these measures in order to prevent, reduce or otherwise manage the potential negative social and environmental impacts and to add to the favourable impacts.

The Applicant and the rest of the Stakeholders will carry the responsibility of duty of care towards the site and this EMPr. It is believed that the identified impacts can be significantly minimised provided that the mitigation and rehabilitation measures included in section 7 of this EMPr are strictly adhered to.

DETAILS AND EXPERTISE OF SPOOR ENVIRONMENTAL SERVICES

DETAILS AND EXPERTISE OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER

In accordance with Regulation 28(1) (a) of Government Notice No. R. 543 of 18 June 2010, this section provides an overview of SPOOR Environmental Service's experience with EIAs, as well as the details and experience of the EAPs that form part of the EIA team.

Name: Helene Botha for
Company: SPOOR Environmental Services (PTY) LTD.
Qualifications: M. Env. Man.; B. Sc (Hons) Zoology; B. Sc Zoology & Genetics
Professional Registration: IAIAsa; EAPASA: 2019/558

Ms. H. Botha has 7 years of experience in EIA, environmental management, report writing, water use licenses and project management. She was responsible for ensuring that the S24G EIR report satisfies the requirements of Chapter 4, Part 3 of GN 982 of the 2014 NEMA (Act 107 of 1998) regulations.

Name: JC van Rooyen
Company: SPOOR Environmental Services (PTY) LTD.
Qualifications: M.Sc. (Environmental Management), B. Landscape Architecture
Professional Registration: EAPASA: 2020/303

SPOOR Environmental Services (PTY) Ltd. has been in operation since 2011. The Director and principal EAP, Mr JC van Rooyen, has been involved in an array of environmental consultation and planning projects in various spheres of the landscape design, development, and environmental management disciplines over the past 20 years. SPOOR Environmental Service's approach towards projects is to strive for sustainable environments that not only reflect artistic and aesthetic quality but also hold diverse ecological and cultural value. The Company is capable of conducting environmental applications and landscape development planning and design for various projects including:

- Scoping Reports
- Environmental Impact Assessment Reports
- Visual Impact Assessments
- Environmental Management Systems/ Plans
- Environmental Management Programmes (EMPr)
- Air Emissions Licence Applications (AEL)
- Waste Management Licence Applications (WML)
- Environmental Audits & Monitoring
- Integrated Environmental Management (IEM)
- Environmental Rehabilitation
- Conservation Planning / Eco-tourism Developments
- Landscape Design and Development
- Landscape/ Environmental Project Management

Applications and processes included for projects over the past 20 years required that the EAPs have sound knowledge and skill in the areas of undertaking of public participation processes, the translation of

scientific information into comprehensible impact assessment reporting and an understanding of the financial implications of the various projects in order for these applications to be successful. This indicates that the EAPs are capable to conduct the environmental assessment for the proposed project.

PROJECT TEAM

The project team working on the proposed project consists of the following practitioners:

- **Mr. J.C. Van Rooyen** (*BL., M. Sc (Env. Soc*) (SACLAP) (Principal EAP)
  Landscape Technologist and Environmental Assessment Practitioner
- **Ms. H.E. Botha** (*M. Env. Man.; B. Sc (Hons) Zoology; B. Sc Zoology & Genetics*)

Environmental Assessment Practitioner & Water Use License Consultant

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDIXES

ABBREVIATIONS

CLO	-	Community Liaison Officer
COIDA	-	Compensation for Occupational Injuries and Diseases Act (No 130 of 1993)
DWS	-	Department of Water and Sanitation
EAP	-	Environmental Assessment Practitioner
ECA	-	Environment Conservation Act
ECO	-	Independent Environmental Control Officer acting on behalf of the Client
EIA	-	Environmental Impact Assessment
EMPr	-	Environmental Management Programme
ESA	-	Ecological Support Area
IEM	-	Integrated Environmental Management
IDP	-	Integrated Development Plan
I&AP	-	Interested and Affected Parties
MAMSL	-	Metres Above Mean Sea Level
NEMA	-	National Environmental Management Act
NEMBA	-	National Environmental Management Biodiversity Act
NEMWA	-	National Environmental Management Waste Act
NFEPA	-	National Freshwater Ecosystems Priority Areas
NHRA	-	National Heritage Resources Act (Act 25 of 1999)
NWA	-	National Water Act (Act 36 of 1998)
OHS	-	Occupational Health and Safety
OHS Act	-	Occupational Health and Safety Act (No 85 of 1993)
PC	-	Principal Contractor
PHRA	-	Provincial Heritage Resources Authority
PM	-	Project Manager
PPE	-	Personal Protective Equipment
SABS	-	South African Bureau of Standards
SAHRA -	-	South African Heritage Resources Agency
SANS	-	South African National Standards
SDF	-	Spatial Development Framework
SHE	-	Safety, Health, and Environment
WMA	-	Water Management Area
WULA	-	Water Use Licence Application

1. INTRODUCTION

SPOOR Environmental Services (Pty) Ltd. (hereafter referred to as SPOOR) was appointed by Aluf Farming (PTY) Ltd., to manage the S24G rectification application in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998). The Application is for the proposed for the feedlot in an existing kraal on the farm, which has grown into a new facility that is able to feed 3000 small stock units (SSU) and 3000 large stock units (LSU) at a time. on the Farm Demilander 273, Marquard Area, Setsoto Local Municipality Free State Province.

2. EMPR OBJECTIVES

The aim of the EMPr is to ensure that the design, planning, and operational phases of the feedlot development comply with the relevant environmental legislation, regulations, and guidelines. The EMPr furthermore aims to organise and coordinate the proposed environmental management and mitigation measures and to describe these measures to prevent, reduce or otherwise manage the potential negative social and environmental impacts associated with the feedlot development and to add to the favourable impacts of the project. In brief, the EMPr therefore aims to ensure that:

- activities arising as a consequence of the design, planning and operations on the site of the developments are managed in a way that reduces or avoids negative social and environmental impacts and to enhance its positive effects;
- impacted environments are restored per the recommendations of the EMPr;
- ensuring that there is sufficient allocation of resources on the project budget so that the scale of EMPr-related activities is consistent with the significance of project impacts;
- efficient information sharing is maintained, and a clear understanding exists of all the responsibilities of all the relevant stakeholders;
- the necessary precautions are taken against damages and claims that occur because of the implementation of the development in a timeous fashion;
- accurate records are kept of the progress of the development during its various stages as well as of the ongoing monitoring of all its associated social and environmental impacts;
- stakeholders respond to unforeseen events;
- feedback is provided for continual improvement in environmental performance; and
- timeous completion occurs of all the implementation activities on account of generally sound management.

3. PROJECT DESCRIPTION

3.1 Project Overview

SPOOR Environmental Services (Pty) Ltd was appointed as the independent environmental assessment practitioner (EAP) to manage the S24G rectification application process for a feedlot operation which has been developed on previously developed agricultural areas on the farm. The proposed infrastructure includes:

- A feedlot facility with the capacity to process 3000 SSU & LSU at a time,
  - Small stock units consist of 3000 Merino's; and
  - Large Stock Units consist of 3000 Wagyu cattle.
- Two main feedlot facilities divided into smaller units,
- A feed mixing facility (contained in an existing outbuilding),
- An animal processing facility (contained in the existing farm kraal),
- 2x Production boreholes feeding into a main concrete farm dam and associated water pipelines (existing),
- Water pipelines from the concrete dam to the feedlot,
- Existing farmhouse and facility outbuildings,
- Existing access road from the R708.

3.2 Locality

The project falls just to the northeast of the central Free State Province. On a more local scale, the site area is located between the towns of Marquard (27km due west of Marquard) and Winburg in the Setsoto Local Municipality, Thabo Mofutsanyane District Municipality of the Free State Province. The cattle feedlot is situated on the Farm Demilander 273, Marquard area. See Figure 1.

