ECOLOGICAL SPECIALIST REPORT

THOMATREE FAMILY
The Last Standing Tree

ECOLOGICAL ASSESSMENT REPORT FOR THE PROPOSED DEVELOPMENT OF A BUY BACK CENTRE LOCATED ON FARM KOMATIPOORT TOWNLANDS 182-JU, COVERING ERF 142 TO ERF 153, WITHIN THE NKOMAZI LOCAL MUNICIPALITY, IN EHLANZENI DISTRICT MUNICIPALITY,MPUMALANGA PROVINCE, SOUTH AFRICA.

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DATE: 16 April 2024

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DECLARATION OF INDEPENDENCE

I, Khantshi Ndivhuho, declare that I:

- I act as the independent specialist in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing any decision to be taken with respect to the application by the competent authority; and the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- All the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of Regulation 71 and is punishable in terms of Section 24F of the Act.

Khantshi Ndivhuho (Hons. Ecology.; LaRSSA, SACNASP)

18/04/2024

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DEFINITION

TERM	DEFINITION
Alien species	Taxa in a given area, whose presence there, is due to the intentional or accidental introduction as a result of human activity.
Avifauna	The birds of a particular region, habitat, or geological period.
Azonal	Water-logged and salt-laden habitats require specially adapted plants to survive in these habitats. Consequently, the vegetation deviates from the typical surrounding zonal vegetation and are considered to be of azonal character (Mucina and Rutherford, 2006).
Biodiversity	Biodiversity is the variability among living organisms from all sources including inter alia terrestrial, marine and other aquatic ecosystems and ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.
Biome	A major biotic unit consisting of plant and animal communities having similarities in form and environmental conditions, but not including the abiotic portion of the environment.
Buffer zone	A collar of land that filters edge effects.
Conservation	The management of the biosphere so that it may yield the greatest sustainable benefit to present generation while maintaining its potential to meet the needs and aspirations of future generations. The wise use of natural resources to prevent loss of ecosystems function and integrity.
Conservation concern	Species of conservation concern are those species that are important for South Africa's conservation decision making processes and include all plants that are Threatened (see Threatened), Extinct in the wild, Data deficient, Near threatened, Critically rare, Rare and Declining. These plants are nationally protected by the National Environmental Management: Biodiversity Act. Within the context of these reports, plants that are provincially protected are also discussed under this heading.

Conservation status	An indicator of the likelihood of that species remaining extant either in the present day or the near future. Many factors are taken into account when assessing the conservation status of a species: not simply the number remaining, but the overall increase or decrease in the population over time, breeding success rates, known threats, and so on.
Community	Assemblage of populations living in a prescribed area or physical habitat, inhabiting some common environment.
Critically Endangered	A taxon is Critically Endangered when it is facing an extremely high risk of extinction in the wild in the immediate future.
Data Deficient	There is inadequate information to make a direct, or indirect, assessment of its risk of extinction based on its distribution and/or population status. However, "data deficient" is therefore not a category of threat. Listing of taxa in this category indicates that more information is required and acknowledges the possibility that future research will show that threatened classification is appropriate.
Declining	A taxon is declining when it does not meet any of the five IUCN criteria and does not qualify for the categories Threatened or Near Threatened, but there are threatening processes causing a continuous decline in the population (Raimondo *et al.*, 2009).
Ecological Corridors	Corridors are roadways of natural habitat providing connectivity of various patches of native habitats along or through which faunal species may travel without any obstructions where other solutions are not feasible.
Ecosystem	Organisms together with their abiotic environment, forming an interacting system, inhabiting an identifiable space.
Edge effect	Inappropriate influences from surrounding activities, which physically degrade habitat, endanger resident biota and reduce the functional size of remnant fragments including, for example, the effects of invasive plant and animal species, physical damage and soil compaction caused through trampling and harvesting, abiotic habitat alterations and pollution.
Endangered	A taxon is Endangered when it is not Critically Endangered but is facing a very high risk of extinction in the wild in the near future.

Endemic	Naturally only found in a particular and usually restricted geographic area or region.
Exotic species	Taxa in a given area, whose presence there, is due to the intentional or accidental introduction as a result of human activity.
Fauna	The animals of a particular region, habitat, or geological period.
Flora	Flora is the plant life occurring in a particular region or time, generally the naturally occurring or indigenous—native plant life
Forb	A herbaceous plant other than grasses.
Habitat	Type of environment in which plants and animals live.
Herpetofauna	Reptiles and amphibians of a particular region, habitat, or geological period.
Indigenous	Any species which occurs naturally in South Africa.
In situ	"In the place" In Situ conservation refers to on-site conservation of a plant species where it occurs. It is the process of protecting an endangered plant or animal species in its natural habitat. The plant(s) are not removed but conserved as they are. Removal and relocation could kill the plant and therefore in situ conservation is preferred/ enforced.
Invasive species	Naturalized alien species that have the ability to reproduce, often in large numbers. Aggressive invaders can spread and invade large areas.
Mammals	A warm-blooded vertebrate animal of a class that is distinguished by the possession of hair or fur, females that secrete milk for the nourishment of the young, and (typically) the birth of live young.
Mitigation	The implementation of practical measures to reduce adverse impacts.
Near Threatened	A Taxon is Near Threatened when available evidence indicates that that it nearly meets any of the five IUCN criteria for Vulnerable and is therefore likely to qualify for a threatened category in the near future (Raimondo *et al.*, 2009).

Plant community	A collection of plant species within a designated geographical unit, which forms a relatively uniform patch, distinguishable from neighboring patches of different vegetation types. The components of each plant community are influenced by soil type, topography, climate and human disturbance. In many cases there are several soil types within a given plant community (Gobbat *et al.*, 2004).
Protected Plant	According to Provincial Nature Conservation Ordinances or Acts, no one is allowed to sell, buy, transport, or remove this plant without a permit from the responsible authority. These plants are protected by provincial legislation.
Threatened	Species that have naturally small populations, and species which have been reduced to small (often unsustainable) population by man's activities.
Red Data	A list of species, fauna and flora that require environmental protection - based on the IUCN definitions. Red data plants *now termed Plants of Conservation Concern.*
Reptile	A vertebrate animal of a class that includes snakes, lizards, crocodiles, turtles, and tortoises. They are distinguished by having a dry scaly skin and typically laying soft-shelled eggs on land.
Species diversity	A measure of the number and relative abundance of species.
Species richness	The number of species in an area or habitat.
Threatened	Threatened Species are those that are facing a high risk of extinction, indicated by placing in the categories Critically Endangered (CR), Endangered (E) and Vulnerable (VU) (Raimondo *et al.,* 2009)
Transformation	The removal or radical disturbance of natural vegetation, for example by crop agriculture, plantation forestry, mining or urban development. Transformation mostly results in a serious and permanent loss of biodiversity and fragmentation of ecosystems, which in turn lead to the failure of ecological processes. Remnants of biodiversity may survive in transformed landscapes.

Vegetation Unit	A complex of plant communities ecologically and historically (both in spatial and temporal terms) occupying habitat complexes at the landscape scale. Mucina and Rutherford (2006) state: "Our vegetation units are the obvious vegetation complexes that share some general ecological properties such as position on major ecological gradients and nutrient levels and appear similar in vegetation structure and especially floristic composition".
Vulnerable	A taxon is Vulnerable when it is not Critically Endangered or Endangered but meets any of the five IUCN criteria for Vulnerable and are therefore facing a high risk of extinction in the wild in the future (Raimondo *et al.*, 2009)

ABBREVIATIONS

BGIS Biodiversity Geographical Information System

CARA Conservation of Agricultural Resources

CBA Critical Biodiversity Area

CR Critically Endangered

DEA Department of Environmental Affairs

DARDLEA Department of Agriculture, Rural Development, Land and Environmental Affairs (Mpumalanga Provincial Governance)

EAP Environmental Assessment Practitioner

EIA Environmental Impact Assessment

EMF Environmental Management Framework

EN Endangered

ESA Ecological support area

MM Millimetres

NEMA National Environmental Management Act, 107 of 1998

NEMBA National Environmental Management Biodiversity Act, 10 of 2004

NES Naledzani Environmental Services

ONA Other Natural Area

PA Protected Area

PRECIS Pretoria Computerised Information System

QDGC Quarter Degree Grid Cell

SANBI South African National Biodiversity Institute

SARCA Southern African Reptile Conservation Assessment

SFSD Strategic Framework for Sustainable Development

VM Virtual Museum

VU Vulnerable

MP Mpumalanga

1. INTRODUCTION

1.1. Background

ThomaTree Family (Pty)Ltd was appointed by Motemo Group (Pty) Ltd to conduct ecological impact study for the proposed development of a buy back centre located on farm Komatipoort Townlands 182-JU, covering Erf 142 to Erf 153, within the Nkomazi Local Municipality, Ehlanzeni District Municipality, in Mpumalanga Province.

This report should inform and guide the Environmental Assessment Practitioner (EAP), enabling informed decision-making as to the ecological viability of the proposed prospecting rights.

1.2. Terms of reference

The terms of reference for this investigation are limited to a Terrestrial Biodiversity Assessment with the following objectives:

- To assess the proposed development in order to determine the general ecological state of the proposed project area;
- To survey and delineate environmentally sensitive areas;
- To assess the proposed development in terms of faunal and floral taxa including the potential for species to occur;
- To provide mapping of the environmentally sensitive and critical areas with respect to the proposed development;
- To assess and identify the potential impacts that may arise from the proposed project on the fauna and flora taxa;
- To provide mitigation measures to prevent and/or mitigate identified environmental impacts that may occur due to the proposed project; and
- The provision of an assessment report, indicate findings, recommendations and maps indicating sensitivities and/or no-go areas.

1.2.1. Vegetation Study

- Carry out fieldwork to locate and describe the current state of vegetation on the study area, key focus on the impact footprint(s) for site, so that there is a baseline description/status quo against which impacts can be identified and measured.
- Determine the species present and localities within each vegetation types.

- Generate a vegetation map showing the site in relation to any Critical Biodiversity Areas and links to ecological corridors and support areas, vegetation sensitivity, disturbed, transformed and potential "no-go" areas.
- Provide site photos that show the current state of the vegetation (i.e. natural, transformed, disturbed etc.)
- A detailed list of species of special concern.
- Determine alien species present; their distribution within the study area and recommended management actions.
- A description of different micro-habitats, and the species associated with those habitats.
- Describe the potential direct, indirect and cumulative negative and positive impacts of the proposed activity on vegetation species during the construction, operation and decommissioning phases of the project.
- Identification of issues and potential direct, indirect and cumulative biodiversity impacts, which are to be considered in combination with any additional relevant issues that may be raised through the public consultation process. These include:
- Recommendations for mitigatory measures to minimise impacts identified.
- An outline of additional management guidelines.
- Provide monitoring requirements, mitigation measures and recommendations in a table format as input into the Environmental Management Plan (EMP), as well as generic rehabilitation and revegetation guidelines.

