TSHIKOVHA GREEN &
CLIMATE CHANGE ADVOCATES (PTY) LTD

We Advocate For Environmental Compliance Throughout Business Value Chain

DRAFT BASIC ASSESSMENT REPORT FOR THE PROPOSED ESTABLISHMENT OF STORAGE FACILITIES FOR MINING MACHINERY, OFFICES AND PARKING AREA 0N PORTION 20 OF THE FARM ELANDSPRUIT 219 JS, EMALAHLENI WITHIN STEVE TSHWETE LOCAL MUNICIPALITY UNDER THE JURISDICTION OF NKANGALA DISTRICT MUNICIPALITY MPUMALANGA PROVINCE

PROPONENT: IZAZI INVESTMENT (PTY) LTD

FEBRUARY 2019

Executive Director: Moudy Mudzielwana | c: 076 431 1016 | t: 012 111 1912
moudy@climateadvocates.co.za | Reg No: 2016/154666/07

REPORT COMPILED BY	Nevondo Seani
	Environmental Assessment Practitioner
	January 2019
	Caiphus Mukwevho
	Environmental Assessment Practitioner
	January 2019
REVIEWED BY	Nombuso Van wyk
	Environmental Assessment Practitioner
	January

GLOSSARY	
Alternatives	Alternatives are different means of meeting the general purpose and need of a proposed activity. Alternatives may include location or site alternatives, activity alternatives, process or technology alternatives, temporal alternatives or the 'do nothing' alternative.
Archaeological Material	Remains resulting from human activities which are in a state of disuse and are in or on land and which are older than 100 years, including artefacts, human and hominoid remains, and artificial features and structures.
Contractor	a person or company engaged by the principal to carry out all or any part of the work involved in the undertaking of the proposed project.
Corrective action	Action taken to correct a detected non-conformity
Cumulative Impact	The impact of an activity that in itself may not be significant, but may become significant when added to existing and reasonably foreseeable impacts eventuating from similar or diverse activities or undertakings in the area.
Direct Impacts	Impacts that are caused directly by the activity and generally occur at the same time and at the place of the activity (e.g. noise generated by blasting operations on the site of the activity). These impacts are usually associated with the construction, operation or maintenance of an activity and are generally obvious and quantifiable.
Environment	Organization which its activity is prigged inside weather, water, land, natural resources, plant group (flora), animal group human including ambient these relations.
Environment size	Element which interact with environment and actions, products or services of organization.
Environment effect	Positive or negative all type of changes which appear by services, product, and action of organization partly or whole in environment.
Environmental Impact	An action or series of actions that have an effect on the environment.

Environmental Impact Assessment	Environmental Impact Assessment (EIA), as defined in the NEMA EIA Regulations and in relation to an application to which basic assessment must be applied, means the process of collecting, organising, analysing, interpreting and communicating information that is relevant to the consideration of that application.
Environmental Management Programme	A Programme that organises and co-ordinates mitigation, rehabilitation and monitoring measures in order to guide the planning and implementation of a proposal and its on-going maintenance and operation after implementation.
Environmental management system	A tool that systemizes the way an organization goes about its environmental business and demand yearly improvements on targets set by the company
Environment policy	Organization declaration which was done to explain intentions and principles, about general environment performance and to provide frame for actions, environment aim and objectives.
Indirect Impact	Indirect or induced changes that may occur as a result of the activity (e.g. the reduction of water in a stream that supply water to a reservoir that supply water to the activity). These types of impacts include all the potential impacts that do not manifest immediately when the activity is undertaken or which occur at a different place as a result of the activity.
Interested and affected Parties	Individuals or groups concerned with or affected by an activity and its consequences. These include the authorities, local communities, investors, work force, consumers, environmental interest groups and the general public.
No-Go alternative	The 'no-go' alternative is the option of not undertaking the proposed activity or any of its alternatives. The 'no-go' alternative also provides the baseline against which the impacts of other alternatives should be compared.
Prevention of pollution:	Is to prevent, to decrease, to control pollution. Again work should be done, other operation dependency should be done, operation should have changes, control mechanism and resources should be used efficiency, including material substitution all type operation and practices should be applied, material or product should be used.
Significant Impact	An impact that by its magnitude, duration, intensity or probability of occurrence may have a notable effect on one or more aspects of the environment.