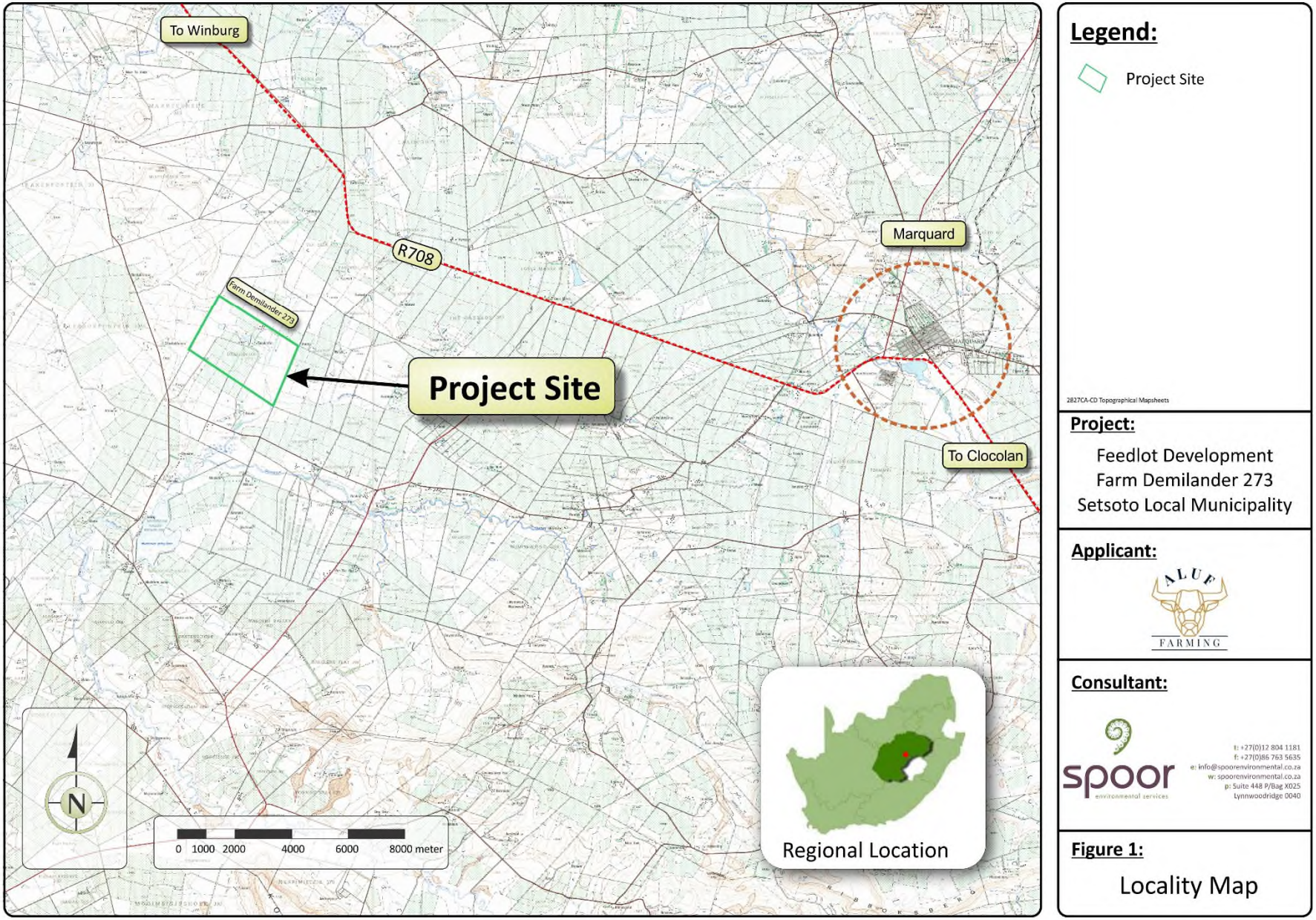

Figure 1: Locality

4. RECEIVING ENVIRONMENT

4.1 Bio-Physical Environment

The study area is located in the summer rainfall zone of the Republic of South Africa, with an expected mean annual precipitation (MAP) of Rainfall averages between 600 mm and 750 mm in Setsoto Local Municipality which is more or less the same as the whole district. Rainfall is recorded where highest rainfall occurs in the summer season and least amount of rain in winter period. The highest rainfall in the central and southern parts of the municipality creates a favourable environment for agricultural activities and could assist in water demand in times where there is less amount of rain (SLM, undated).

The area has a climate characterised by warm to hot summers and cold winters. It experiences snowfalls some years. the highest temperatures are experienced between November and February when an average temperature of up to 29°C have been recorded (SLM, undated).

Then the coldest average daily temperature is experienced in June and July when average minimum temperatures are below 0°C (SLM, undated).

The topography of the area is generally diverse with the steeper areas located in the south around Ficksburg, and features strong elements, namely mountainous areas, river valleys and floodplains, sloping hills and grasslands.

The elevation is between 1400m and 1500m above sea level in the development area. Marquard is located in the general Highveld plain. The site is representative of the local topography with no prominent topographical features. The local area of the site slopes in a south-to-south easterly direction (SLM, undated).

According to the Map data from Council for Geoscience, sourced on CapeFarmMapperthe study area is classified as Balfour geology formation. This formation is classified by greenish- to bluish-grey and greyish-red mudstone, siltstone, subordinate sandstone (WCDoA, 2022).

The study area is drained by means of surface flow. Storm water flows over the site in a south-south easterly direction to ultimately collect in an unnamed drainage line east of the site. The only prominent drainage features are to the southeast and Northwest of the site.

The nearest surface water bodies or natural drainage features are located within 195 metres east and 200m north-west of the existing feedlot that was expanded. The project area is located in the C41B quaternary drainage regions which is included in the Middle Vaal Water Management Area (WCDoA, 2022).

Map data from Chief Surveyor-General (DRDLR) & Department of Water & Sanitation (DWS), sourced with the CapeFarmMapper tool indicates that the groundwater depth is 15.46 mbgl and the recharge rate is 22.97mm/a. The aquifer is classified as Intergranular and fractured 0.1 - 0.5 l/s and is moderately vulnerable and has a susceptibility of medium to high (WCDoA, 2022).

As stated in the Terrestrial Biodiversity Compliance Statement, Appendix 4 of the EIAR:

"*The species composition of the assessment area was characteristic of a disturbed and overgrazed area. Most of the indigenous flora recorded during the site visits consisted of Increaser 2 grasses which co-occurred with numerous alien invasive plants. Increaser 2 grasses are abundant in overgrazed veld and include pioneer and subclimax species which increase in response to the disturbances of overgrazing (Van Oudtshoorn, 2015). Increaser 2 grass species were recorded mainly in two habitat units, namely Transformed and Degraded. The proposed development area consists mainly of these two habitat units.*"

Seventeen species of Alien Invasive Plants were recorded in the assessment area. The most dominant examples include Alternanthera pungens, Argemone ochroleuca subsp. ochroleuca, Bidens pilosa, Cosmos bipinnatus, Datura ferox, Eucalyptus camaldulensis, Hibiscus trionum, Opuntia ficus-indica and Tagetes minuta. Alien invasive grasses include Digitaria sanguinalis and Paspalum dilatatum.

Eight species, namely Agave americana, Argemone ochroleuca subsp. ochroleuca, Datura ferox, Eucalyptus camaldulensis, Gleditsia triacanthos, Opuntia ficus-indica, Verbena bonariensis and Xanthium strumarium, are listed under the Alien and Invasive Species List 2021, Government Gazette No. 44182 as Category 1b. Category 1b species must be controlled by implementing an IAP Management Programme, in compliance of section 75 of the NEMBA, as stated above (The Biodiversity Company, 2022).

"No herpetofauna or mammals were observed.

Seventeen species were recorded in the project area during the survey based on either direct observation, vocalisations, or the presence of visual tracks, nests, and signs (Error! Reference source not found.). Nine species were listed as protected provincially."

As stated in the Terrestrial Biodiversity Compliance Statement regarding the Habitat Assessment:

"The habitats observed largely do not coincide with the vegetation types as described by Mucina & Rutherford (2006) due to large-scale transformation and degradation.

Grassland Habitats consist mainly of Increaser 3 species, namely Sporobolus africanus. The dominance of Increaser 3 grasses indicates that the Grassland has been impacted by species-specific overgrazing (Van Oudtshoorn, 2015). It has also been impacted by dirt roads, livestock trampling as well as the development of a windpump where the habitat borders with the wetland.

The Wetland Habitat consists of the shallow, sedge-dominated banks of a small freshwater lake. The lake itself provides a valuable water resource for both wetland birds and cattle. It is connected to streams which act as corridors to similar wetlands in the project area. One visible impact on the Wetland Habitat is the development of a windpump, located in the Grassland Habitat, which utilizes the lake's water.

Degraded Habitats consist of natural patches of grassland that have been disturbed by human activities, most notably alien plant invasion, but still retain a substantial cover of indigenous vegetation. Fieldwork observations found other disturbances in the Degraded Habitats such as disturbances by livestock (trampling and defecation) and the burning of Zea mays.

Transformed Habitats have been heavily modified, largely due to previous and current clearing of vegetation for agricultural activities. As a result, Transformed Habitats contain little to no natural areas. These habitats are in a constant disturbed state and thus cannot recover to a more natural state due to ongoing disturbances and impacts. Activities that have led to the transformation of previously natural habitats within the assessment area include overgrazing and trampling by livestock; establishment of buildings, dirt roads, fences, and lawns; cultivation of crops and exotic timber trees; dumping of scrap metal, building rubble and rocks; littering; and vegetation clearing for future feedlot developments."

Site specific environmental management measures are included in the Environmental Management Programme (EMPr) to limit and reduce activities that could cause harm to faunal and floral species.

A Phase 1 Cultural Heritage Impact Assessment was undertaken by J A van Schalkwyk in June 2022. This report will be submitted via the South African Heritage Resources Agency (SAHRA) or relevant Provincial Heritage Resources Agency (PHRA) by means of the online SAHRIS System. The report states the following:

"The Palaeontological Sensitivity Map (http://www.sahra.org.za/sahris/map/palaeo) indicate that project area has a very high sensitivity of fossil remains to be found and therefore a field assessment and protocol for finds is required.

The cultural landscape qualities of the region essentially consist of two components. The first is a rural area in which the human occupation is made up of a very limited pre-colonial Stone Age and Iron Age occupation. The second and much later component is a colonial farmer one, with a very limited urban component consisting of a number of smaller towns, most of which developed during the last 100 to 120 years.

From the Deed of Transfer (fig. 7), it is determined that the farm Demilander was partitioned on 18 June 1913 in favour of a H.J.E. van Schalkwyk (born Moolman), from the original farm Weltevrede 435.

Based on an analysis of old topographic maps and aerial photographs, it can be seen that the project area has always been used for agricultural (crop farming) purposes. The main changes that took place was the re-alignment of internal roads and that orientation of the various agricultural fields.