1.2.2. Fauna Study

- Carry out fieldwork to describe and assesses the current state of terrestrial fauna in the area so that there is a baseline description/status quo against which impacts can be identified and measured.
- Conduct a faunal assessment that can be integrated into the ecological study.
- Describe the existing impacts of current land use as they affect the fauna.
- Describe the potential direct, indirect and cumulative negative and positive impacts of the proposed activity on inhabitant and reliant faunal species during the construction, operation and decommissioning phases of the project.
- A description of species composition and conservation status in terms of protected, endangered or vulnerable faunal species.
- This description will include species that are likely to occur within, traverse across or forage within the proposed project area, as well as species that may not necessarily occur on site, but which are likely to be impacted upon as a result of the proposed buy back centre

- Identification of issues and potential direct, indirect, and cumulative biodiversity impact which are to be considered in combination with any additional relevant issues that may be raised through the public consultation process.

1.3. Specialist Report Requirements

With reference to Appendix 6 of the EIA regulations as amended (2017). The specialist declaration is included on this report and details of the specialists are included above.

2. KEY LEGISLATIVE REQUIREMENTS

The legislation, policies and guidelines listed below in Table 1 are applicable to the current project. The list below, although extensive, may not be complete and other legislation, policies and guidelines may apply in addition to those listed below.

Table 1: A list of key legislative requirements relevant to biodiversity and conservation in the Mpumalanga Province

Legislation/Policy	Description
The Convention of Biological Diversity (Rio de Janeiro, 1992).	The purpose of the Convention on Biological Diversity is to conserve the variability among living organisms, at all levels (including diversity between species, within species and of ecosystems). Primary objectives include (i) conserving biological diversity, (ii) using biological diversity in a sustainable manner and (iii) sharing the benefits of biological diversity fairly and equitably.
South African Constitution 108 of 1996	The Constitution is the supreme law of the land and includes the Bill of rights which is the cornerstone of democracy in South Africa and enshrines the rights of people in the country. It includes the right to an environment which is not harmful to human health or well-being and to have the environment protected for the benefit of present and future generations through reasonable legislative and other measures.
Strategic Framework for Sustainable Development in South Africa	The development of a broad framework for sustainable development was initiated to provide an overarching and guiding National Sustainable Development Strategy. The Draft Strategic Framework for Sustainable Development (SFSD) in South Africa (September 2006) is a goal orientated policy framework aimed at meeting the

	Millennium Development Goals. Biodiversity has been identified as one of the key crosscutting trends in the SFSD. The lack of sustainable practices in managing natural resources, climate change effects, loss of habitat and poor land management practices were raised as the main threats to biodiversity.
National Environmental Management Act 107 of 1998	This is a fundamentally important piece of legislation and effectively promotes sustainable development and entrenches principles such as the 'precautionary approach', 'polluter pays' principle, and requires responsibility for impacts to be taken throughout the life cycle of a project NEMA provides the legislative backing (Including Impact Assessment Regulations) for regulating development and ensuring that a risk-averse and cautious approach is taken when making decisions about activities.
Environmental Impact Assessment (EIA) regulations	New regulations have been promulgated in terms of Chapter 5 of NEMA and were published on 07 April 2017 in Government Notice No. R. 326. Development and land use activities which require Environmental Authorisation in terms of the NEMA EIA Regulations, 2017, are in Listing Notice 3 (GG No. R.324, LN3) identified via geographic areas with the intention being that activities only require Environmental Authorisation when located within designated sensitive areas. These sensitive/geographic areas were identified and published for each of the nine (9) Provinces.
National Environmental Management: Biodiversity Act No 10 of 2004	The Biodiversity Act provides listing threatened or protected ecosystems, in one of four categories: Critically Endangered (CR), Endangered (EN), Vulnerable (VU) or Protected (Government Gazette, 2011). The main purpose of listing threatened ecosystems is to reduce the rate of ecosystem and species extinction and includes the prevention of further degradation and loss of structure, function and composition of threatened ecosystems.
Conservation of Agricultural Resources Act 43 of 1967	The intention of this Act is to control the over-utilization of South Africa's natural agricultural resources, and to promote the conservation of soil and water resources and natural vegetation. The CARA has categorised a large

	number of invasive plants together with associated obligations of the land owner, including the requirement to remove categorised invasive plants and taking measures to prevent further spread of alien plants.
National Forest Act 84 of 1998	The protection, sustainable management and use of forests and trees within South Africa are provided for under the National Forests Act (Act 84 of 1998).
National Environmental Management: Protected Areas Act 57 of 2003	This Act provides for the protection and conservation of ecologically viable areas representative of South Africa's biological diversity and its natural landscapes and seascapes. It also seeks to provide for the sustainable utilization of protected areas and to promote participation of local communities in the management of protected areas.
United Nations Convention to Combat Desertification	South Africa has responded to the UN Convention to Combat Desertification by developing a National Action Plan. The aim of the NAP is to implement at current and future policies that affect natural resource management and rural development, and establish partnerships between government departments, overseas development agencies, the private sector and NGOs
Provincial	MTPA. 2014. Mpumalanga Biodiversity Sector Plan Handbook.

2.1. Provincial and Municipal Level

In addition to national legislation, South Africa's nine provinces have their own provincial biodiversity legislation, as nature conservation is a concurrent function of national and provincial government in terms of the Constitution (Act 108 of 1996).

3. LIMITATIONS AND ASSUMPTION

The following limitations should be noted for the assessment:

- As per the scope of work, the fieldwork component of the assessment comprised one assessment only, which was conducted during the late wet season. This assessment has not assessed any temporal trends for the respective seasons;
- Despite these limitations, a comprehensive desktop assessment was conducted, in conjunction with the detailed results from the surveys, and as such there is high confidence in the information provided.

ThomaTree Family reserves the right to amend this report, recommendations, and/or conclusions at any stage should any additional or otherwise significant information come to light.

4. DESCRIPTION OF THE AFFECTED ENVIRONMENT

4.1. Study Site Location

The proposed development of Buy Back Centre is situated on Farm Komatipoort Townlands 182-JU, covering Erf 142 to Erf 153, within the Nkomazi Local Municipality, Ehlanzeni District Municipality, Mpumalanga Province. The proposed site is located along Rissik Street, adjacent to the R571 road. The site coordinates are 25˚25'51.3942"S 31˚56'40.9122"E

4.2. GPS Coordinates of the Main Landmarks around the project area are as follows

The GPS coordinates of the main landmarks

- The Venue Shonga 25°41'55.91"S 31°51'3.44"E
- Jobe Entertainment Tarven 25°43'35.71"S 31°49'28.56"E
- Sondlasive Poultry 25°44'31.34"S 31°50'25.81"E

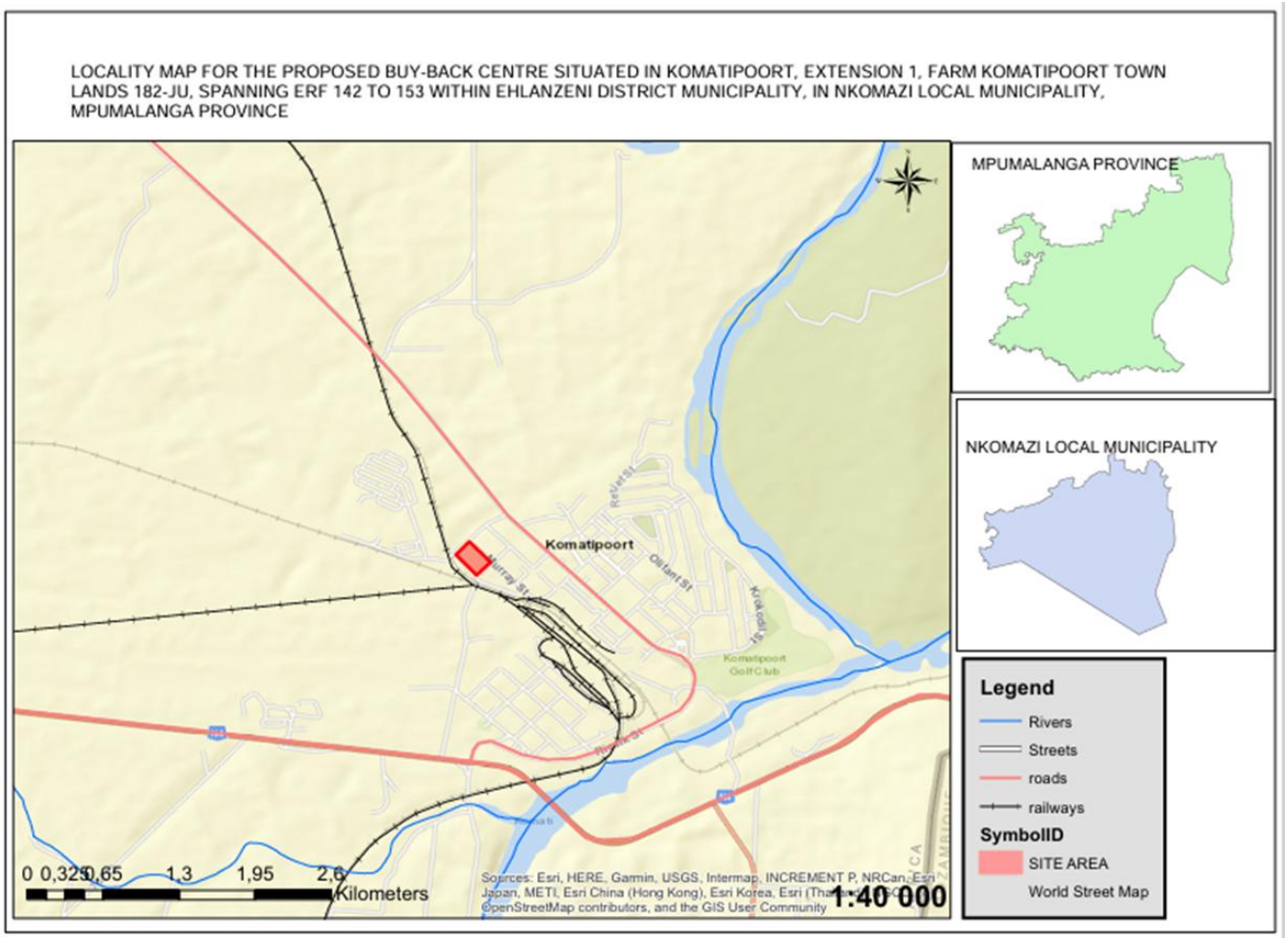

Figure 1: Locality Map

4.3. DFFE National Screening Tool

The project site and immediate environment is classified as Low and Medium sensitivity for terrestrial, animals and plants according to the Terrestrial Animal Species Theme. These classifications are linked to the potential occurrence of Ludwig's Bustard Neotis ludwigii (Globally and Regionally Endangered) and Verreaux's Eagle Aquila verreauxii (Regionally Vulnerable)