Sustainable development	Development that meet the needs of the present without compromising the ability of future generations to meet their own needs

ACRONYMS	
ASGISA	Accelerated and Shared Growth Initiative of South Africa
BA	Basic Assessment
BAR	Basic Assessment Report
BR	Barely reversible
BID	Background Information Document
CARA	Conservation of Agricultural Resources Act
CBA	Critical Biodiversity Area
CL	Complete Loss
CR	Completely reversible
DEA	Department of Environmental Affairs
DWS	Department of Water and Sanitation
EAP	Environmental Assessment Practitioner

ECO	Environment Control Officer
EIA	Environmental Impact Assessment
EMPr	Environmental Management Programme
IEM	Integrated Environmental Management
IR	Irreversible
I&APS	Interested and Affected Parties
GNR	General Notice Regulation
MDARDLEA	Mpumalanga Department of Agricultural, Rural Development, Land and Environmental Affairs
ML	Marginal Loss
NEMA	National Environmental Management Act
NL	No Loss
OHSA	Occupational Health and Safety Act
PL	Partial Reversible
SL	Significant Loss
TGCCA	Tshikovha Green and Climate Change Advocates

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1. DETAILS OF THE APPLICANT AND ENVIRONMENTAL ASSESSMENT PRACTITIONERS

1.1 Applicant Details

Company Name	Izazi investments (Pty)Ltd.
Responsible person:	Joe Lukhele.
Physical address:	Mpumalanga, Middleburg Farm 219 JS Portion 20
Postal Address:	Elandspruit R555 Old Middleburg Road 1050
Postal Code:	1050
Telephone Number	013 656 4330
Mobile Number:	079 525 0778
E-mail Address:	joe@izazimining.co.za

1.2 EAP Details

Table 1: EAP Details

Tshikovha Green and Climate Change Advocates (Pty) Ltd		
Name of the Practitioner:	Caiphus Mukwevho	Seani Nevondo
Email:	Caiphus.mukwevho@tshikovha.co.za	Seani.nevondo@tshikovha.co.za
Cell:	082 269 4524	072 232 1528
Fax:	086 600 1016	086 600 1016
Tel:	012 111 1912	012 111 1912

1.3 Expertise of the EAP

i) Caiphus Mukwevho

Mr Mukwevho is an Environmental Assessment Practitioner under Tshikovha Green and Climate Change Advocates (Pty) Ltd. He obtained Bachelor of Environmental Science and Honours in Ecology and Resource Management both from the University of Venda, he boost certificate in Geographic information System (GIS) and Environmental Management System (ISO 14001:2004). He has undertaken Environmental Impact Assessment (EIA) for various projects including; prospecting and mining rights (Muila, Limpopo Province), Borrow Pit closure for Road Agency Limpopo(RAL) in Ga-Ntata, Limpopo Province, development of a filling station (Greenside, North West Province), development of filling station (Matatshe, Limpopo Province), Mining Rights for Double Ring Minerals (Dwaalboom, Limpopo Province), Mining prospecting rights (Barkly West Northern Cape), feasibility studies for housing development agency (Klerksdorp, North West Province) Environmental Management Plan for development of Fuel Storage facility and warehouse in Middleburg (Steve Local Municipality), stakeholder engagement. Due diligence for spring lake (Kwazulu Natal Province), Landfill audit (Steenbok Nkomazi Municipality Mpumalanga Province), Mine Environmental and water use Audit (Assen Iron ore Mine North West Province), Geotechnical investigations for a quarry mine (Kwa Mkhuhlu Mpumalanga Province).