During the survey, the following sites, features, and objects of cultural significance were identified in the project area:

- *No sites, features or objects of cultural significance dating to the Stone Age were identified in the project area.*
- *No sites, features or objects of cultural significance dating to the Iron Age were identified in the project area.*
- *No sites, features or objects of cultural significance dating to the historic period were identified in the project area. "*

4.2 Socio Economic Environment

4.2.1 Setsoto Local Municipality

Setsoto Local Municipality is situated in the Eastern Free State within the boundaries of the Thabo Mofutsanyane District Municipality. The local municipality area measures 5 948,35 km2 and comprises four urban areas namely Ficksburg/Meqheleng, Senekal/Matwabeng, Marquard/Moemaneng and Clocolan/Hlohlolwane, as well as some surrounding rural areas (SLM, 2022).

As per the community survey conducted by Statistic South Africa in October of 2016, there were 55 402 males and 61 962 females in the municipal area. This translates into 47% males and 53% females; the majority of the population is between 15 to 40 years old. Marquard self has a population of 15 502 where 7254 are male and 8248 are female. 95.3% of the population are Black African (Statistics South Africa, 2011).

The majority of the population, which is 62%, is between 15 and 64 years of age. The age group 0 to 14 years accounts for 32% of the population. Of those aged 20 years and above, approximately 8,7% have no formal schooling, 22,6% have completed matric, and 6,9% have a form of higher education (Statistics South Africa, 2011).

The municipality has three hospitals, one in each town except in Marquard, there are thirteen clinics spread all over the four towns of the municipality. The challenges are with the rural/farming areas that need mobile facilities, as most of these people travel more than five kilometres to reach a clinic.

Poor conditions of roads also contribute to these situations as some of the areas are inaccessible. The shortage of staff at the clinics also plays a role in our incapacity to provide sustainable health services to our communities. Doctors are also not available full time at the clinics as they only visit on certain days.

Most of the people infected with Human Immunodeficiency Virus/ Acquired Immunodeficiency Syndrome put a strain on the health system within our municipal area, and our locality with Lesotho also aggravates the situation as more Lesotho citizens' uses facilities that are in our area for their health. There are only two anti-retroviral assessment and treatment sites in the municipality, the one is situated in Marquard and the other in Ficksburg (SLM, 2022).

The Covid-19 pandemic has put a further strain on the health service within the municipality. A lot of people have also lost their loved ones as a result of this disease. The department of health is continuing to provide vaccination services to members of the community, although the response was higher at the beginning, people are no longer vaccinating at the high rate as it was in the beginning (SLM, 2022).

In addition to the quantitative standards, other demand drives, which have impact on the provision of clinics, include the department of health's regulations, the medical expenditure of households and existing clinics in the area. The facility at the rural service centre should be a Primary Health Care Centre; a mobile clinic could be operated from here to the outlying areas. Emergency Medical Services is under the control of the Free State Provincial Government Department of Health, this service is under capacitated in terms of human resources and equipment (SLM, 2022).

There are 33 687 households in Setsoto, with an average household size of 3,3persons per household. Of households in the municipality, 1,9% have no access to piped water; 31,4% have access to piped water in the dwelling, and 59,4% of households have access to piped water in the yard.70% of the households live in formal dwellings.

The official unemployment rate was 34,9% in the third quarter of 2021. The results of the Quarterly Labour Force Survey for the third quarter of 2021 show that the number of employed persons decreased by 660 000 in the third quarter of 2021 to 14.3 million (SLM, 2022).

The Community Survey of 2016 figures are not disaggregated to a municipal level, hence the usage of the 2011 figures as they are the ones recognised as official statistics for planning.

Of the 33 411 economically active (employed or unemployed but looking for work) people in the municipality, 35,7% are unemployed (Statistics South Africa, 2011).

Of the 17 173 economically active youth (aged 15–34) in the area, 46,1% are unemployed (Statistics South Africa, 2011).

Agriculture is the main economic activity in the municipality.

5. LEGISLATIVE FRAMEWORK

The following section includes the primary list of legislation which is deemed relevant to the proposed development on all levels of government, including the constitutional, national, provincial, and local level. Although the aim was to be as comprehensive as possible the list does not represent a complete legal compliance review and the responsibility remains with the Proponent to ensure compliance with the required legislation.

5.1 The Constitution of the Republic of South Africa, 1996 (Act 108 of 1996)

The Constitution of the Republic of South Africa is the principal legal source of the Republics' legislative framework, including its environmental law. The Bill of Rights is fundamental to the Constitution of South Africa and in, section 24 of the Act, it is stated that:

Everyone has the right (a) to an environment that is not harmful to their health or well-being; and (b) to have the environment protected, for the benefit of present and future generations through reasonable legislative and other measures that (i) prevent pollution and ecological degradation; (ii) promote conservation; and (iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.

Given that environmental management is founded partly on the principles of public participation, Section 195 of the Constitution is of primary relevance. This section states that:

(1) Public administration must be governed by the democratic values and principles enshrined in the constitution, including the following principles: (a) (b) (c) (d) (e) People's needs must be responded to, and the public must be encouraged to participate in policy making. (f) Public administration must be accountable. (g) Transparency must be fostered by providing the public with timely, accessible, and accurate information (Government Gazette, 1996).

5.2 Environment Conservation Act, 1989 (ECA) (Act 73 of 1989)

The primary objective of the ECA is to provide for the effective protection and control of the environment. Subsequent to the promulgation of the Act in 1989, a number of key regulations governing EIA's and identified activities that may be detrimental to the environment have also been promulgated. Section 8 of the Regulations regarding activities identified under section 21(1) of the Environmental Conservation Act (73 of 1989) – General EIA Regulations states that:

"After a plan of study for the environmental impact assessment has been accepted, the applicant must submit an environmental impact report to the relevant authority, which must contain; (a) A description of each alternative including particulars on (i) The extent and significance of each identified environmental impact; and (ii) The possibility for mitigation of each identified impact. (b) A comparative assessment of all the alternatives; and (c) Appendices containing descriptions of (i) The environment concerned; (ii) The activities to be undertaken; (iii) The public participation process followed, including a list of interested parties and their comments; (iv) Any media coverage given to the proposed activity; and (v) Any other information included in the accepted plan of study."

5.3 National Environmental Management Act, 1998 (NEMA) (Act 107 of 1998)

The purpose of the Environmental Impact Assessment Amendment Regulations of 2014 (amended by GN 517 w.e.f. 11 June 2021) is to:

"*The purpose of these Regulations is to regulate the procedure and criteria as contemplated in Chapter 5 of the Act relating to the preparation, evaluation, submission, processing and consideration of, and decision on, applications for environmental authorisations for the commencement of activities, subjected to environmental impact assessment, in order to avoid or mitigate detrimental impacts on the environment, and to optimise positive environmental impacts, and for matters pertaining thereto.*"

The Act provides for the right to an environment that is not harmful to the health and well-being of South African citizens; the equitable distribution of natural resources, sustainable development, environmental protection, and the formulation of environmental management frameworks (Government Gazette, 1998). National Environmental Management: Biodiversity Act, 2004 (NEM:BA) (Act 10 of 2004)

The purpose of the Biodiversity Act is to provide for the management and conservation of South Africa's biodiversity within the framework of the NEMA and the protection of species and ecosystems that warrant national protection. As part of its implementation strategy, the National Spatial Biodiversity Assessment was developed. In terms of the Biodiversity Act, the developer has a responsibility for:

- The conservation of endangered ecosystems and restriction of activities according to the categorisation of the area (not just by listed activity as specified in the EIA regulations),
- Application of appropriate environmental management tools in order to ensure integrated environmental management of activities thereby ensuring that all developments within the area are in line with ecological sustainable development and protection of biodiversity,
- Limit further loss of biodiversity and conserve endangered ecosystems.

5.4 National Environmental Management: Air Quality Act, 2004 (NEM:AQA)(Act 39 of 2004)

In regulating air quality in South Africa, The NEM:AQA was introduced to protect the environment by introducing reasonable measures for the prevention of pollution and ecological degradation and for securing ecologically sustainable development whilst promoting justifiable economic and social development. In addition, the act aims to provide national norms and standards for regulating air quality monitoring as well as air quality management and control. The list of activities included in General Notice 248 must be considered for any activities that produces emissions. The following passages of the act bare relevance;

Section 22: No person may without a provisional atmospheric emissions licence conduct an activity;
- (a) listed on the national list anywhere in the Republic; or
- (b) listed on the list applicable in a province anywhere in the province.

5.5 National Environmental Management: Waste Act, 2008 (Act 59 of 2008)

Act no 59 of 2008 provides for the control of waste management activities which have or is likely to have a detrimental effect on the environment. The act aims to;

- Reform the law regulating waste management in order to protect health and the environment by providing reasonable measures to prevent pollution and ecological degradation and for securing ecologically sustainable development,
- To provide for institutional arrangements and planning matters,
- To provide for national norms and standards for regulating the management of waste by all spheres of government,
- To provide for specific waste management measures,
- To provide for the licencing and control of waste management activities,
- To provide for the remediation of contaminated land,

- To provide for a national waste information system,
- To provide for compliance and enforcement, and
- to provide for all matters related to the above aspect.

Importantly the act furthermore includes requirements that stipulate that no person may commence, undertake, or conduct a waste management activity listed in the act unless a licence is issued in respect of that activity.

On the 3rd of July 2009 the minister published a publish a List of Waste Management Activities which have or are likely to have a detrimental effect on the environment. This document defines animal manure as: "*a by-product of animal excreta which is bio-degradable in nature and could further be used for fertilisation purposes*".