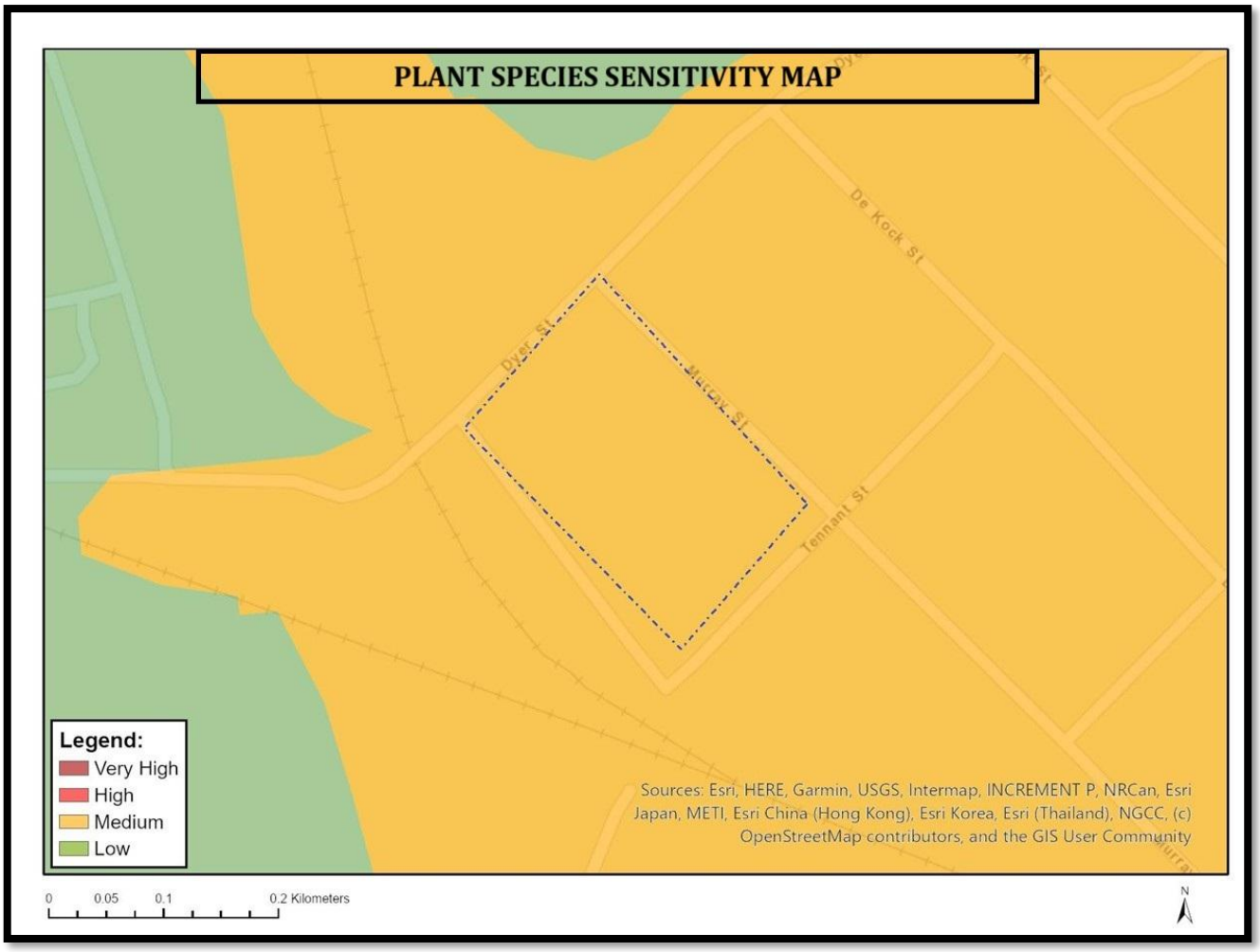

Figure 2: The National Web-Based Environmental Screening Tool map of the proposed buy back Centre project sites, indicating sensitivities for the plant Species theme. The Low sensitivity classifications.

Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
		X	

Sensitivity Features:

Sensitivity	Feature(s)
Medium	Pavetta zeyheri subsp. microlancea
Medium	Sensitive species 1204
Medium	Barleria oxyphylla
Medium	Sensitive species 274

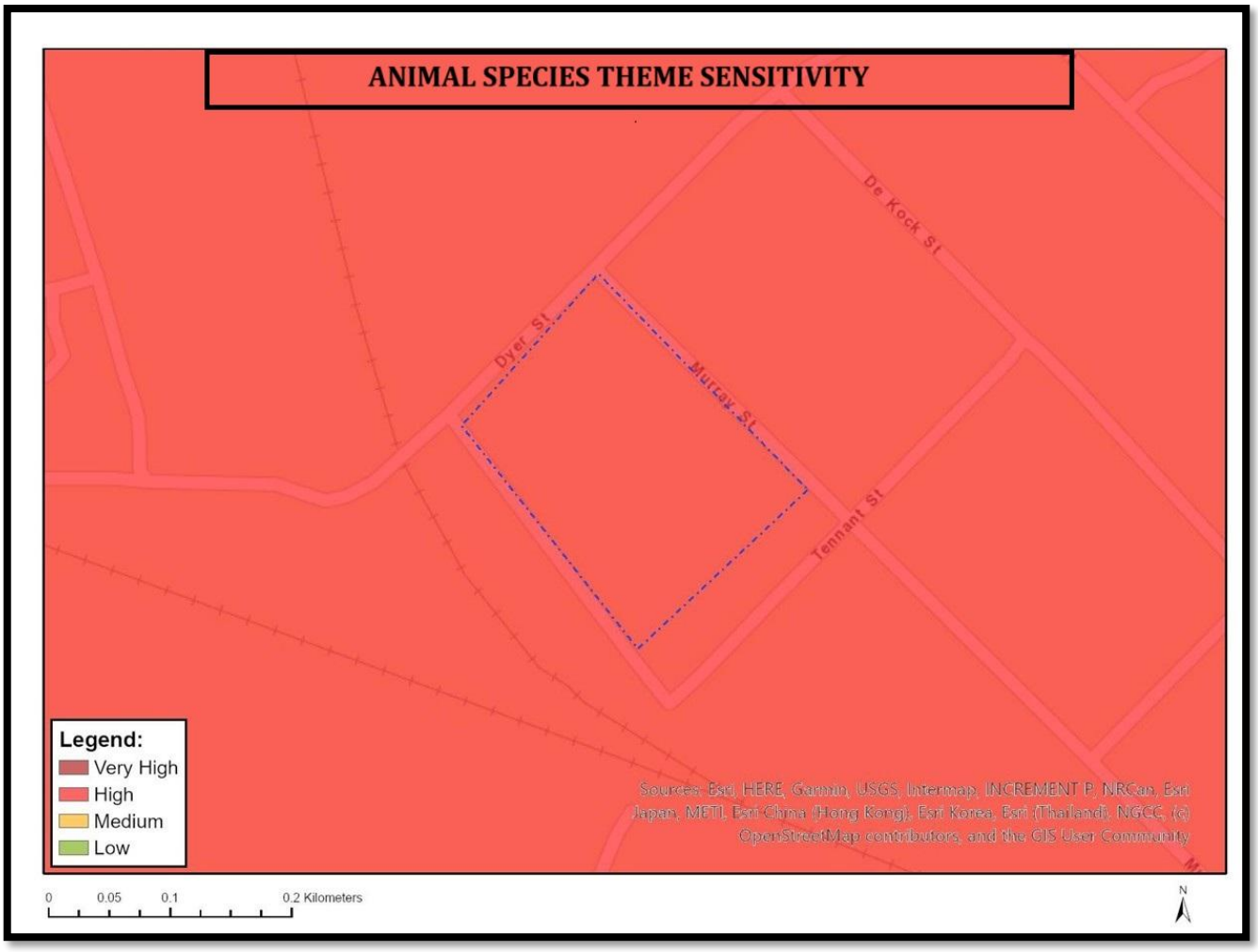

Figure 3: The National Web-Based Environmental Screening Tool map of the proposed Buy back centre project sites, indicating sensitivities for the animal Species theme. The high sensitivity classifications.

Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
		X	

Sensitivity Features:

Sensitivity	Feature(s)
High	Aves-Terathopius ecaudatus
High	Aves-Polemaetus bellicosus
High	Aves-Aquila rapax
Medium	Aves-Sagittarius serpentarius
Medium	Sensitive species 5
Medium	Mammalia-Dasymys robertsii
Medium	Mammalia-Lycaon pictus

4.3. Climatic Conditions

The proposed project is situated within the Nkomazi Local Municipality, where the rainy season typically extends from October to March. The municipality's average annual precipitation ranges from approximately 750mm to 860mm, with regional variations eastern areas receiving around 450mm to 550mm, while the higher western areas can receive up to 1500mm.

Komatipoort experiences hot, humid, wet, and partly cloudy summers, while winters are short, pleasant, dry, and clear. Throughout the year, temperatures generally range between 56°F and 87°F, rarely dropping below 52°F or exceeding 95°F. The area is situated at an elevation of 0 feet (None meters) above sea level. For the 2024/2025 financial year, the municipality has allocated funds to develop a climate change adaptation and mitigation strategy. Currently, the municipality is working with a draft strategy and terms of reference, with assistance from the Department of Agriculture and EDM.

4.4. Overview of the Biome type

Mucina and Rutherford (2006) described the project area as falling within the grassland biome. This biome (also known locally as Grassveld) is dominated by a single layer of grasses. The amount of cover depends on rainfall and the degree of grazing. Trees are absent, except in a few localized habitats. Geophytes (bulbs) are often abundant. Frosts, fire and grazing maintain the grass dominance and prevent the establishment of trees.

There are two categories of grass plants: sweet grasses have lower fibre content, maintain their nutrients in the leaves in winter and are therefore palatable to stock. Sour grasses have higher fibre content and tend to withdraw their nutrients from the leaves during winter so that they are unpalatable to stock. At higher rainfall and on more acidic soils, sour grasses prevail, with 625 mm per year taken as the level at which unpalatable grasses predominate. C4 grasses dominate throughout the biome, except at the highest altitudes where C3 grasses become prominent.