ii) Nevondo Seani

Ms Nevondo is an Environmental Assessment Practitioner under Tshikovha Green and Climate Change Advocates (Pty) Ltd. She holds a National Diploma of Environmental Science and is currently busy with her Honours in Geology and Environmental management studies at the Tshwane University of Technology. She has enhanced her water resource knowledge through her participation and certification as an in stream and water resource activist, and a member of the Inkomati Wetland Forum. She holds the expertise of the evaluation of Basic Assessment reports (Bar), Environmental Impact Assessment reports (EIAr), Scoping reports, Mining projects and Environmental Management Plans (EMP). She specialises in Water Use Licence authorisations amongst other duties. Some of the evaluated reports include: A hayford siding Application (Anglo American), Water quality assessment report for a water bottling company (Life in a bottle (Pty) Ltd, Scoping report for a proposed dam development (AGES group), Environmental Impact Assessment for the development of a mixed township and associated infrastructure (Bubush Property Developers (Pty) Ltd), Basic Assessment report for a Feedlot development (Department of Rural Development and Lang Reform), Scoping Report for a road alignment (Mafube coal mining (Pty) Ltd), Basic Assessment reports for Powerlines (Eskom Holdings SOC Ltd), Environmental Impact Assessment report for road upgrade (Exxaro), Integrated Waste Water Management Plan for a mall construction (Masingita Mall) as well as multiple Prospecting and Mining rights applications (Singo consulting).

2. PROJECT INTRODUCTION

2.1 Introduction

Izazi Investments (Pty) Ltd intends to establish storage facilities for mining machinery, offices and parking area on Portion 20 of Elandspruit Farm 219 JS along R555 Old Middleburg Road, Steve Tshwete Local Municipality under the jurisdiction of Nkangala District Municipality, Mpumalanga Province**.** Tshikovha Green and Climate Change Advocates (Pty) Ltd has been appointed by Izazi Investments to conduct Environmental Impact Assessment for the proposed development and apply for environmental authorisation from the Mpumalanga Department of Agricultural, Rural Development, Land and Environmental Affairs (MDARDLEA).

The proposed development will be undertaken on land that was previously used for livestock, subsistence farming and home to the previous land owners. The area is currently used as office premises for Izazi Investments. The proposed location is approximately 8 ha; the proposed development is expected to take up-to 6 months to complete.

Izazi Investments (Pty) Ltd appointed Tshikovha Green and Climate Change Advocates to conduct a comprehensive and independent Environmental Impact Assessment in accordance with the National Environmental Management Act (NEMA) regulations for the proposed development. The aim of this process is to identify the potential environmental impacts and propose mitigation measures for the proposed development.

The proposed project will entail the following:

- Construction of two storage facilities for mining machinery (one facility estimated to cover 1540m^2 and another to cover approximately 1000m^2)
- Non-technical staff office to cover approximately (900m^2) and,
- Parking area to cover approximately (1000m^2)

In accordance with the EIA Regulations of 2014 as amended in 2017, the proposed development triggers Activity 28 of Listing Notice 1, GNR 327. The triggered listed activity requires the proposed development to undergo a Basic Assessment Process in order to receive an Environmental Authorization from the competent authority Mpumalanga Department of Agriculture, Rural Development, Land and Environmental Affairs (MDARDLEA).

Table 2: Description of the property

Province	Mpumalanga Province
District Municipality	Nkangala District Municipality
Local Municipality	Steve Tshwete Local Municipality

Farm name and number	Elandspruit 219 JS
Portion number	20
21 digit Surveyor General Code	T0JS00000000029100000

2.2 Extent of the site:

The proposed project site location is approximately 8ha, on portion 20 of the farm Elandspruit 219 JS.

2.3 Compatibility of proposed land use

The study area is characterized by red to yellow apedal soils. These are moderately deep (average 500-1200 mm) structure less soils. The soils are associated with low to moderate rainfall (300-700 mm per annum) and have a high fertility status but is however not suitable for agriculture due to the relative shallowness of the soil profiles. The study area falls within the modified old lands that can no longer support agricultural activities. The proposed site is in proximity to industrial activities including mining, service station and power plant. The proposed development is best suited in this location as aligns with current land uses surrounding the study area.

2.4 Site access

The proposed site can be accessed using R555 Middleburg road, as shown in **Error! Reference source not found.** from the R555 road there is a gravel road that is on the north west of the study area. The gravel road is used as access to the properties on the south of the study area. The proposed development will not need a new access road.