Section 19 of the Act describes categories of Waste management activities of which a waste management licence is required for which an application for a Waste Management Licence will need to be submitted in terms of NEM:WA:

"Storage, treatment, and processing of animal waste

The storage, treatment, or processing of animal manure, including the composting of animal manure, at a facility that has a throughput capacity in excess of 10 tonnes per month, including the construction of a facility and associated structures and infrastructure for such storage, treatment, or processing."

As Aluf Farming will not store, treat, or process animal manure in excess of 10 tonnes per month, no waste management license is required but norms and standards might be applicable. Animal manure will however be used as a resource for fertilisation of pastures or cultivated areas and is thus not regarded as waste.

5.6 Listed Activities Applicable to the Aluf Farming (PTY) Ltd Feedlot Facility

The table below provides a summary of the listed activities specified in the EIA Regulations of June 2014 (amended in 2021) and which is applicable to the proposed development.

Table 1: Listed Activities in terms of the June 2014 NEMA EIA Regulations

Listed Activity in terms of Listing Notice 1 of 2014 GNR 517 of 2021 published in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998)	Activity details and GPS Coordinates
Listing Notice 1: ***Activity No. 4:*** *The development and related operation of facilities or infrastructure for the concentration of animals in densities that exceed-* *(i) 20 square metres per large stock unit and more than 500 units per facility;* *(ii) 8 square meters per small stock unit and;* *a. more than 1 000 units per facility excluding pigs where (b) applies; or* *b. more than 250 pigs per facility excluding piglets that are not yet weaned;*	*Application is made for the Aluf Farming (PTY) Ltd. feedlot facility* with the capacity to process 6000 SSU & LSU at a time 3000 Small stock units 3000 Large Stock Units

SPOOR Environmental Services Environmental Consultants has subsequently been appointed by the Applicant, as the independent Environmental Assessment Practitioner (EAP) to undertake this Environmental Impact Assessment process and to ensure compliance with all the relevant Environmental Legislation, Regulations and Guidelines.

5.7 Hazardous Substances Act (Act No. 15 of 1973)

The Hazardous Substances Act (15 of 1973) is regulated by the Department of Health. The Act and its regulations regulate the transportation of defined hazardous

5.8 National Water Act, 1998 (NWA) (Act 36 of 1998)

The National Water Act (NWA) identifies 11 consumptive and non-consumptive water uses in terms of section 21 of the act which must be authorized. The authorization system includes scheduled uses, general authorizations, and licences. It allows for the reserve of the specific water resource to be determined and also includes a public involvement process in the establishment of strategies and decision-making and guarantees the right to appeal against such decisions. The reserve is defined by the quality and quantity of the water resource in order to meet basic human needs as well the ecological requirements.

Section 27 of the NWA specifies that the following factors regarding water use authorization be taken in consideration:

- The efficient and beneficial use of water in the public interest,
- the socio-economic impact of the decision on whether or not water use is authorized,
- alignment with the catchment management strategy,
- the impact of the water uses, and possible resource directed measures,
- investments made by the applicant in relation with the water resource in question.

Schedule 1 Water Use constitutes -

- water taken for reasonable domestic use in a person's household from any source
- small gardening (but not for commercial purposes)
- **watering of livestock (excluding feedlots)** that graze on that land (within the carrying capacity of that property)
- storing and using run-off water from a roof (rainwater harvesting)
- in emergencies, e.g., firefighting
- recreation, e.g., swimming, angling, etc.

The proposed development might require a Water Use Licence in terms of Section 21 (a) for the taking of water from a water resource for watering of livestock, as the watering of livestock in a feedlot is excluded from the Schedule 1 use.

The storage of run off with water containing manure may also constitute a section 21 water use and this will be confirmed with the Department of Water and Sanitation.

5.9 National Heritage Resources Act, 1999 (NHRA) (Act 25 of 1999)

Section 38(1) of the South African Heritage Resources Act (25 of 1999) requires that a heritage study be undertaken for:

(a) construction of a road, wall, power line, pipeline, canal or other similar form of linear development or barrier exceeding 300 m in length;

(b) construction of a bridge or similar structure exceeding 50 m in length; and

(c) any development, or other activity which will change the character of an area of land, or water –

(1) exceeding 10 000 m^2 in extent;

(2) involving three or more existing erven or subdivisions thereof; or

(3) involving three or more erven, or subdivisions thereof, which have been consolidated within the past five years; or

(d) the costs of which will exceed a sum set in terms of regulations; or

(e) any other category of development provided for in regulations.

A Phase 1 Heritage Impact Assessment were completed and submitted on SAHRIS for comment from the Free State Heritage Resources Authority (FSHRA).

5.10 Conservation of Agricultural Resources Act, 1983 (Act 43 of 1983)

The main aim of this act is to provide a legal vehicle for the protection of productive agricultural resources. The act provides for the control and protection of wetlands, soil conservation matters, control and prevention of veld fires, control of weeds and invader plants, and the control of pollution via agricultural practices. The act therefore focusses on fighting of soil erosion, the protection of water resources, and combatting the degradation of indigenous vegetation conducive to agricultural practices through the control of invasive alien vegetation.

5.11 Municipal Systems Act, 2000 (Act 32 of 2000)

The Municipal Systems Act form part of a string of other legislation which aims at empowering local government to fulfil its constitutional obligations. As part of this objective the SA government published the Local Government White Paper in 1998, which outline the policy framework for local government structures. In addition, government furthermore published the Municipal Demarcation Act, 1998 (Act 27 of 1998) which allowed for the demarcation of new municipal boundaries, the Municipal Structures Act, 2000 (Act 33 of 2000) which outlines the required structures of a local authority and the Municipal Financial Management Act, 2003 (Act 56 of 2003) which must secure sound and sustainable management of the fiscal and financial affairs of municipalities and municipal entities by establishing norms and standards and other requirements for the lawful financial management of these entities.

The Municipal Systems Act work in unison with these sets of legislation by regulating key municipal organizational, planning, participatory and service delivery systems. In combination these sets of legislation provide a framework for the democratic, accountable, and developmental local government system as envisaged by the Constitution.

5.12 Integrated Environmental Management

The term Integrated Environmental Management (IEM) has been used in South Africa since the 1980's. Documentation on how IEM would assist the EIA process was originally produced in 1992 by the then National Environmental Management Competent Authority. The need has since arisen for more comprehensive inputs in the EIA process, and this paved the way for the development of the Integrated Environmental Management Series in 2002 which consisted of a set of booklets providing more detailed insights in the approach and methodologies associated with EIA. In brief the IEM seeks to achieve the following;

"*Integration of environmental considerations across the full lifecycle of the activity: for example, for a project this implies consideration of environmental issues through pre-feasibility, feasibility, planning and design, construction, operation and decommissioning*" (DEAT 2002).

5.13 Occupational Health and Safety Act, 1993 (Act 85 of 1993)

The Occupational Health and Safety Act, 1993 (Act 85 of 1993) provides for the health and safety of individuals in the workplace as well as for the health and safety of individuals working near or with of plant and machinery. The Act also protects people, other than persons at work, against hazards to health and safety due to the activities of people at work.

5.14 Sustainable Development

The principle of Sustainable Development has been established in the Constitution of the Republic of South Africa (108 of 1996) and given effect by NEMA and the ECA. Section 1(29) of NEMA states that sustainable development means the integration of social, economic, and environmental factors into the planning, implementation, and decision-making process so as to ensure that development serves present and future generations. Thus, Sustainable Development requires that:

- The disturbance of ecosystems and loss of biological diversity are avoided, or, where they cannot be altogether avoided, are minimised and remedied; That pollution and degradation of the environment are avoided, or, where they cannot be altogether avoided, are minimised and remedied;
- That the disturbance of landscapes and sites that constitute the nation's cultural heritage is avoided, or where it cannot be altogether avoided, is minimised and remedied;
- That waste is avoided, or where it cannot be altogether avoided, minimised, and re-used or recycled where possible and otherwise disposed of in a responsible manner
- That a risk-averse and cautious approach is applied, which takes into account the limits of current knowledge about the consequences of decisions and actions;
- Negative impacts on the environment and on people's environmental rights be anticipated; and, prevented and where they cannot altogether be prevented, are minimised and remedied.

5.15 THABO MOFUTSANYANE DISTRICT MUNICIPAL INTEGRATED DEVELOPMENT PLAN (IDP)

And Integrated Development Planning (IDP) is a government initiated process that municipalities follow in preparation of five-year strategic plans for development. Also referred to as IDP, Integrated Development Planning is the instrument that provides guidance on the budgeting and decision-making processes of municipalities. The Thabo Mofutsanyana District Municipality has in their IDP identified a set of key aspects by which they would like to steed and encourage development in the region. Of relevance to this study some of these aspects include:

- Implementation of environmental legislation and guidelines on all levels of authority to guide area sensitive development;
- Capacity building in terms of social, economic, and environmental sensitivities and how to develop in these areas; and;
- The development of agricultural areas with special attention to environmental sensitivities.

5.16 Local Municipal Policies

The following Regional strategies were considered;

- Setsoto Municipality Integrated Waste Management Plan 2016,
- Setsoto Municipality Integrated Environmental Management Plan, undated,
- Setsoto Municipality Waste Management Bylaw 2012,

- Setsoto Municipality Draft Spatial Development Framework 2017,
- Setsoto Municipality Draft Integrated Development Plan (IDP) 2022-2023, and
- Setsoto Municipality Keeping of Animals, Poultry and Bees Bylaw, 2008.