The Grassland Biome is the cornerstone of the maize crop, and many grassland types have been converted to this crop. Sorghum, wheat and sunflowers are also farmed on a smaller scale. Urbanization is a major additional influence on the loss of natural areas - the Witwatersrand is centred in this biome. The Grassland Biome is considered to have an extremely high biodiversity, second only to the Fynbos Biome. Rare plants are often found in the grasslands, especially in the escarpment area. These rare species are often endangered, comprising mainly endemic geophytes or dicotyledonous herbaceous plants. Very few grasses are rare or endangered. The scenic splendour of the escarpment region attracts many tourists.

4.5. Broad vegetation classification

The sweet lowveld bushveld is found in low-lying areas, the landscape is characterized by gently undulating plains with seasonal rivers and streams that flow

through the area. The vegetationis a mix of trees, shrubs and grasses. Dominant tree species include Acacia nigrescens and Acacia tortilis. This unique vegetation and landscape support a diverse range of plant and animal species.

Table 2: Conservation Status

Vegetation type	Biome	Total protected Area (Ha)	Statutorily Conserved (%)	Ecosystem Status	Biodiversity target	Level of Protection-Provincial
Sweet Lowveld Bushveld	Savanna	2675,68	11	Vulnerable	126524	Poorly Protected

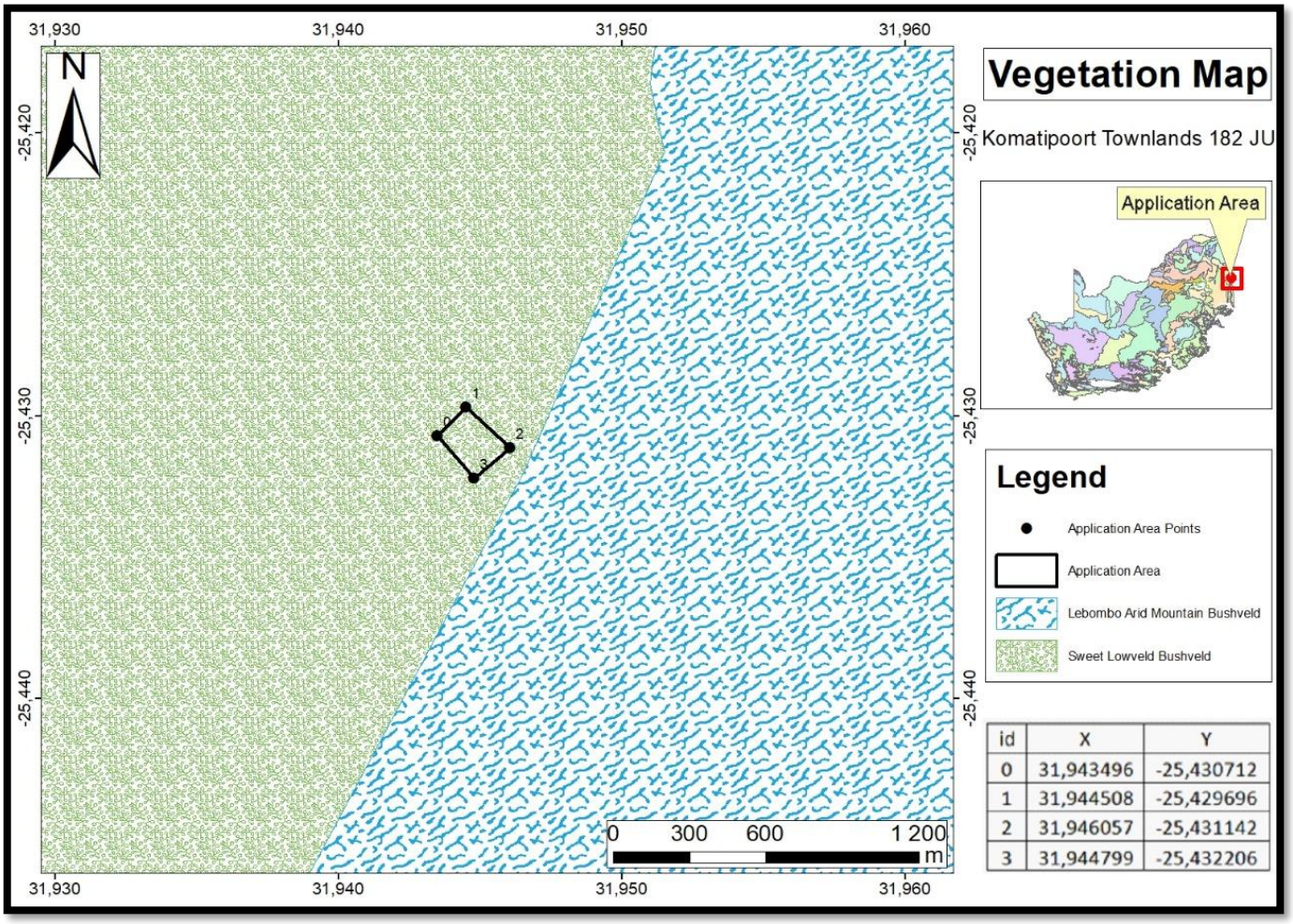

Figure 3: Vegetation Classification Map

Figure 4: Sweet lowveld Bushveld

Table 3: Summary of key taxa found within Zululand Lowveld (SVI 23)

Sweet lowveld Bushveld	
Growth form	**Species**
Tall Trees	Commiphora pyracanthoides, Dichrostachys cinerea, Grewia flava, Hibiscus calyphyllus, Lycium shawii, Rhigozum obovatum
Small Trees	Acacia erubescense, A. gerrardii, A. mellifera subsp. detinens, A.rehmanniana, Boscia albitrunca, Combertum apiculatum, Acacia tortillis subsp.heteracantha, Terminalia sericea.
Low Shrubs	low shrubs: Baleria lancifolia, Hirpicium bechuanense, Indigofera poliotes, Melhania rehmannii, Pechuel-Loeschea leubnitziae.

Graminoids	Panicum maximum, Digitaria eriantha, and Eragrostis spp

4.6. Terrestrial threatened ecosystem

The South African National Biodiversity Institute (SANBI), in conjunction with the Department of Environmental Affairs (DEA), released a draft report in 2009 entitled "Threatened Ecosystems in South Africa: Descriptions and Maps", to provide background information on the List of Threatened Ecosystems (SANBI, 2009). The purpose of this report was to present a detailed description of each of South Africa's ecosystems and to determine their status using a credible and practical set of criteria. The following criteria were used in determining the status of threatened ecosystems:

- Irreversible loss of natural habitat;
- Ecosystem degradation and loss of integrity;
- Limited extent and imminent threat;
- Threatened plant species associations;
- Threatened animal species associations; and
- Priority areas for meeting explicit biodiversity targets as defined in a systematic conservation plan.

In terms of section 52 (1) (a), of the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004), a new national list of ecosystems that are threatened and in need of protection was gazetted on 9 December 2012 (Government Notice 1002 (Driver *et. al.*, 2004). The list classified all threatened or protected ecosystems in South Africa in terms of four categories; *Critically Endangered* (CR), *Endangered* (EN), *Vulnerable* (VU), or *Protected*. The purpose of categorizing these ecosystems is to prioritize conservation areas in order to reduce the rates of ecosystem and species extinction, as well as preventing further degradation and loss of structure, function, and composition of these ecosystems. It is estimated that threatened ecosystems make up 9.5% of South Africa, with critically endangered and endangered ecosystems accounting for 2.7%, and vulnerable ecosystems 6.8% of the land area. It is therefore vital that Threatened Terrestrial Ecosystems inform proactive and reactive conservation and planning tools, such as

Biodiversity Sector Plans, municipal Strategic Environmental Assessments (SEAs) and Environmental Management Frameworks (EMFs), Environmental Impact Assessments (EIAs) and other environmental applications (Mucina *et al.,* 2006*)*. According to data sourced from South African National Biodiversity Institute (SANBI) the site is situated from the Vulnerable ecosystem.

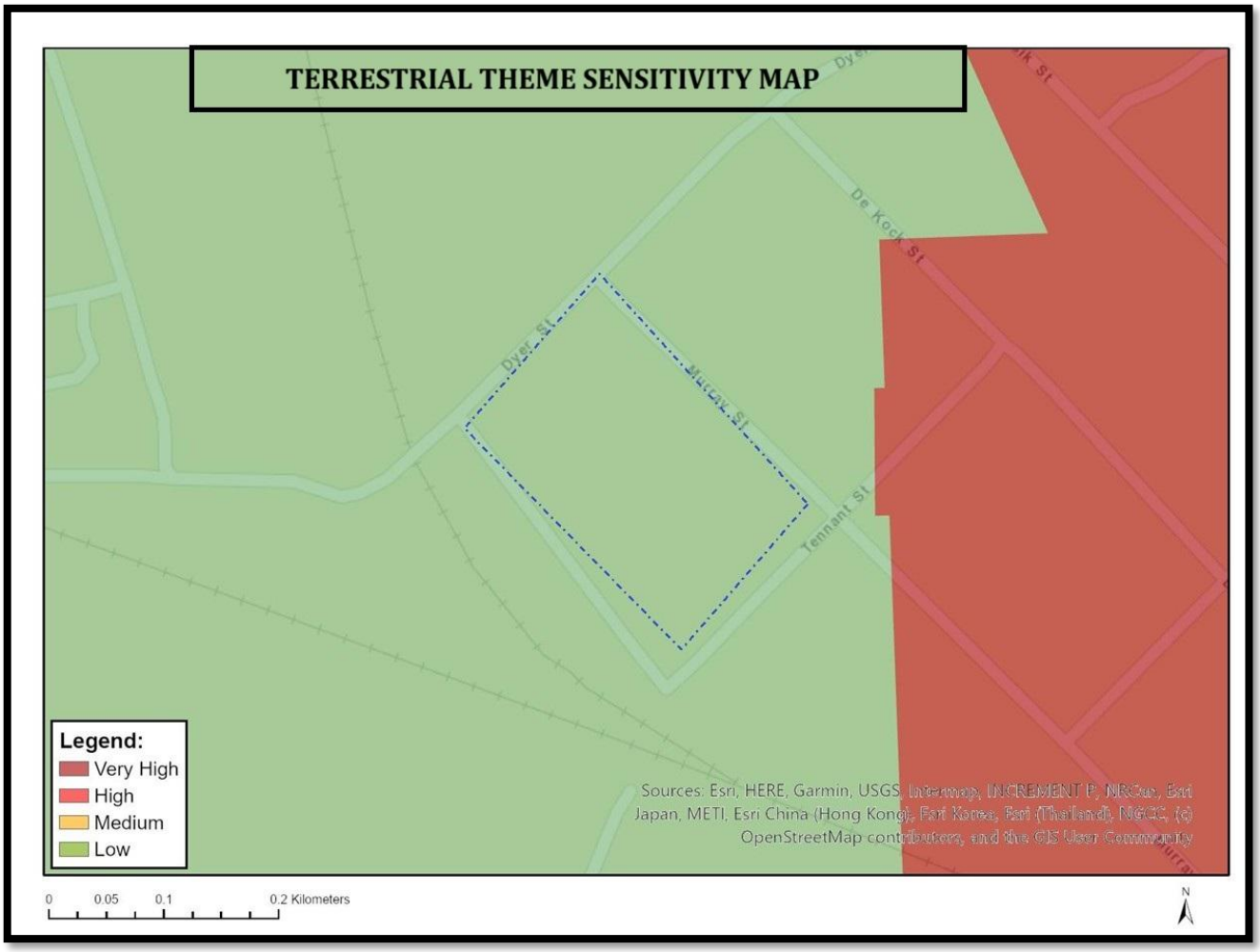

Figure 5: The National Web-Based Environmental Screening Tool map of the Buy Back centre project sites, indicating sensitivities for the Terrestrial sensitivity theme. The Low sensitivity classifications.

Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features

Sensitivity	Feature(s)
Low	Low Sensitivity

5. METHODOLOGY AND REPORTING

The information provided in this terrestrial biodiversity report is based mainly on the observations that were made during the field survey and a review of the available reports that contain known and predicted biodiversity and ecological information regarding the proposed sites. A wide range of spatial data sets were interrogated and relevant information was extracted for the study site. A basic ecological sensitivity analysis was performed to identify areas of special interest or concern. The various approaches used and aspects taken into account are detailed below:

5.1. General

A desktop survey utilising aerial images and photography was undertaken to assemble background information regarding the different features and vegetation type present within the proposed project footprint including the buffer area. The site was then assessed on the 11th of April 2025 to ensure that the true floristic reflection of the site is recorded.

5.2. Vegetation

A desk-top study of the habitats of the red-listed and orange-listed species known to occur in the area was done prior to site assessment. Visual assessment was used to assess the abundance of floral and faunal species. The vegetation types of Mucina & Rutherford (2006) were also used as reference but where necessary communities are named according to the recommendations for a standardized South African syntaxonomic nomenclature system (Brown, L.R., Du Preez, P.J., Bezuidenhout, H., Bredenkamp, G.J., Mostert, T.H.C., and Collins, N.B. 2013). By combining the available literature with the survey results, stratification of vegetation communities was possible.

5.3. Fauna survey

The majority of mammals and reptiles are either very secretive, nocturnal, hibernate (reptiles), migrate (birds) or prefer specific habitat so sampling and identification was limited.

5.4. Mammals

Records of all mammal species recorded in the proposed site was obtained from the Virtual Museum (VM) website of the Animal Demographic Unit of University of Cape Town prior to the site visits. The site assessment was conducted for mammal species diversity by direct and indirect methods using mammal sightings, burrows, holes and also verified by mammal book (Skinner and Chimimba, 2005). No trapping was conducted during the field survey.

5.5. Methodology Adapted in Assessing the Impacts

The significance of the impacts will be assessed considering the following descriptors:

Table 4: Impact assessment table

Nature of the impact		
Positive	+	Impact will be beneficial to the environment (a benefit).
Negative	-	Impact will not be beneficial to the environment (a cost).
Neutral	0	Where a negative impact is offset by a positive impact, or mitigation measures, to have no overall effect.

`Magnitude		
Minor	2	Negligible effects on biophysical or social functions / processes. Includes areas / environmental aspects which have already been altered significantly, and have little to no conservation importance (negligible sensitivity*).
Low	4	Minimal effects on biophysical or social functions / processes. Includes areas / environmental aspects which have been largely modified, and / or have a low conservation importance (low sensitivity*).
Moderate	6	Notable effects on biophysical or social functions / processes. Includes areas / environmental aspects which have already been moderately modified, and have a medium conservation importance (medium sensitivity*).
High	8	Considerable effects on biophysical or social functions / processes. Includes areas / environmental aspects which have been slightly modified and have a high conservation importance (high sensitivity*).
Very high	10	Severe effects on biophysical or social functions / processes. Includes areas / environmental aspects which have not previously been impacted upon and are pristine, thus of very high conservation importance (very high sensitivity*).
Extent		
Site only	1	Effect limited to the site and its immediate surroundings.
Local	2	Effect limited to within 3-5 km of the site.

Regional	3	Activity will have an impact on a regional scale.
National	4	Activity will have an impact on a national scale.
International	5	Activity will have an impact on an international scale.
Duration		
Immediate	1	Effect occurs periodically throughout the life of the activity.
Short term	2	Effect lasts for a period 0 to 5 years.
Medium term	3	Effect continues for a period between 5 and 15 years.
Long term	4	Effect will cease after the operational life of the activity either because of natural process or by human intervention.
Permanent	5	Where mitigation either by natural process or by human intervention will not occur in such a way or in such a time span that the impact can be considered transient.
Probability of occurrence		
Improbable	1	Less than 30% chance of occurrence.
Low	2	Between 30 and 50% chance of occurrence.
Medium	3	Between 50 and 70% chance of occurrence.
High	4	Greater than 70% chance of occurrence.

Definite	5	Will occur, or where applicable has occurred, regardless or in spite of any mitigation measures.

Once the impact criteria have been ranked for each impact, the significance of the impacts will be calculated using the following formula:

Significance Points (SP) = (Magnitude + Duration + Extent) x Probability

The significance of the heritage impact is therefore calculated by multiplying the severity rating with the probability rating. The maximum value that can be reached through this impact evaluation process is 100 SP (points). The significance for each impact is rated as High (SP≥60), Medium (SP = 31-60) and Low (SP<30) significance as shown in the Table 5 below.

Table 5: Definition of significance rating

Significance of predicted NEGATIVE impacts		
Low	0-30	Where the impact will have a relatively small effect on the environment and will require minimum or no mitigation and as such have a limited influence on the decision
Medium	31-60	Where the impact can have an influence on the environment and should be mitigated and as such could have an influence on the decision unless it is mitigated.
High	61-100	Where the impact will definitely have an influence on the environment and must be mitigated, where possible. This impact will influence the decision regardless of any possible mitigation.

Significance of predicted POSITIVE impacts		
Low	0-30	Where the impact will have a relatively small positive effect on the environment.
Medium	31-60	Where the positive impact will counteract an existing negative impact and result in an overall neutral effect on the environment.
High	61-100	Where the positive impact will improve the environment relative to baseline conditions.

6. RESULTS OF THE ASSESSMENT

6.1. Vegetation Survey

The proposed site earmarked for the proposed construction of Buy back centre is situated in an area that is partially disturbed.

The general vegetation of the area can be described as a relative open thornveld made up of tall grasses (*Hyparrhenia* species), interspersed between small trees and large shrubs, mainly *Acacia* species and *Dichrostachys cinerea*. A small number of broad leaved trees are however found on occasion including;

Euclea species and Ziziphus Micronata are well represented. Forbs and a few shrubby climbers is a common feature associated with the patches of trees. The dense, tall grass cover consist predominantly out of class one increasing, climax species, such as a few *Hyparrhenia* species, *Hyperthelia dissolute, Trachypogon spicatus, Tristachya leucothrix Cymbopogon caesius*, *Digitaria* spp. (*diagonalis*). Most of the grass species are remnant of the previous growing seasons, with a high accumulation of dead leaf material. The reason for this is due to undergrazing where such species as above mentioned thrive in. Due to underutilization, characterizing palatable species such as *Themeda triandra* and *Panicum maximum* have been replaced, to an extent, by these species mentioned.

The only problematic plant species noted was *Chromolaena odorata*, which is a highly aggressive Category 1 Alien Invasive, capable of invading undisturbed natural vegetated areas. If given the chance and time this species is capable of outcompeting natural species. During the survey four protected species of *Sclerocarya birrea* subsp. *caffra* were found within the boundaries of the proposed site as well two species outside the proposed site but with a close proximity of less than 100 metres. This tree specie is protected according to Schedule A of the National Forest Act of 1998 (Act No. 84 of 1998).

Three vegetation unit were noticed during the site survey:

- Encroached grassland.
- Illegal Dumping
- Protected Trees (Camel Thorn) Vachellia erioloba.
- Natural grassland

(I) Encroached grassland.

This vegetation occurs on the proposed site. Dominating plant species include*, Ziziphus mucronata*, *Euclea* species are well represented. Forbs and a few shrubby climbers is a common feature associated with the patches of trees. The dense, tall grass cover consist predominantly out of class one increasing, climax species, such as a few *Hyparrhenia* species, *Hyperthelia dissolute, Trachypogon spicatus, Tristachya leucothrix Cymbopogon caesius*, *Digitaria* spp. (*diagonalis*).

Diospyros lycioides, Vangueria infusta, Gymnosporia buxifolia, Xerophyta retinervis, Searsia lucida, Rhus rehmanniana, Cussonia spicata, Acacia robusta. The grass composition is dominated by mainly inceasers, i.e. *Cynodon dactylon, Eragrostis curvula, Eragrostis racemosa, Paspalum dilatatum, Sporobolus africanus, Aristida congesta and Melinis* repens. Very few weeds are present, the only exception being *Verbena aristigera* and *Acacia mearnsii*.

Figure 6 Encroached grassland.

(II) Natural grassland

The natural grassland has species such as *Panicum maximum*, *Panicum duestum*, *Urochloa mosambicensis* etc. are associated with more shaded areas provided by patches of larger shrubs. A few game paths were noted crisscrossing the study area and were most probably used by Impala (*Aepyceros melampus*), Common Duiker (*Sylvicapra grimmia*) and occasionally Koedoe (*Tragelaphus strepsiceros*)

Figure 7: Overview of the grassland vegetation on site

Figure 8: Protected Trees (Marula Tree) Slerocarya Birrea

Protected Trees (Marula Tree) Slerocarya Birrea

The presence of Slerocarya Birrea which is a protected tree, SA Tree No: 58:1-89, Marula tree species was found to be more visible within the proposed site of the Buy back centre. This species is widely distributed inland in the Northen part of the Limpopo Province. It also extends to Namibia, Botswana, Zimbabwe and to central Africa. Concerns have been raised over the large volumes of Marula tree being removed for commercial sale of firewood. Many trees are also killed because of bush encroachment control through pesticides. This species is widespread and common, and although it may be declining in some places, it is not in danger of extinction.

Table 6: List of Protected tree species (according to national provincial regulations) that have a distribution that include the project site.

Common Name	Scientific Name	TOPS (NEMBA)	Likelihood of Occurrence
Marula Trees	*Slerocarya Birrea*	Protected	Confirmed

Sensitivity aspects

- The protected trees have high ecological functioning
- The suitability of this community for Red Data/protected species is considered medium to high.
- Some Sections of the area have been cleared for wood collection.
- protected species were recorded in the area.