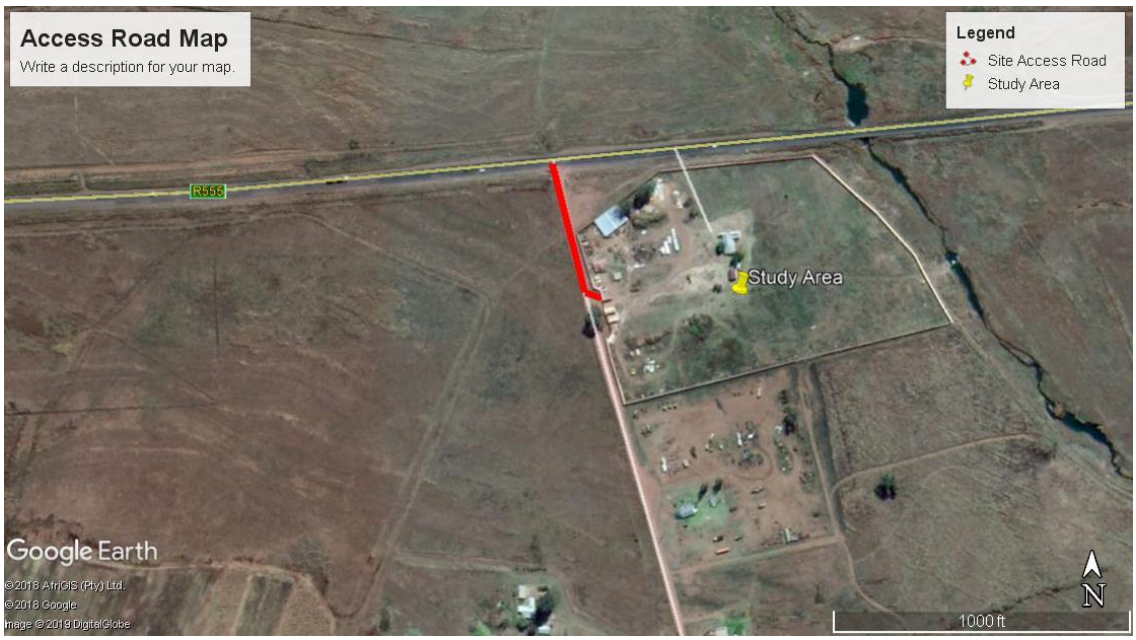

Figure 1: Site Access Road Map

2.5 Locality

The proposed development is located in Emalahleni on portion 20 of the farm Elandspruit 219 JS, within Steve Tshwete Local Municipality, under the jurisdiction of Nkangala District Municipality, Mpumalanga Province. The proposed construction site is within a farm covering a total area of 8ha. The proposed site can be accessed using R555 old Middleburg road; it is located approximately 10km from Middelburg, 10km from Witbank and 32km away from Duvha Power Station. Central Coordinates to the proposed site are: 25^0 49' 12" S 29^0 20' 5" E.