6. ROLES AND RESPONSIBILITIES

In order to ensure that the prescribed mitigation, rehabilitation, and monitoring measures are effectively and efficiently implemented in all the relevant stages of the proposed development, it is important to assign certain responsibilities to the specific managers thereof. The success of the implementation of the aims of this EMPr will not only depend on whether appropriate mitigation and rehabilitation measures have been adequately identified, but also on the level of commitment of all the responsible individuals to implement the recommendations which are proposed in this document.

6.1 Government Departments

As the responsibility for the protection of our natural heritage lies with the relevant Government Departments, they have the power to conduct site inspections to ensure that the development complies with all legislation, regulations, and standards. They may enforce penalties where non-compliance occurs.

6.2 Applicant

The party or agent who is the contractual owner of the project during the construction and operational phases and who will be responsible for the long-term maintenance of the proposed infrastructure is the Applicant. In the case of the feedlot Development, the Applicant is;

Aluf Farming (PTY) Ltd.
Mr M Wessels
PO Box 244
Marquard
9610

E Mail: michiel@aluffarming.co.za

The Applicant is responsible for:

- the implementation of the EMPr (from the initiation of the project up to and during the operational phase) and all the prescribed rehabilitation,
- the relevant environmental management measures (i.e., constant monitoring and maintenance in line with the conditions of environmental authorizations and licenses) in terms of the operational phase and associated infrastructure,
- appointing a project manager/s or Principal Contractor that will represent the Applicant and who will liaise competently will all the Services agencies, contractors, the local community, and the other entities involved.

6.3 Principal Construction Contractor or Principal Contractor (PC)

The Principal Contractor will be responsible for the implementation of this document during any construction activities during the project. With relevance to the EMPr a PC is responsible for:

- appointing a construction manager to act as representative for the PC and their staff,
- responding timeously to any complaints and commands issued by the Environmental Control Officer (ECO) or,
- recording any paper trails from the developer/implementing agent, ECO, Community, and the PC,

- ❖ rehabilitating the site to conditions acceptable to the directives of the EMPr and the reasonable approval of the ECO,
- ❖ compliance to any applicable laws and acts specifically those relevant to the project
- ❖ conducting site inspections along with the ECO.

PLEASE NOTE: It is imperative that the EMPr must be included in the principal construction contract documents and the PC must also include the items of the EMPr to be priced in the bill of quantities, in order for the required provisions to be made towards responsible environmental management.

6.4 Environmental Control Officer (ECO)

The Applicant is responsible for employing an Environmental Control Officer (ECO) at the start of the construction phase.

The ECO, on behalf of the implementing agent will be responsible for:

- ❖ liaising with the PC to ensure that the environmental management procedures of the EMPr are implemented and are effective,
- ❖ ensuring that the Contractors/Sub-contractors and Employees are aware of their environmental impact,
- ❖ conducting monthly compliance audits and developing detailed reports with concerns identified and proposed risk mitigation for the PC to consider and attend to,
- ❖ liaising between the developer/implementing agent and the PC (and the relevant appointed sub-contractors) with regard to all environmental concerns, and
- ❖ the ECO in association with the relevant parties will also be responsible for assisting in the resolution of conflicts arising due to the proposed infrastructure development.

6.5 The Local Community

It is important to involve the local communities where this is relevant in terms of impacts that the development may have on their activities or facilities. If possible, a local community member or group should be identified to which pertinent information can be communicated. These parties will also have an open channel through the ECO to communicate any issues to the Applicant.

6.6 In General

All of the abovementioned parties are responsible for appointing representatives that are suitably qualified to perform the necessary tasks appointed to them. These representatives must also be able to interact within a professional team in order to facilitate all the relevant activities needed for the successful implementation of the EMPr and the completion of the feedlot Infrastructure development.

6.7 Monitoring

Monitoring forms an integral part of the success of an EMPr and must take place on a continual basis. This will ensure that the EMPr is implemented appropriately. Monitoring will also assist in establishing the appropriateness of the mitigating measures and in identifying any other aspects that might need to be included in the EMPr. Where non-compliance did occur, monitoring will assist in determining the effectiveness of the remediation measures implemented and it will assist in identifying any other measures that might be needed. The monitoring programme will be addressed in Chapter 8.

7. BIOPHYSICAL, SOCIO-ECONOMIC, AND CULTURAL IMPACTS AND THE ASSOCIATED MITIGATION AND REHABILITATION MEASURES

The Feedlot Facility is already operational and requires licencing as a result of an increase in the number of livestock raised. No construction related impact will therefore result.

Table 2: Mitigation & Rehabilitation Measures

ASPECT & RELATED ENVIRONMENTAL RISKS	RISK CATEGORY (With Mitigation) LOW MEDIUM HIGH	PROJECT PHASE RESPONSIBLE PARTY PERFORMANCE INDICATOR	MITIGATION AND REHABILITATION MEASURES
Aspect: **Composition of Labour Force** **Impacts:** ❖ Employment of members of the Local Community.	❖ High (positive)	**Project Phase:** Operational phase. **Responsible Parties:** Applicant **Performance Indicators:** ❖ Employment opportunities	❖ Members of the local communities closest to the Aluf Feedlot site must be employed during the operational phases as far as possible, and the contingent of the local community employed must preferably be equally represented by male and female employees. ❖ The proposed project must make use of the maximum extent of local SME's as far as possible. The Applicant must ensure information about the number and nature of jobs are advertised in the local communities.
Aspect: **Environmental Awareness** **Impacts:** ❖ Fires. ❖ Pollution.	❖ Medium ❖ Low	**Project Phase:** Operational Phase. **Responsible Parties:** Applicant **Performance Indicators:**	❖ This EMPr must be made available to all employees, visitors, and maintenance personnel on the site to ensure that they are informed of the appropriate environmentally responsible conduct. A copy must therefore be held at the site offices at all times. ❖ All employees and maintenance personnel must be made aware of the location of the EMPr document (at the site office) and of their responsibility to adhere to the content thereof.

ASPECT & RELATED ENVIRONMENTAL RISKS	RISK CATEGORY (With Mitigation) LOW MEDIUM HIGH	PROJECT PHASE RESPONSIBLE PARTY PERFORMANCE INDICATOR	MITIGATION AND REHABILITATION MEASURES
❖ Spread of HIV Aids. ❖ EMPr. ❖ Proper personal conduct. ❖ Energy efficiency ❖ Sensitive habitat. ❖ Sensitive species. (See Vegetation and Animal Life) ❖ Community safety.	❖ Low ❖ Low ❖ Low ❖ Low ❖ Low ❖ Low ❖ Low	❖ Environmentally sensitive and responsible conduct. ❖ Responsible management of all resources ❖ Community safety.	❖ Training must be provided on the site fire hazards and an appropriate procedure developed to manage the potential incidence of a fire at the farm. ❖ Detailed contact sheets with the relevant contact no's of all the relevant contact personnel as well as the local Sesotso EMS departments & the Marquard Police must be placed in the Applicant' offices and the relevant other congregating areas for easy access in the case of emergency. This contact detail and its locality must also be communicated to the personnel at the relevant staff meetings talks. ❖ Where applicable, cooking on the operational site must be performed by electrical or gas stoves in well ventilated areas which are declared safe for this purpose. Designated fireplaces must be provided for, in safe areas away from flammable materials. No fires may be built outside these areas. The required fire safety procedures must form part of the operational phase health and safety inductions and procedures. ❖ Sufficient ablution facilities must be provided for all employees during the construction phase. ❖ Activities such as littering, loud music and other ill-mannered behaviour will be regarded as unacceptable, and it will be the responsibility of the various PMs to ensure that employees under their supervision conduct themselves appropriately. These actions must be reported to the ECO who will see to the issuing of the relevant fines. See Appendix 1. ❖ Awareness must be created on a continual basis of the requirement to manage all resources responsibly: ❖ Check any fuel, oils and solvent related infrastructure and storage on site and repair leaks. ❖ Investigate the possibility of rainwater harvesting for use on site. ❖ Have a system in place to ensure no unnecessary electricity use (lights, pumps, equipment etc.). ❖ No damage and/or removal of indigenous plant or animal material for cooking or other purposes will be allowed. See Appendix 1.
Aspect:		**Project Phase:**	

ASPECT & RELATED ENVIRONMENTAL RISKS	RISK CATEGORY (With Mitigation) LOW MEDIUM HIGH	PROJECT PHASE RESPONSIBLE PARTY PERFORMANCE INDICATOR	MITIGATION AND REHABILITATION MEASURES
Climate **Impacts:** ❖ High rainfall in 24 hours could cause potential storm water related impacts e.g., scouring and erosion. ❖ Potential water saturated soil conditions. ❖ Severe weather ❖ Veld fires. Precautionary measures.	❖ Low ❖ Low ❖ Medium ❖ Low ❖ Low	Operational phase. **Responsible Parties:** Applicant **Performance Indicators:** ❖ Storm water management. ❖ Responsible personal conduct of staff. ❖ Responsible environmental management practice.	❖ Implement a management plan to specify the most appropriate time (preferably May – early September) for any construction activities to commence and to phase construction so as to clear only those areas influenced by the construction area. ❖ Special attention must be given to the overall storm water management so as to increase the volume of site-specific storm water absorption (in appropriate areas) thereby decreasing the volumes and velocities of storm water at the discharge ends of the storm water system. ❖ Staff must be trained on the incidence of severe weather (high winds, severe cold spells, lightening) and the appropriate safety procedures during these events. ❖ Strict safety management rules must accompany the manifest of the feedlot facility in terms of fire safety. No fires may be allowed outside of designated fireplaces and braai areas. All activities and facilities which has fire related activities must be provided with the appropriate fire distinguishing equipment which must be monitored and serviced by a qualified service operator on a regular basis, according to the relevant specification (E.g., Free State Department of Police, Roads & Transport)
Aspect: **Geology and Soils** **Impacts:** ❖ Scouring and erosion ❖ Perched water conditions on shallow soils. ❖ Contaminations.	❖ Low ❖ Low ❖ Low	**Project Phase:** Operational Phase. **Responsible Parties:** Applicant **Performance Indicators:** ❖ Topsoil conservation. ❖ Storm water management.	❖ Erosion control measures should be implemented to prevent siltation and loss of existing and remaining topsoil on site. ❖ The manure dam must be constructed to the engineers' details to ensure that contamination resulting from stormwater drainage from the feedlots are managed responsibly. ❖ In the event of spills from vehicles (oils, fuels & lubricants), the area should be cleaned immediately using a bioremediation product, such as Petro-Clean TM, Siltek or similar. The absorbent and soil must be placed in a bin and removed from the site by the contracted company. No Hydrocarbons may escape into the environment unnecessarily. A spill recovery kit must be on site, and personnel trained on its application. See Appendix 2.