Figure 9: Illegal Dumping within the proposed Site

Illegal dumping significantly impacts ecological sensitivity by contaminating soil and water, disrupting wildlife habitats, and increasing the risk of fires and natural disasters. These impacts can lead to reduced biodiversity, altered ecosystem functions, and damage to sensitive areas like wetlands and forests.

Soil and Water Contamination:

Illegal dumping introduces pollutants into the environment, contaminating soil and water sources. Leaching from waste can contaminate groundwater, while runoff can pollute surface water, impacting both human and animal health.

Wildlife Disruption:

Illegal dumping creates unnatural habitats that can attract unwanted species and disrupt the balance of native wildlife. Animals may be exposed to hazardous materials, and the presence of waste can lead to increased competition and conflicts.

Increased Risk of Fires and Natural Disasters:

Waste materials can become flammable, increasing the risk of wildfires. Illegal dumping in flood-prone areas can also obstruct drainage and exacerbate flooding.

Reduced Biodiversity:

Contaminated soil and water can harm plants and animals, leading to a decline in species diversity. Sensitive species that require pristine environments may be unable to survive in polluted areas.

Altered Ecosystem Functions:

Ecosystems rely on the balance of their components to function properly. Illegal dumping can disrupt these balances, leading to changes in plant and animal communities, nutrient cycles, and overall ecosystem health.

Damage to Sensitive Areas:

Illegal dumping in areas like wetlands and forests can cause significant damage. Wetlands are crucial for flood control and water filtration, while forests provide habitat for many species. Damage to these areas can have widespread environmental consequences.

6.2. Alien invasive plants

Declared weeds and invaders have the tendency to dominate or replace the herbaceous layer of natural ecosystems, thereby transforming the structure, composition and function of natural ecosystems. Therefore, it is important that all these transformers be eradicated and controlled by means of an eradication and monitoring programme. Some invader plants may also degrade ecosystems through superior competitive capabilities to exclude native plant species (Henderson, 2001). According to the published Alien and Invasive Species regulations in terms of section 97(1) of the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004) four categories of problem plants are identified as:

- **Category 1a** plants are high-priority emerging species requiring compulsory control. All breeding, growing, moving and selling are banned.
- **Category 1b** plants are widespread invasive species controlled by a management programme.
- **Category 2** plants are invasive species controlled by area. Can be grown under permit conditions in demarcated areas. All breeding, growing, moving, and selling are banned without a permit.
- **Category 3** plants are ornamental and other species that are permitted on a property but may no longer be planted or sold.

Figure 10: Picture showing alien plant on site - Lantana camara which is a NEMBA Category 1b

Table 7: Alien species recorded in the study area.

Scientific name	Common name	NEMBA Category
Datura Stramonium	Apple thorn	b

Lantana camara	Bird's brandy; cherry pie; tick-berry	1b

6.3 Description of the CBAs

Critical Biodiversity Areas (CBA's) are terrestrial and aquatic features in the landscape that are critical for retaining biodiversity and supporting continued ecosystem functioning and services (SANBI, 2007). These form the key output of a systematic conservation assessment and are the biodiversity sectors inputs into multi-sectoral planning and decision making tools.

The primary purpose of CBA's is to inform land-use planning and the land-use guidelines attached to CBA's aim to promote sustainable development by avoiding loss or degradation of important natural habitat and landscapes in these areas and the landscape as a whole. CBA's can also be used to inform protected area expansion and development plans. The use of CBA's here follows the definition laid out in the guideline for publishing bioregional plans (Anon, 2008):

- "**Critical biodiversity areas** (CBAs) are areas of the landscape that need to be maintained in a natural or near-natural state in order to ensure the continued existence and functioning of species and ecosystems and the delivery of ecosystem services. In other words, if these areas are not maintained in a natural or near-natural state then biodiversity conservation targets cannot be met. Maintaining an area in a natural state can include a variety of biodiversity-compatible land uses and resource uses".
- "**Ecological support areas** (ESA's) are areas that are not essential for meeting biodiversity representation targets/thresholds but which nevertheless play an important role in supporting the ecological functioning of critical biodiversity areas and/or in delivering ecosystem services that support socio-economic development, such as water provision, flood mitigation or carbon sequestration. The degree of restriction on land use and resource use in these areas may be lower than that recommended for critical biodiversity areas."

The guideline for bioregional plans defines three basic CBA categories based on three high-level land management objectives which were adapted for the Mpumalanga Province (**Table 8**).

Table 8: A framework for linking spatial planning categories (CBAs) to land-use planning and decision-making guidelines based on a set of high-level land biodiversity management objectives.

CBA category	Land Management Objective
PA & CBA 1	**Natural landscapes**: • Ecosystems and species fully intact and undisturbed • These are areas with high irreplaceability or low flexibility in terms of meeting biodiversity pattern targets. If the biodiversity features targeted in these areas are lost then targets will not be met. • These are landscapes that are at or past their limits of acceptable change.
CBA 2	**Near-natural landscapes**: • Ecosystems and species largely intact and undisturbed. • Areas with intermediate irreplaceability or some flexibility in terms of area required to meet biodiversity targets. There are options for loss of some components of biodiversity in these landscapes without compromising our ability to achieve targets. • These are landscapes that are approaching but have not passed their limits of acceptable change.
Ecological Support Areas (ESA)	**Functional landscapes**: • Ecosystems moderately to significantly disturbed but still able to maintain basic functionality. • Individual species or other biodiversity indicators may be severely disturbed or reduced.

CBA category	Land Management Objective
	• These are areas with low irreplaceability with respect to biodiversity pattern targets only.
Other Natural Areas (ONA) and Transformed	**Production landscapes**: manage land to optimize sustainable utilization of natural resources.

Mpumalanga CBA map 2016 (data), sections of the site is located within Ecolohical support areas. Ecological support areas are areas that are moderately to significantly disturbed but still able to maintain basic functionality. The whole site is classified as ESA, see the figure below.

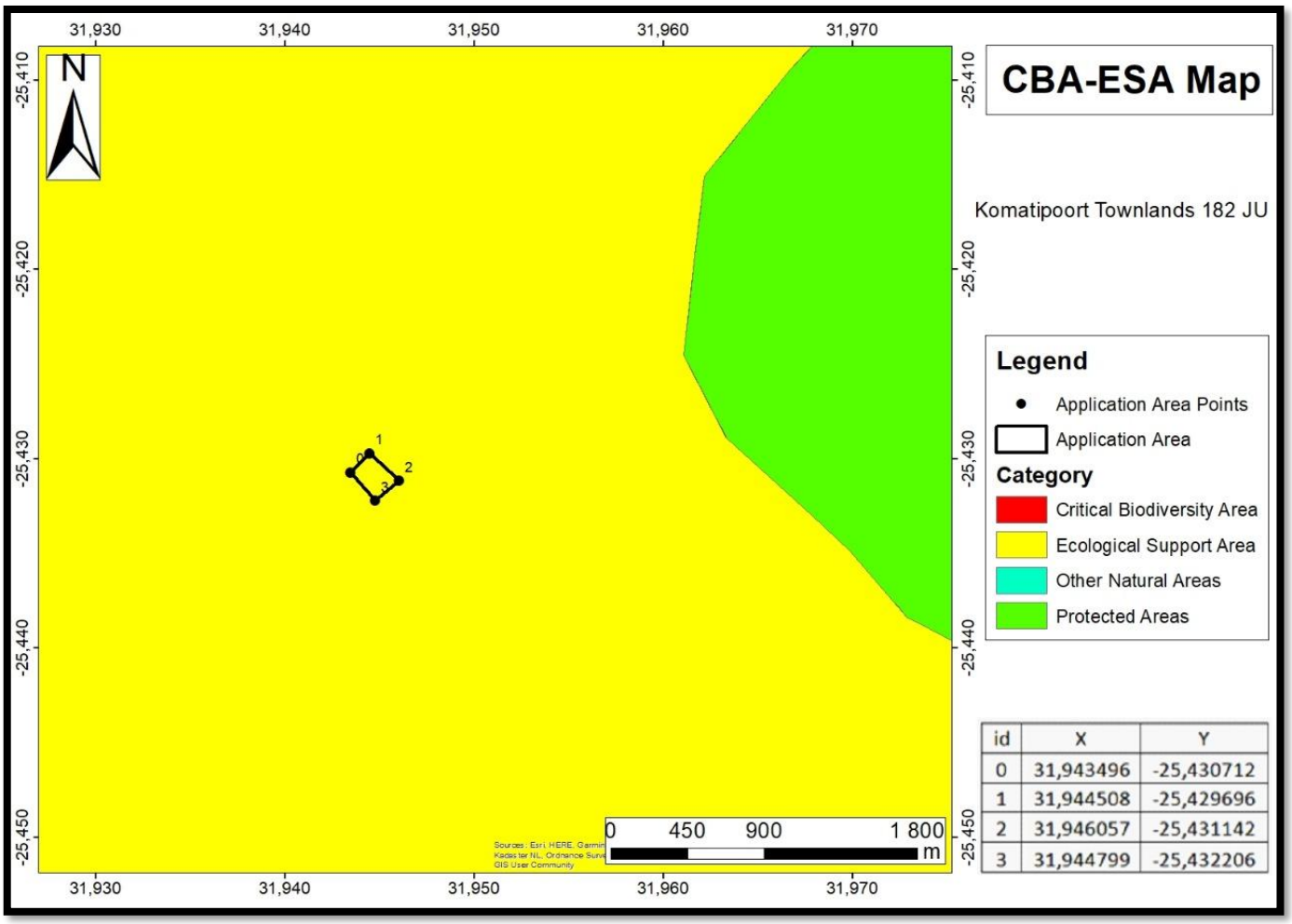

Figure 11: Site location in relation to the Mpumalanga CBA

6.4. Mammals

During site survey no red data mammals (a list of animals that are endangered and how they are being threatened) have been confirmed for the study areas. The animals encountered include *Bos Taurus (*Cow), Pronolagus *crassicaudatus (*Rabbit*), Equus caballus (*Horse*), Capra aegagrus hircus (Goat), Potamochoerus larvatus (Bushpig), Procavia capensis (Dassie/ rock badger)* and *Cercopithecus aethiops* (Vervet monkey).

6.5. Avi-fauna

Desktop assessment (SABAP 2) showed that a total of 109 bird species have been confirmed see attached in ***Appendix C***. Many avifaunal species are adaptable as they are habitat generalists and can therefore accommodate a certain degree of habitat degradation and transformation (Harrison *et al.*, 1997). Other species are extremely habitat specific and have to rely on certain habitat units for breeding, hunting or foraging and roosting. It is the survival of these species that become threatened as they cannot adapt to changes to the habitat. Habitat-specific species are sensitive to environmental change, with destruction of habitat being the leading cause of species decline worldwide (Barnes, 2000).