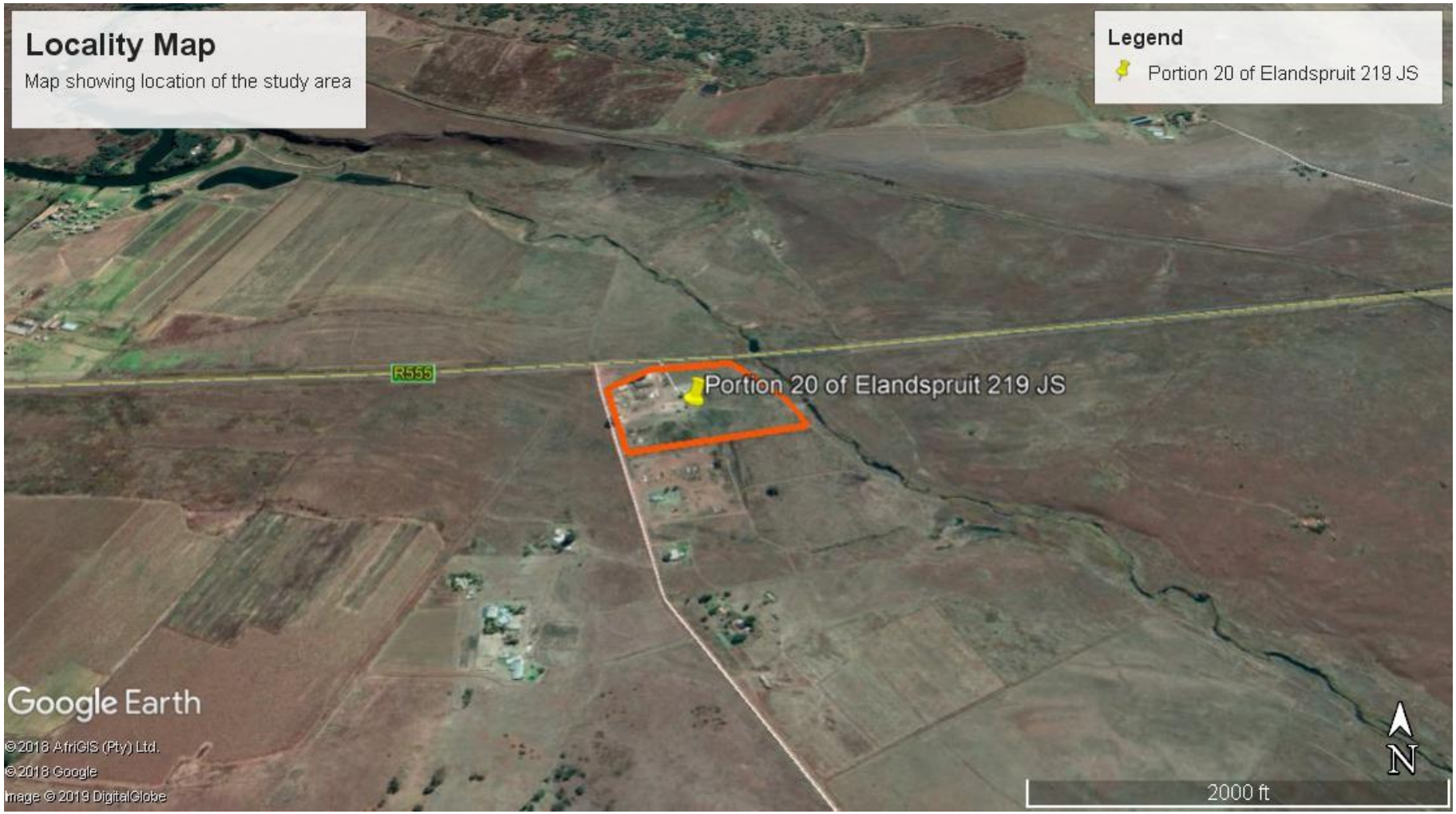

Figure 2: Locality Map

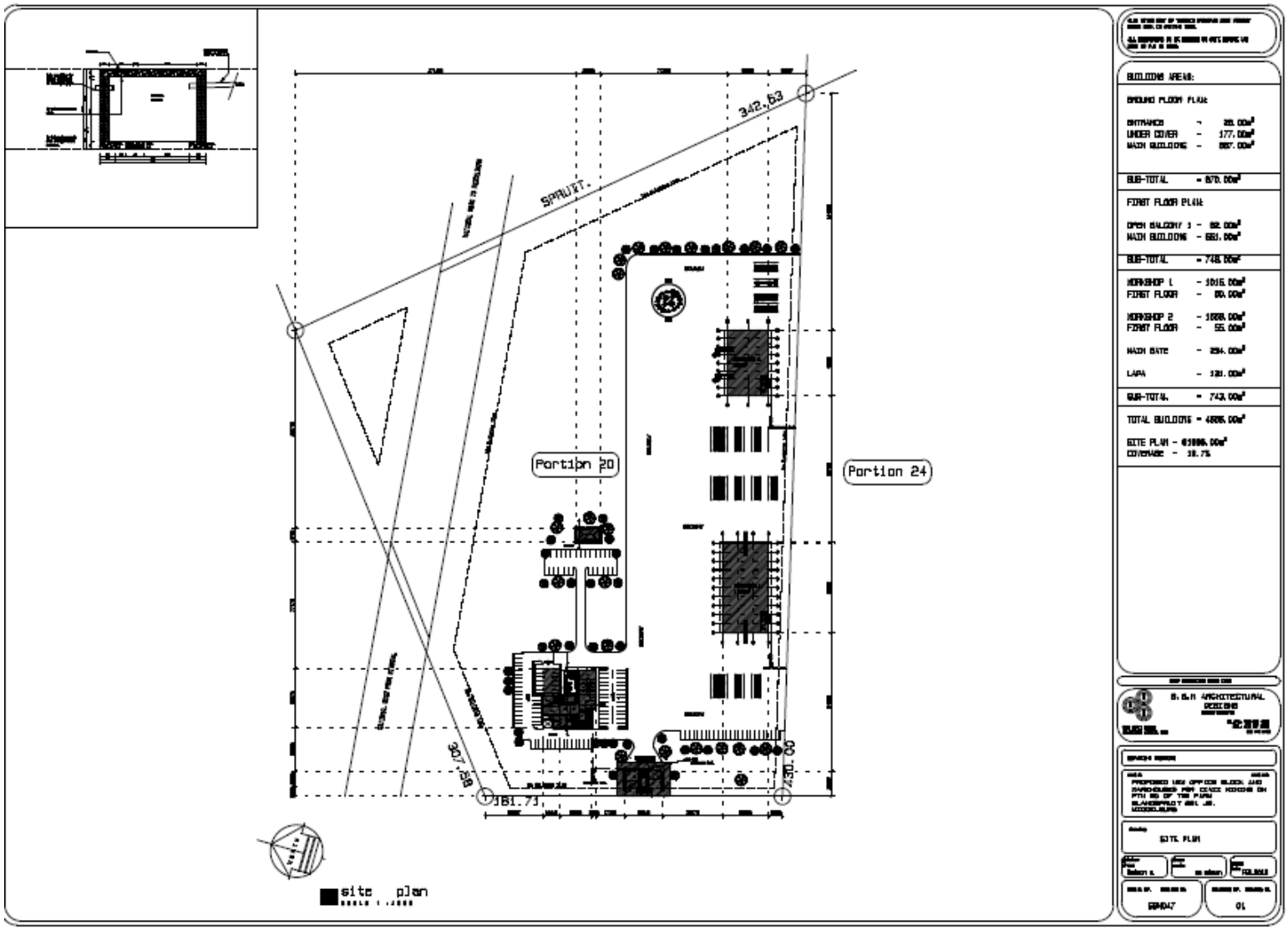

Figure 3: Layout Plan

3. DESCRIPTION OF THE SCOPE OF THE PROPOSED ACTIVITY

3.1 All Relevant Listed Activities Triggered

Triggered activities in terms of the EIA Regulations promulgated in terms of the NEMA, Act No 107 of 1998, as amended on April 2017

Table 3: Listed Activities Triggered by the development

Activity	Description
GNR 327, Listing Notice 1, Activity 28	Residential, mixed, retail, commercial, industrial or institutional developments where such land was used for agriculture, game farming, equestrian purposes or afforestation on or after 01 April 1998 and where such development: (i) will occur inside an urban area, where the total land to be developed is bigger than 5 hectares; or (ii) will occur outside an urban area, where the total land to be developed is bigger than 1 hectare; excluding where such land has already been developed for residential, mixed, retail, commercial, industrial or institutional purposes.
Applicability to the proposed development	
The proposed establishment of storage facilities for mining machinery, offices and parking area will change the current land use of the proposed site from agriculture to industrial land use zone. The proposed site is outside urban area and covers an area of more than 1 hectare as such Listing notice 1, activity no 28 is triggered.	

On the basis of the above listed activities, a Basic Assessment process is undertaken in order to obtain an Environmental Authorisation (in terms of the National Environmental Management Act (Act No. 107 of 1998) prior to the commencement of the construction and operation of the proposed project.