ASPECT & RELATED ENVIRONMENTAL RISKS	RISK CATEGORY (With Mitigation) LOW MEDIUM HIGH	PROJECT PHASE RESPONSIBLE PARTY PERFORMANCE INDICATOR	MITIGATION AND REHABILITATION MEASURES
		❖ Management of accidental contamination and spills. ❖ Responsible environmental management practice.	❖ Vehicle fuel tanks must not be over-filled. ❖ Workers must be trained to fill vehicles without spilling oils and fuels. ❖ The project site must be supplied with a sufficient no. of Spill Kits supplied by a suitably accredited Supplier and must engage in a service contract to service this equipment regularly. ❖ Any spill should be cleaned up immediately. Surface contaminations as a result of spillages should also be cleared up immediately.
Aspect: **Hydrology** **Impacts:** ❖ Site drainage. ❖ Scouring and erosion ❖ Siltation of downstream water bodies. ❖ Surface water contamination as a result of spillages. ❖ Possible groundwater contamination. ❖ Spillages that may occur during refuelling.	❖ Low ❖ Low ❖ Low ❖ Low ❖ Low ❖ Low ❖ Medium	**Project Phase:** Operational phase. **Responsible Parties:** Applicant **Performance Indicators:** ❖ Storm water management. ❖ Management of accidental contamination and spills. ❖ Responsible environmental management practice.	❖ Any construction work must be performed strictly between the months of May to August as far as this is reasonably possible. ❖ All such materials, fuels and chemicals must be stored in a specific and secured area to prevent pollution from spillages and leakages. Sufficient bunding of fuel storage tanks and chemical storage areas must be provided. ❖ Vehicles and machines must be maintained properly to ensure that oil spillages are kept at a minimum. ❖ Spill trays must be provided if refuelling of vehicles is done on site. See Appendix 2. ❖ On site waste disposal must be prohibited. The Applicant must continue to remove general and construction waste to the municipal landfill site. ❖ No uncontrolled discharges may be permitted from the operational site area. ❖ All minor spillages from any potential contaminants such as lubricants and hydrocarbon based fuels must be safely managed by the spill kit and removed from site regularly. In the event of a large diesel or oils spill, the relevant specialist must be contacted as per Appendix 2. ❖ The manure dam must be constructed to the engineers' details to ensure that contamination resulting from stormwater drainage from the feedlots are managed responsibly. ❖ The manure dam must be maintained on a constant basis and must be fully operational at all times.

ASPECT & RELATED ENVIRONMENTAL RISKS	RISK CATEGORY (With Mitigation) LOW MEDIUM HIGH	PROJECT PHASE RESPONSIBLE PARTY PERFORMANCE INDICATOR	MITIGATION AND REHABILITATION MEASURES
❖ Sustainable water use.			❖ Scheduling of the cleaning of the manure dams must be adapted to the reigning seasonal conditions. I.e., increase cleaning in abnormally wet seasons. ❖ Vehicle tanks must not be over-filled. ❖ The Farm operations site must be supplied with a sufficient nr. of Spill Kits supplied by a suitably accredited Supplier and the operation must engage in a service contract to service this equipment regularly. ❖ Any spill should be cleaned up immediately. Surface contaminations as a result of spillages should be cleared up immediately. See Appendix 2. ❖ Borehole yield testing must be done in line with the DWS guideline for groundwater abstraction at every anticipated production borehole to determine the sustainable yield of the specific borehole. ❖ Water meters must be installed at all groundwater abstraction points to ensure that the feedlot operation stays within its legal water use limits when this is obtained.
Aspect: **Vegetation and Animal Life** **Impacts:** ❖ The loss and fragmentation of the wetland and the ESA. ❖ Habitat fragmentation and faunal movement ❖ Loss of fauna (including	 ❖ Low ❖ Low ❖ Low	**Project Phase:** Operational phase. **Responsible Parties:** Applicant **Performance Indicator:** ❖ Protection of indigenous vegetation. ❖ Protection of faunal species on site.	❖ The wetland area must be avoided, a 30 m buffer is recommended for the wetland. ❖ Areas of indigenous vegetation, even secondary communities outside of the direct project footprint, should under no circumstances be fragmented or disturbed further. Clearing of vegetation should be minimized and avoided where possible. ❖ All livestock (including cattle, sheep, and domestic dogs) must be kept out of wetland areas and drainage lines as far as possible. ❖ It should be made an offence for any staff to/take any listed invasive plant species into or out of any portion of the project area. See Specialist Ecological Assessment. ❖ No indiscriminate driving into the wetland areas or on -site drainage ways may be allowed.

ASPECT & RELATED ENVIRONMENTAL RISKS	RISK CATEGORY (With Mitigation) LOW MEDIUM HIGH	PROJECT PHASE RESPONSIBLE PARTY PERFORMANCE INDICATOR	MITIGATION AND REHABILITATION MEASURES
potentially occurring SSC's).		❖ Management of alien invasive species. ❖ Environmental Awareness Training.	❖ No trapping, killing, or poisoning of any wildlife is to be allowed. Signs must be put up to enforce this. The relevant contractor must be contacted to assist with species causing damage to the operations. ❖ Outside lighting should be designed and limited to minimize impacts on fauna. Fluorescent and mercury vapor lighting should be avoided as far as possible, and sodium vapor (yellow) lights should be used wherever possible. ❖ A pest control strategy aimed at indigenous fauna (e.g., rodents and flies) should be implemented. However, poisons should be avoided due to the likely presence of indigenous fauna, including species of conservation concern. ❖ Refuse bins will be emptied and secured. Temporary storage of domestic waste shall be in covered waste skips. Maximum domestic waste storage period will be 10 days. ❖ All personnel are to undergo Environmental Awareness Training. A signed register of attendance must be kept for proof. Discussions are required on sensitive environmental receptors within the project area to inform contractors and site staff of the presence of Red / Orange List species, their identification, importance, and habitat requirements
Aspect: **Noise:** **Impacts:** ❖ Increase of ambient environmental noise levels. ❖ Increase of occupational noise levels.	❖ Low ❖ Low	**Project Phase:** ❖ Operational phase **Responsible Parties:** Applicant **Performance Indicators:** ❖ Compliance with occupational health and safety regulations.	❖ The necessary personal protective equipment must be worn by feedlot staff and those working with noisy plant on a permanent basis. ❖ The human resources manager must review Regulation 4 of the Noise-Induced Hearing Loss Regulations of the Occupational Health and Safety Act (Act no. 85 of 1993) and implement the necessary protective measures where relevant. ❖ Perform regular maintenance, such as lubrication of moving machine parts of the feedlot machines and motors to reduce noise and vibration levels. ❖ A complaints register can be kept on site where adjacent landowners can lodge complaints if required.

ASPECT & RELATED ENVIRONMENTAL RISKS	RISK CATEGORY (With Mitigation) LOW MEDIUM HIGH	PROJECT PHASE RESPONSIBLE PARTY PERFORMANCE INDICATOR	MITIGATION AND REHABILITATION MEASURES
		❖ Maintenance of construction and maintenance equipment.	
Aspect: **Air Quality:** **Impacts:** ❖ Potential Impacts on sensitive receptors, surrounding farmsteads and dwellings. ❖ Nuisance odour impacts ❖ Contribution to greenhouse gasses.	❖ Low ❖ Medium ❖ Medium	**Project Phase:** ❖ Operation **Responsible Parties:** PC & ECO **Performance Indicators:** ❖ Maintaining a complaints register. ❖ Concurrent maintenance and monitoring. ❖ Minimising dust & odour where possible. ❖ Reduction of aspects contributing to greenhouse gas emissions.	❖ Maintain complaints register on site. The register should provide staff, neighbours, and other affected parties with an opportunity to report a nuisance in the event of an odour or air pollution incident. The register should contain contact details of complainant, date and time of event, location at which event was observed, and the nature of the event e.g., if it was odour, any characteristic smells. Complaints must be resolved with a combination of corrective action and/or monitoring and communicated with the complainant. ❖ Maintenance of the feedlot components that can cause air quality related impacts on sensitive and other receptors must be done concurrently. ❖ The schedule of removal of manure from the feedlots and the manure dams must be monitored and altered where complaints and site conditions require this. ❖ The measures below are general good practice but will become essential in the event of odour and dust complaints: a) As generally one of the largest sources of odour in a feedlot, emissions from the feedlot surfaces must be minimised. This is primarily achieved with moisture control and is dependent on feedlot design (e.g., slope), feedlot stocking density, surface cleaning frequency, feedlot, and water through maintenance etc. b) Measures aimed at reducing odours are linked to good housekeeping, maintaining dry surfaces, well-managed run-off, and preventing water logging of materials. c) Measures that may aid in reducing odour emissions from feedlot storage include controlling the moisture content, aeration, temperature control, and avoiding wastage.