It is widely accepted that vegetation structure, rather than the actual plant species, influences bird species' distribution and abundance (Harrison *et al.*, 1997). Therefore, the vegetation description used in the Bird Atlas does not focus on lists of plant species, but rather on factors which are relevant to bird distribution. The proposed site is located inside important bird areas.

6.6. Amphibians

According to Minter et al. (2004), 19 amphibian species have been confirmed to occur within the proposed area (***Appendix D***) Based on habitat availability within the present study area, especially many perennial and non-perennial watercourses, many of the frog species confirmed to be likely to occur within the study areas.

7. ASSESSMENT OF IMPACTS

The Regulations in terms of Chapter 5 of the National Environmental Management, Act No. 107 of 1998 requires that a description must be given of the potential impacts the proposed development will have on the environment. The details indicated the identified impacts and their proposed mitigation measures.

Figure 12: Pictures showing indigenous Ziziphus Mucronata on the proposed site.

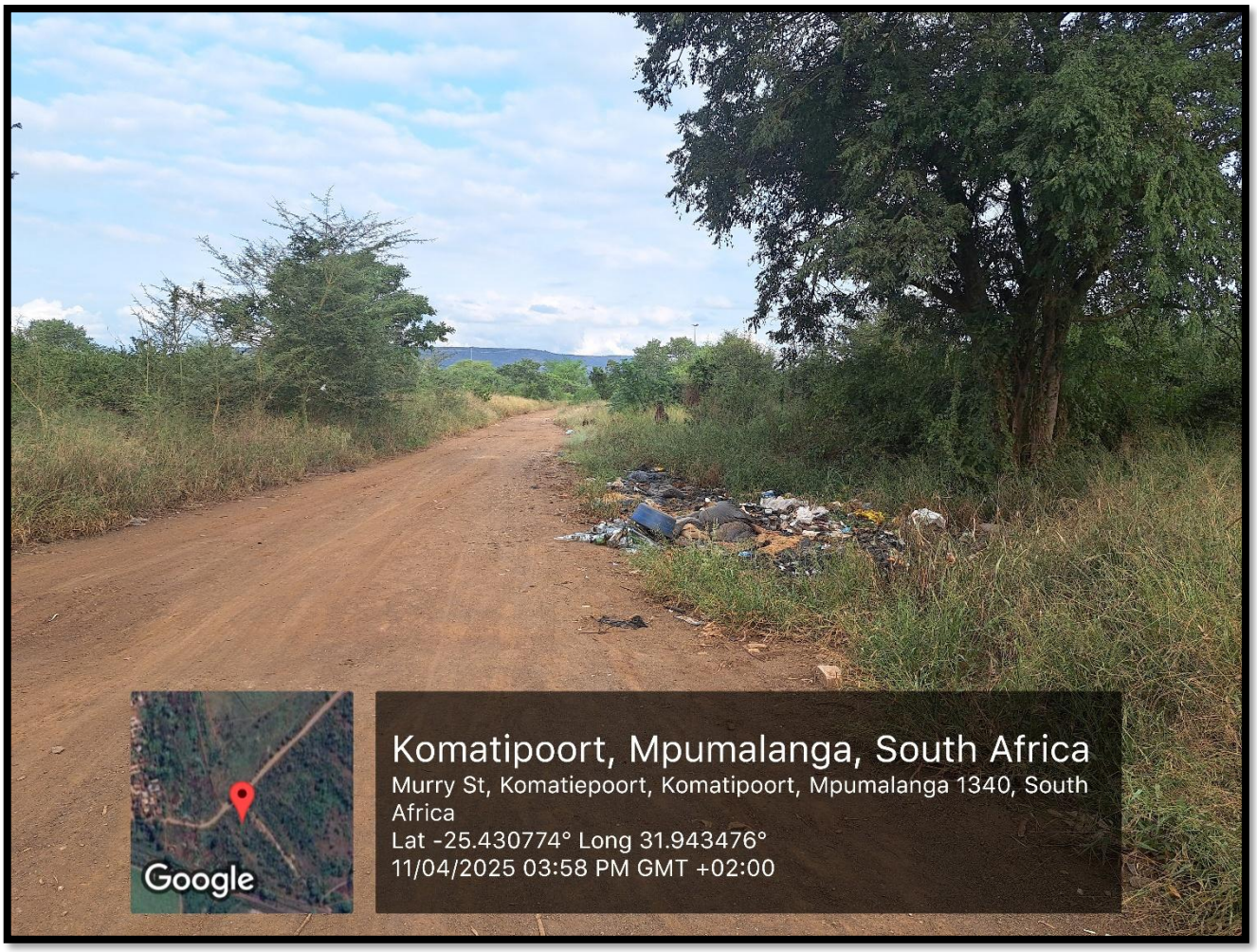

Figure 13: Gravel access road which also form part of the proposed farm portion for the proposed buy back centre.

7.1 Current Impacts

During the field survey, the current impacts that are having a negative impact on the area were identified, and are listed below.

- Presence of alien and invasive plant species.
- Secondary road with the associated noise disturbance, road mortalities, and litter
- Livestock grazing
- Illegal dumping

Table 8: Environmental Impacts assessed by combining the consequences (extent, duration, intensity) with the probability of occurrence before and after mitigation for the proposed project.

Impacts and Mitigation measures relating to the proposed project										
Activity/Aspect	**Impact /**	**Stage**	**Nature**	**Magnitude**	**Extent**	**Duration**	**Probability**	**Significance before mitigation**	**Mitigation measures**	**Significance after mitigation**
Vegetation Clearing for the buy back centre purpose	Destruction of protected plant species		Negative	Low (4)	Site only (1)	Long term (4)	Definite (5)	Medium (45)	• Supervision by an ecologist to ensure success of the rescue operation • Use already available access roads to avoid trampling red listed plant species	Low
	Removal of the natural vegetation		Negative	Moderate (6)	Site only (1)	Long term (4)	Definite (5)	Medium (55)	• Due to the sensitivity of the areas it is advised that areas designated for vegetation clearing should be identified and visibly marked off • Vegetation clearing areas should be kept to a minimum and restricted to the proposed construction. • Exposed areas should be rehabilitated with indigenous plants to the project	Low

									area as soon as construction is finished.	
	Disturbance to animals on site	Construction	Negative	Moderate (6)	Local (2)	Short term (3)	High (4)	Medium (44)	• Do not disturb nests, breeding sites or young ones. Do not attempt to kill or capture snakes unless directly threatening the safety of employees. • Dogs or other pets are not allowed to the worksite as they are threats to the natural wild animal • A low speed limit should be enforced on site to reduce wild animal-vehicle collisions • No animals should be intentionally killed or destroyed and poaching and hunting should not be permitted on the site. • Severe contractual fines must be imposed and immediate dismissal on any contract employee who is found attempting to snare or otherwise harms remaining faunal species. • Hunting weapons are prohibited on site.	Low

									• Contract employees must be educated about the value of wild animals and the importance of their conservation. • The ECO must conduct regular site inspections of removing any snares or traps that have been erected. • Employees and contractors should be made aware of the presence of, and rules regarding, flora and fauna through suitable induction training and on-site signage. • Ensure that the colours used to paint the buildings including the roof are blending to the environment	
	Increased soil erosion, increase in silt loads and sedimentation	Construction of Buy back centre	Negative	Low (4)	Local (2)	Long term (4)	Definite (5)	Medium (50)	• Following recreational and tourist area , rehabilitation of disturbed areas is required • Avoid areas with sensitive soils, steep slopes during rain or windy season. • Ensure that roads are not paved but well maintained (as gravel) to reduce the speed of water by promoting infiltration.	Low

	Establishment and spread of declared weeds	Construction of Buy back centre	Negative	Moderate (6)	Site (1)	Long term (4)	Definite (5)	Medium (55)	• The best mitigation measure for alien and invasive species is the early detection and eradication of these species which will be ensured with the use of a monitoring programme. • An alien invasive management programme should be developed and implemented in order to control alien invasive species	Low
Waste generation	Pollution due to oil and fuel spills, erosion, and ablution facilities.	Construction of Buy back centre	Negative	Moderate (6)	Local (2)	Long term (4)	Definite (5)	High (60)	• Proper ablution facilities on site must be provided. • Constant rehabilitation of erosion problems. • Proper storage facilities of construction materials. • Waste management is very important. Proper storage and removal strategy must be in place. • Proper Standard Operating Procedures in place regulating refuelling and other potential polluting activities. • Must have rehabilitation strategy as part of EMP such as a clean-up plan/strategy if spills occur and proper	Low

									facilities (ablution) to ensure no sewerage spills into drainage lines and streams.	

7.2. Mitigation

The focus of mitigation measures should be to reduce the significance of potential impacts associated with the Buy back centre and thereby to;

- Limit further loss and fragmentation of the vegetation community
- Limit extensive erosion due to the loss of the vegetation layer because of the steep topography; and
- Prevent the loss of the faunal community (including potentially occurring species of conservation concern) associated with this vegetation community.

8. CONCLUSION AND RECOMMENDATIONS

- As far as possible, the proposed buy back centre should focus on area that have already been disturbed. It is recommended that areas to be constructed to be specifically demarcated to movement of workers into sensitive areas.
- The proposed site is Buy back centre should focus mostly on complete transformed areas such as cultivated areas, and cultivated areas that overlap sensitive areas can be considered for construction of buy back centre.
- Areas of indigenous vegetation, even secondary communities, should under no circumstances be fragmented or disturbed further or used as an area for dumping of waste;
- Tree removal application permit should be submitted to DFFE for the removal of protected trees *Sclerocarya birrea* subsp. *Caffra* according to Schedule A of the National Forest Act of 1998 (Act No. 84 of 1998)

From the desktop assessment it seems the plant communities on the site were disturbed due to agricultural related activities. The proposed area for the Buy back centre is regarded as having a conservation value of Low to Medium as the area is already disturbed.

It is therefore important that the placement of the buy back centre sites including structures is done with these sensitive areas in mind. The opportunity exists however, for the proposed Buy back centre to contribute significantly to conservation of biodiversity within the region, as not the whole area will be removed of vegetation but rather only the construction of the mall. Conservation of as much of the natural land in the area within the site as possible, and the creation of corridors linking other natural areas would aid in conservation of ecosystems, flora and fauna. If efforts are made to initiate conservation of this habitat, and conservation is maintained throughout the operation of the Buy back centre, the net impacts on biodiversity will be positive.

It is then advised that Buy back centre may continue provided that the mitigation measures as suggested can be implemented, then the overall impact of the

development components would be of low overall significance and it is unlikely that the development would result in an overall net loss of biodiversity or long-term degradation of the receiving environment.