ASPECT & RELATED ENVIRONMENTAL RISKS	RISK CATEGORY (With Mitigation) LOW MEDIUM HIGH	PROJECT PHASE RESPONSIBLE PARTY PERFORMANCE INDICATOR	MITIGATION AND REHABILITATION MEASURES
			d) Dust control measures include but are not limited to covering of dry materials, rehabilitation of exposed areas, reducing drop heights of dry materials such as feed and dried manure etc., maintaining road surfaces. e) Servicing of vehicles and plant on a regular basis will ensure that the minimum levels of exhaust gasses are released during operations. ❖ In terms of the reduction of the effect that this feedlot operation can have on the global contribution to greenhouse gasses and the related impacts the following mitigation measures must be implemented: f) Maintain as much as possible vegetation cover to promote increased CO^2 sequestration. g) Introduce as much as possible indigenous vegetation with heightened CO^2 sequestration capabilities (i.e., *Potulacaria affra*) in close proximity to the feedlot operation to increase CO^2 sequestration.
Aspect: **Traffic Safety** **Impacts:** ❖ Movement of vehicles and plant on and off the facility	❖ Low	**Project Phase:** ❖ Operational phase **Responsible Parties:** Applicant **Performance Indicators:** ❖ Safe exits and entries from the Aluf operations onto the R708 ❖ Responsible operation of vehicles,	❖ Drivers of vehicles must hold the relevant licencing and permits for the class of vehicle that they drive. ❖ The Aluf Farming management or delegated staff member must perform periodic assessments of the road infrastructure at the entrance to the facility and repair any damage caused by Aluf Farming operations.

ASPECT & RELATED ENVIRONMENTAL RISKS	RISK CATEGORY (With Mitigation) LOW MEDIUM HIGH	PROJECT PHASE RESPONSIBLE PARTY PERFORMANCE INDICATOR	MITIGATION AND REHABILITATION MEASURES
		heavy vehicles, and plant.	
Aspect **Waste Management** **Impacts:** ❖ Waste Management Plan. ❖ Recycling. ❖ Storage. ❖ Cleaning. ❖ Disposal. ❖ Waste Removal. ❖ Record Keeping.	❖ Low ❖ Low ❖ Low ❖ Low ❖ Low ❖ Low ❖ Low	**Project Phase:** ❖ Operation **Responsible Parties:** Applicant, PC, & ECO **Performance Indicators:** ❖ Waste re-use, recycling and disposal record keeping. ❖ Hazardous waste	❖ All solid waste must be removed and transported to the registered Municipal landfill site on a weekly basis. ❖ Waste materials must be re-used and recycled as far as possible. ❖ All hazardous waste including used oils and fuels and wash water containing hydrocarbons must be managed in accordance with its hazardous substance category. Hazardous wastes must be taken away to the nearest hazardous waste handling facility on managed by an appropriate hazardous waste Contractor.

8. MONITORING & AUDITING

8.1 Purpose

The key to the successful implementation of the EMPr is appropriate monitoring and review to ensure effective functioning of the EMPr and to identify and implement corrective measures in a timely manner. In the event where discrepancies are identified, the problem must be investigated and attended to. All the results obtained during environmental monitoring must be documented for audit purposes.

An audit of the environmental monitoring and management actions undertaken is essential to ensure that it is effective in operation, is meeting specified goals, and performs in accordance with relevant regulations and standards. Audits should be conducted during the operational phase of the facility to ensure compliance with the management measures contained in the EMPr. Operational phase monitoring and auditing schedules are recommended as follows:

- Bi-annually internal monitoring by a suitably qualified and experienced independent EAP,
- An annual external audit by a suitably qualified and experienced EAP.

The frequency of the operational phase audits may be increased should the findings of the audits find that the conditions of the EMPr are not being complied with.

Table 3: Fulfilment of the EMPr Mitigation & Rehabilitation Measures

Fulfilment of EMPr Mitigation and Rehabilitation Measures			
ASPECT	**DESCRIPTION**	**SCORE**	**NOTES / ACTION**
	TOTAL SCORE		
	AS AVERAGE		
	AS PERCENTAGE		

9. CONCLUSION

It is believed that the most noteworthy, anticipated impacts and other relevant issues have been identified at the conclusion of this, the draft S24G EIAR phase of the Aluf Farming Feedlot Development. The receiving environment of the proposed development have been scrutinized in terms of the most pertinent impacts revealed by specialist studies, maps, and other literature as well as discussions with representatives of local authorities and interested and affected parties.

Impacts deemed to occur during the operational phase were identified and their significance rated accordingly. Pertinent impacts identified include:

- Impacts as a result of inclement weather conditions,
- Surface and subsurface soil contaminations,
- Surface and groundwater contaminations,
- Limited disturbances to faunal species,
- Occupational noise levels,
- Limited reduction in air quality and contributions to greenhouse gasses,
- Potential fire related impacts,
- On a positive note, the socio-economic benefits created by local employment and the associated benefits to the local economy.

It is believed that the identified impacts can be effectively minimised provided that the mitigation and rehabilitation measures included in section 7 of this EMPr are strictly adhered to. It is therefore very important that the relevant Managers (the Applicant, DESTEA,) of each development stage of this development take cognisance thereof and implement it accordingly.

10. EMPR UPDATES

The EMPr will be updated as new aspects are identified and mitigating measures for these aspects are proposed.

Table 4: EMPr Updates

ASPECT / IMPACT	MITIGATING MEASURES	DATE	RESPONSIBLE PERSON

After an update, the site and project team are to be updated to ensure continual implementation of the EMPr occurs. Low risk updates can be conducted as part of ongoing environmental awareness on the site. High risk updates are to be communicated as soon as possible.

11. REFERENCES

11.1 Published Sources

- Australian Government. 2007. National Pollutant Inventory. Emission estimation technique manual for Intensive livestock - beef cattle Version 3.1. Department of the Environment and Water Resources. ISBN: 0 6425 4693 2.
- DEAT. 2004. Integrated Environmental Management, Integrated Environmental Management, Information Series 0. Pretoria: Department of Environmental Affairs and Tourism (DEAT).
- DEAT. 2004. Scoping, Integrated Environmental Management, Information Series 2. Pretoria: Department of Environmental Affairs and Tourism (DEAT).
- DEAT. 2004. Stakeholder Engagement, Integrated Environmental Management, Information Series 3. Pretoria: Department of Environmental Affairs and Tourism (DEAT).
- DEAT. 2004. Criteria for determining Alternatives in EIA, Integrated Environmental Management, Information Series 11. Pretoria: Department of Environmental Affairs and Tourism (DEAT).
- DEAT. 2004. Environmental Management Plans, Integrated Environmental Management, Information Series 12. Pretoria: Department of Environmental Affairs and Tourism (DEAT).
- ENPAT, 1998. Van Riet, Claasen, van Rensburg, Du Plessis, Environmental Potential Atlas of South Africa.
- Mucina, L. & Rutherford, M. C. (eds) 2006. The Vegetation of South Africa, Lesotho, and Swaziland. Strelizia 19. Pretoria: South African National Biodiversity Institute.
- Meissner, H.H., Scholtz, M.M., & Palmer, A.R. 2013 Sustainability of the South African Livestock Sector towards 2050 Part 1: Worth and impact of the sector https://www.researchgate.net/publication/260434386.
- National Research Council. 2002. Air Emissions from Animal Feeding Operations: Current Knowledge, Future Needs. THE NATIONAL ACADEMIES PRESS 500 Fifth Street, N.W. Washington, DC 20001. ISBN: 0-309-0XXXX-X. http://www.nap.edu. Accessed on 08/09/2022.

11.2 Un Published Resources

- Setsoto Local Municipality, 2022. FINAL INTEGRATED DEVELOPMENT PLAN 2022/2023.
- Setsoto Local Municipality, undated. Integrated Environmental Management Plan. Online. Accessed on 27/8/2022 at https://setsoto.gov.za/wp-content/uploads/2020/02/IEMP-20192020-REVIEW.pdf
- Statistics South Africa, 2011. Setsoto Local Municipality. Online: Department: Statistics South Africa. Accessed 27/8/2022 at https://www.statssa.gov.za/?page_id=993&id=setsoto-municipality
- The Biodiversity Company, 2022. Proposed Feedlot Development on Aluf Farm near Marquard – Terrestrial Biodiversity Compliance Statement
- Western Cape Department of Agriculture, 2022. CapeFarmMapper. Online. Accessed 27/8/2022 at https://gis.elsenburg.com/apps/cfm/?sl=info-agri-1&x=2525514.26&y=-3989320.48&z=10&bm=ghyb

APPENDIX 1

Proposed Penalties and Fines Associated with Various Acts of Non-compliance and Miss-Conduct

PROPOSED PENALTIES AND FINES FOR NON-COMPLIANCE OR MISCONDUCT

This EMPr forms part of the contract agreement between the Client and the PC and the Construction Manager. As such, non-compliance with conditions of the EMPr will amount to a breach of contract. Penalties will be issued directly to the PC/Construction Manager by the EO in the event of non-compliance to the EMPr specifications. The issuing of a penalty will be preceded by a verbal warning by the EO, as well as strict instruction in at least one monthly EO report to rectify the situation. The EO and PC/Construction Manager will communicate with regards to realistic timeframes for possible rectification of the contravention, and possible consequences of continued non-compliance to the EMPr.

Penalties incurred do not preclude prosecution under any other law. Cost of rehabilitation and/or repair of environmental resources that were harmed by the actions of the PC/ Construction Manager if such actions were in contravention of the specifications of the EMPr will be borne by the PC/ Construction Manager himself. Penalties may be issued over and above such costs. The repair or rehabilitation of any environmental damage caused by non-compliance with the EMPr cannot be claimed in the Contract Bill, nor can any extension of time be claimed for such works. Penalty amounts shall be deducted from Certificate payments made to the Contractor.

The following categories of non-compliance are an indication of the severity of the contravention, and the fine or penalty amounts listed in table 1 may be adjusted depending on the seriousness of the infringement.

Category One: Acts of non-compliance that are unsightly, a nuisance or disruptive to adjacent landowners, existing communities or persons passing through the area.

Category Two: Acts of non-compliance that cause minor environmental impact or localised disturbance.

Category Three: Acts of non-compliance that affect significant environmental impact extending beyond point source.

Category Four: Acts of non-compliance that result in major environmental impact affecting large areas, site character, protected species, or conservation areas.

All of the contraventions mentioned in table 1 as well as any other contravention to the EMPr specifications should be measured in terms of one of these 4 categories of non-compliance and penalties or fines should be adjusted accordingly.

TABLE 1: List of Proposed Fines and Penalties as Applicable to Various Acts of Non-Compliance or Misconduct

DESCRIPTION OF NON-COMPLIANCE TO EMPr SPECIFICATION	***SPOT FINES AND PENALTIES THAT COULD BE INCURRED***
Any person, vehicle, plant, or other activity related to the contractor's operations that spill over into a "no-go" or sensitive area	R 4 000
Any vehicle driving in excess of specified speed limits	R 1 000
Vehicles being driven, plant or construction materials being stored outside of demarcated areas within the construction site. Unauthorised persons on site.	R 2 000
Persistent, un-repaired oil/fuel leaks from machinery/vehicles. Spillages of oil/fuel at the re-fuelling site. Spillage of hazardous (e.g., Cement, Asphalt, Chemicals) materials on site. Burying of soils containing these spillages.	R 5 000
Litter on site or dumping/ burying of rubble or waste outside designated location/s. Inadequate provision of waste disposal facilities on site	R 2 000
Illegal Fires on site	R 5 000
Eating / cooking food outside of designated areas. Inadequate site ablution facilities or failure to make use of the site ablution facilities.	R 1 000
Excessive noise and / or dust as a result of site activities	R 2 000
Contractor's operations causing a public nuisance as a result of contravention of EMPr specifications.	R 2 000
Activities in contravention of EMPr that cause water waste or pollution	R 5 000
Poaching/ setting of snares or traps.	R 5 000
Damage to cultural Sites	Up to R 100 000
Erosion as a result of non-compliance – penalty shall be equivalent to the cost of rehabilitation plus 20%	

DESCRIPTION OF NON-COMPLIANCE TO EMPr SPECIFICATION	*SPOT FINES AND PENALTIES THAT COULD BE INCURRED*
Severe oil spills - penalty shall be equivalent to the cost of clean-up operations plus 20%	
Damage to indigenous vegetation or sensitive environments - penalty shall be equivalent to the cost of rehabilitation plus 20% Penalties for removing or damaging trees that are to be retained	
Girth of Trunk am above ground level	Replacement value per tree
0 – 15 mm	R 100
16 – 30 mm	R 200
31 – 50 mm	R 500
51 – 75 mm	R 1 000
76 – 100 mm	R 2 500
101 – 150 mm	R 5 000
151 – 300 mm	R 10 000
Larger than 300 mm	R 15 000 – R 100 000

PLEASE NOTE: **For any repeat offenders the fine will be DOUBLED, and a third offence could result in permanent suspension.**

The following acts and legislation, amongst others, apply and will be enforced and monitored by the ECO;

- Environmental Conservation Act, (Act 73 of 1989)
- National Environmental Management Act, (Act 107 of 1998)
- National Environmental Management: Biodiversity Act, (Act 10 of 2004)
- Water Act, 1998, (Act 36 of 1998)
- National Parks Act, (Act 57 of 1976)
- Lake Areas Development Act, (Act 139 of 1975)
- Mountain Catchment Areas Act, (Act 63 of 1970)
- Forest Act, (Act 122 of 1984)
- Conservation of Agricultural Resources Act, (Act 43 of 1983)
- All Provincial ordinances and regulations as applicable

APPENDIX 2

Spill Management Contractors List

	SPILL AND POLLUTION RESPONSE COMPANIES					
	Company	**Product Description**	**Operating District**	**Website**	**Email address**	**Contact details**
Services Providers	24 Hour Spill Response Association	Oil and hazardous materials spills, Truck roll-overs/transfers, derailments, acid spills, biohazard containment and cleanup, ship leaks, fuel spills, industrial plant emergencies, air quality monitoring, clean up and remediation including facility and equipment decontamination, soil excavation and disposal, sludge processing, cleaning services, waste management ensuring safe disposal and safe disposal certificates, contingency planning, asbestos removal, offshore vessel services and support, pollution control, maintenance and service, consumable sales	National	www.24hourspillresponse.co.za www.facebook.com/pages/24-Hour-Spill-Response/203191236393968	info@24hourspillresponse.co.za	t: 0800 00 5817
	Oil Spill Control	Range of absorbent materials for oil and other hydrocarbon based products, chemicals and other liquids, spill kits, oily water separators, oil skimmers, pumps, oil containment booms, training service, spill response service, site inspection service, providing guidance on safety, environment and ISO regulations	Western Cape	http://oilspillcontrol.co.za/		t (sales): 021 531 5335 t: 082 774 8964 t: 082 455 7832
	Oil-Gone Agency cc Enretech	Bioremediation, spill clean-ups, spill kits, environmental remediation technology	Eastern Cape	http://www.oilgone.co.za/ http://www.enretech.co.za		t: 084 580 0327
	Procon Environmental Technologies	Environmental Products and Technologies, specializing in systems that minimize the impact of contamination on the environment and surrounding areas, prevention and treatment of oil pollution in soil and water	Centurion Witbank	http://www.pro-enviro.co.za/	procon@pro-enviro.co.za	t: 013 697 4617/4634 f: 013 697 4618 t: 012 667 5389 f: 012 667 5389
	ROSE Foundation (Recycling Oil Saves the Environment)	None-profit organisation - collect used oil	Burgersfort, Cape Town, Durban, Johannesburg, Middelburg, Nelspruit, Pietermaritzburg, Port Elizabeth, Pretoria, Richards Bay, Rustenberg, Weenen	http://www.rosefoundation.org.za/	usedoil@iafrica.com	t: 021 448 7492 c: 082 378 8556 f: 086 652 7384
	Spill Tech	Spill response 24/7, absorbent products, spill kits, asbestos disposal service, hazmat, high pressure cleaning, waste management, marine response, bioremediation, clean up after fires and floods.	National	http://www.spilltech.co.za/	info@spilltech.co.za	t: 0861 000 366
	HazClean	24h spillage response, skill kits, equipment, absorbent products	National	http://www.hazclean.co.za/	ian@hazclean.co.za	t: 0080 00 5817
	IFRT Spill Response	24h spillage response, industrial cleaning, skill kits, equipment, absorbent products, training	Vereeniging	http://www.ifrt.co.za/		t: 016 428 2207 t: 083 284 1879 t: 083 284 1880
Products	Absorbetech Environmental (former name SupaZorb Sales)	Absorbetech, a hydrocarbon absorbent, which is used to clean up spillages in factories, on water and capped or uncapped outdoor surfaces. The main benefit of using this product however, is the bio-remedial capacity it possesses. This means, the cleaning of such spillages utilizing a natural process through which a blend of bacteria and fungi break down, or degrade, a wide variety of hydrocarbons. In addition we offer a number of related products.	Durban Cape Town Johannesburg	http://absorbetech.yellowpages.co.za/	info@absorbetech.com	t: 031 914 3939 t: 031 700 8617 t: 021 531 9999 t: 011 708 1494
	Bio-systems SA	Products for the bioremediation of oil-contaminated soils, the bioaugmentation of urban, agricultural and rural effluent streams and the re-use of grey water.		www.biosystemssa.co.za	info@biosystemssa.co.za	t: 021 786 2972 f: 086 726 5445
	Earthwize Envirionmental SA (PTY) Ltd.	Oil and chemical absorbent products	National	http://www.spillsorb.co.za/	gus@enviroshore.co.za	t: 012 568 1043

APPENDIX 3

Environmental Incident Register Template

Environmental Incident Register Template

Environmental Incident Register						
Environmental Incident			**Mitigation Measures**		**Incident Closure**	
Date and Time	**Reported by**	**Description of Incident**	**Description of Mitigation Action**	**Responsible Person**	**Date**	**Responsible Person**

APPENDIX 4

Environmental Complaints Register Template

Environmental Complaints Register Template

Nature of Complaint	Date and Time	Contact Details	Response and Investigation Undertaken	Actions Taken (and by whom)	Formal Response Date