As far as possible, the proposed Buy back centre should target the area that have already been disturbed, and no further loss of primary or secondary vegetation should be permitted. It is recommended that areas to be constructed must be demarcated to movement of workers into sensitive areas.

9. Impact Statement

An impact statement is required as per the NEMA regulations concerning the proposed development.

The main impacts that may be expected to occur, as a result of the proposed Buy back centre and related activities, include the following:

- Direct habitat loss and fragmentation) and the degradation of the surrounding habitat;
- Direct loss and /or loss of habitat for NT plant species;
- Introduction and further spreading of weed species.

All mitigation measures as described in this report must be implemented to reduce the significance of all anticipated impacts to a lower level (from 'High' - 'Moderately High' tolow Moderately high' - 'Moderate' and 'Low' respectively). The cumulative impact of the project, taking into account the size of the proposed project and the implementation of strict mitigation measures, is rated as 'Low'.

10. REFERENCES

Golding, J. S. (Editor). 2002. Southern African Plant Red Data Lists. Southern African Botanical Diversity Network Report no.14. SABONET, PTA. Pp 237.

Hilton-Taylor, C. 2007. IUCN Red List of Threatened Species. IUCN, Gland, Swit. 61

pp http://invasives.org.za/ http://posa.sanbi.org/searchspp.php

http://www.dwaf.gov.za/wfw/Control

IUCN 2010. IUCN Red List of Threatened Species. Version 2010.2. <www.iucnredlist.org>. Downloaded on 16 January 2013.

Mucina L. & Rutherford M.C. (eds) 2010. The Vegetation of South Africa, Lesotho and Swaziland. Strelitzia 19. South African National Biodiversity Institute, Pretoria.

National Forestry Act of 1998 (NFA).

Palgrave, K.C. 1983. Trees of Southern Africa. Struik, Cape Town. Pp 959

PRECIS Data. National Biodiversity Institute of South Africa. Pretoria. 38

R.M. 2004. Technical Report Volume 1: Terrestrial Component. In: South African National Biodiversity Assessment 2004: Priorities for biodiversity conservation in South Africa. Pretoria. SANBI.

Rouget M., Reyers B., Jonas Z., Desmet P., Driver A., Maze K., Egoh B., & Cowling

Rutherford, M. C. and Westfall, R. H. (1994). Biomes of Southern Africa: an objective categorisation, Pretoria: National Botanical Institute.

South African National Biodiversity Institute. 2007. National Red Data list of plants. Pretoria.

Strelitzia 19. South African National Biodiversity Institute, Pretoria.

APPENDIX A: MAMMALS THAT ARE LIKELY TO INHABIT THE AREA

Common name	Scientific name
Bos Taurus	Cow
Pronolagus *crassicaudatus*	Rabbit
Capra aegagrus hircus	Goat
Potamochoerus larvatus	Bushpig
Phacochoerus africanus	Warthog
Stigmochelys pardalis	Leopard tortoise
Canis mesomelas	Jackals
Orycteropus afer	Aardvark
Philantomba monticola	Blue duiker
Sylvicapra grimmia	Common duiker
Redunca fulvorufula	Mountain reedbuck
Redunca arundinum	Common reedbuck
Raphicerus campestris	Steenbok

APPENDIX B: LIST OF BIRDS LIKELY TO INHABIT THE AFFECTED AREA

Common group	Common species	Genus	Species
Apalis	Bar-throated	*Apalis*	*thoracica*
Barbet	Black-collared	*Lybius*	*torquatus*
Barbet	Crested	*Trachyphonus*	*vaillantii*
Bishop	Southern Red	*Euplectes*	*orix*
Bokmakierie	Bokmakierie	*Telophorus*	*zeylonus*
Boubou	Southern	*Laniarius*	*ferrugineus*
Bulbul	Dark-capped	*Pycnonotus*	*tricolor*
Bunting	Golden-breasted	*Emberiza*	*flaviventris*
Bush-shrike	Olive	*Telophorus*	*olivaceus*
Bustard	Denham's	*Neotis*	*denhami*
Buzzard	Jackal	*Buteo*	*rufofuscus*
Buzzard	Steppe	*Buteo*	*vulpinus*
Canary	Cape	*Serinus*	*canicollis*
Canary	Yellow-fronted	*Crithagra*	*mozambicus*
Chat	Buff-streaked	*Oenanthe*	*bifasciata*
Cisticola	Croaking	*Cisticola*	*natalensis*
Cisticola	Levaillant's	*Cisticola*	*tinniens*
Cisticola	Pale-crowned	*Cisticola*	*cinnamomeus*
Cisticola	Wailing	*Cisticola*	*Lais*

Cisticola	Wing-snapping	*Cisticola*	*Ayresii*
Cisticola	Zitting	*Cisticola*	*juncidis*

Crow	Pied	*Corvus*	*Albus*
Cuckoo	Black	*Cuculus*	*Clamosus*
Cuckoo	Diderick	*Chrysococcyx*	*Caprius*
Cuckoo	Red-chested	*Cuculus*	*Solitarius*
Dove	Laughing	*Streptopelia*	*Senegalensis*
Dove	Red-eyed	*Streptopelia*	*Semitorquata*
Drongo	Fork-tailed	*Dicrurus*	*Adsimilis*
Duck	African Black	*Anas*	*Sparsa*
Duck	Yellow-billed	*Anas*	*Undulata*
Eagle-owl	Spotted	*Bubo*	*africanus*
Egret	Cattle	*Bubulcus*	*ibis*
Falcon	Amur	*Falco*	*amurensis*
Firefinch	African	*Lagonosticta*	*rubricata*
Fiscal	Common (Southern)	*Lanius*	*collaris*
Flycatcher	Southern Black	*Melaenornis*	*pammelaina*
Flycatcher	Spotted	*Muscicapa*	*striata*
Francolin	Shelley's	*Scleroptila*	*shelleyi*
Goose	Egyptian	*Alopochen*	*aegyptiacus*
Goose	Spur-winged	*Plectropterus*	*gambensis*

Goshawk	African	*Accipiter*	*tachiro*
Grassbird	Cape	*Sphenoeacus*	*afer*
Guineafowl	Helmeted	*Numida*	*meleagris*
Hamerkop	Hamerkop	*Scopus*	*umbretta*

Heron	Black-headed	*Ardea*	*melanocephala*
Ibis	African Sacred	*Threskiornis*	*aethiopicus*
Ibis	Hadeda	*Bostrychia*	*hagedash*
Ibis	Southern Bald	*Geronticus*	*calvus*
Indigobird	Dusky	*Vidua*	*funerea*
Kite	Black-shouldered	*Elanus*	*caeruleus*
Lapwing	Blacksmith	*Vanellus*	*armatus*
Lark	Red-capped	*Calandrella*	*cinerea*
Lark	Rufous-naped	*Mirafra*	*africana*
Longclaw	Cape	*Macronyx*	*capensis*
Mannikin	Bronze	*Spermestes*	*cucullatus*
Martin	Banded	*Riparia*	*cincta*
Martin	Brown-throated	*Riparia*	*paludicola*
Martin	Rock	*Hirundo*	*fuligula*
Masked-weaver	Southern	*Ploceus*	*velatus*
Mousebird	Speckled	*Colius*	*striatus*
Neddicky	Neddicky	*Cisticola*	*fulvicapilla*

Oriole	Black-headed	*Oriolus*	*larvatus*
Paradise-flycatcher	African	*Terpsiphone*	*viridis*
Petronia	Yellow-throated	*Petronia*	*superciliaris*
Pigeon	Speckled	*Columba*	*guinea*
Pipit	African	*Anthus*	*cinnamomeus*
Pipit	Long-billed (Split, see Nicholson's 10877 and Long-billed 10876)	*Anthus*	*similis*
Prinia	Drakensberg	*Prinia*	*hypoxantha*
Prinia	Tawny-flanked	*Prinia*	*subflava*
Puffback	Black-backed	*Dryoscopus*	*cubla*
Quail	Common	*Coturnix*	*coturnix*
Quailfinch	African	*Ortygospiza*	*atricollis*
Reed-warbler	African	*Acrocephalus*	*baeticatus*
Robin-chat	Cape	*Cossypha*	*caffra*
Scrub-robin	White-browed	*Cercotrichas*	*leucophrys*
Secretarybird	Secretarybird	*Sagittarius*	*serpentarius*
Seedeater	Streaky-headed	*Crithagra*	*gularis*
Sparrow	House	*Passer*	*domesticus*
Sparrow	Southern Grey-headed	*Passer*	*diffusus*
Spurfowl	Swainson's	*Pternistis*	*swainsonii*

Starling	Red-winged	*Onychognathus*	*morio*
Stonechat	African	*Saxicola*	*torquatus*
Stork	White	*Ciconia*	*ciconia*
Sunbird	Amethyst	*Chalcomitra*	*amethystina*
Sunbird	Greater Double-collared	*Cinnyris*	*afer*
Sunbird	Malachite	*Nectarinia*	*famosa*
Sunbird	White-bellied	*Cinnyris*	*talatala*
Swallow	Barn	*Hirundo*	*rustica*
Swallow	Greater Striped	*Hirundo*	*cucullata*
Swallow	Lesser Striped	*Hirundo*	*abyssinica*
Swallow	White-throated	*Hirundo*	*albigularis*
Swift	Alpine	*Tachymarptis*	*melba*
Swift	Little	*Apus*	*affinis*
Swift	White-rumped	*Apus*	*caffer*
Tchagra	Black-crowned	*Tchagra*	*senegalus*
Teal	Red-billed	*Anas*	*erythrorhyncha*
Thrush	Kurrichane	*Turdus*	*libonyanus*
Tit	Southern Black	*Parus*	*niger*
Turtle-dove	Cape	*Streptopelia*	*capicola*
Wagtail	Cape	*Motacilla*	*capensis*
Warbler	Dark-capped Yellow	*Chloropeta*	*natalensis*

Waxbill	Common	*Estrilda*	*astrild*
Waxbill	Orange-breasted	*Amandava*	*subflava*
Weaver	Cape	*Ploceus*	*capensis*
Weaver	Village	*Ploceus*	*cucullatus*
White-eye	Cape	*Zosterops*	*virens*
Whydah	Pin-tailed	*Vidua*	*macroura*
Widowbird	Fan-tailed	*Euplectes*	*axillaris*
Widowbird	Red-collared	*Euplectes*	*ardens*

APPENDIX C: AMPHIBIAN SPECIES LIKELY TO OCCUR WITHIN THE AFFECTED AREA

Scientific name	Common name
Afrana angolensis	Common or Angola River Frog
Amietophrynus garmani	Olive toad
Amietophrynus gutturalis	Guttural Toad
Amietophrynus poweri	Power's Toad