3.2 The Basic Assessment Process

The required Basic Assessment (BA) process was conducted in 3 phases namely:

Phase 1: **Project inception and preliminary Public Participation Process**; this phase included conducting a site inspection, public participation which included the Identification of stakeholders, notification of the public of the formal process, distribution of a Background Information Document (BID), placement of newspaper advert and site notices and gathering concerns, suggestions and comments from I&APs.

Phase 2: **Basic Assessment Report Compilation,** Phase 2 of the Public Participation Process; include the identification, description and assessment of potential impacts/issues associated with the proposed project through desktop studies and incorporation of findings from site investigations as well as recommendations on mitigation measures to be adhered to. Extensive consultation with stakeholders and I&APs will be undertaken including a public meeting, including distribution of Draft Basic Assessment Report and Environmental Management Programme for public review and comments. The DBAR and EMPr will be distributed from the 1st of February 2019 to identified stakeholders including I&APs.

Phase 3: **Authority review and response**: The phase of submission of the Final Basic Assessment Report to MDARDLEA for review and decision-making**.** Table 4 outlines the Basic Assessment process.

Table 4: Basic Assessment Process

PHASE	TASKS	TIMEFRAME
Application	Submit application and supporting documents (with application fee)	10 DAYS
	Receive acknowledgment of receipt of application (within 10 days)	
BAR	Submit Draft Basic Assessment Report (BAR) for Public Review (at least 30 days)	90 DAYS
	Submit Final BAR to Authorities that reflects incorporation of comments received (within 90 days after submitting application)	
Environmental Authorization	Authorities to grant or refuse environmental authorization (within 107 days of receiving BAR)	107 DAYS
	Applicant to notify IAPs of EA (within 14 days)0	14 DAYS

4. DESCRIPTION OF THE POLICY AND LEGISLATIVE CONTEXT

This section provides an overview of the governing legislation identified which may relate to the proposed project. A summary of the applicable legislation is provided in Table 5 The primary legal requirement for this project stems from the need for an Environmental Authorization to be granted by the competent authorities, which is the (MDARDLEA), in accordance with the requirements of both the NEMA and the EIA Regulations. In addition, there are numerous other pieces of legislation governed by different acts, regulations, standards and guidelines on, national, provincial and local level, which should be considered in order to assess the potential applicability of these for the proposed activity.

Table 5: Applicable Legislation and guidelines overview

APPLICABLE LEGISLATION AND GUIDELINES	REFERENCE WHERE APPLIED
(a description of the policy and legislative context within which the development is proposed including an identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks and instruments that are applicable to this activity and are to be considered in the assessment process)	
National Legislation / Policy / Plans / Programs	
Constitution of the Republic of South Africa (108/1996) The constitution of any country is the supreme law of that country. The Bill of Rights in chapter 2 section 24 of the Constitution of South Africa Act (Act 108 of 1996) makes provisions for environmental issues and declares 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"	The EIA is conducted to fulfill the requirement of the Bill of Rights throughout the EIA process

National Environmental Management Act (107/1998) and the EIA Regulations, 2014 (amended 2017) The NEMA EIA Regulations (2014), which replaced the EIA Regulations (2010), were promulgated and came into effect on 04 December 2014. The Amendments to the EIA Regulations, 2014, published in Government Notice R326 in Government Gazette No. 40772 came into effect on 7 April 2017. These Regulations 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 authorizations for the commencement of activities, subjected to environmental impact assessment, in order to avoid or mitigate detrimental impacts on the environment, and to optimize positive environmental impacts, and for matters pertaining thereto.	National Environmental Management Act (107/1998) and the EIA Regulations, 2014 (amended 2017) The NEMA (1998) requires that a project of this nature must undergo a Basic Assessment and an Environmental Management Programmed must also be compiled. Regulations applicable to this project include the following: ➢ EIA Regulations R.326 (2014, amended 2017) in terms of NEMA. ➢ Listing Notice 1: R.327 (2014, amended 2017) in terms of NEMA.
National Heritage Resources Act, 1999 (25/1999): Heritage resources have lasting value in their own right and provide evidence of the origins of South African society and, as they are valuable, finite, non-renewable and irreplaceable, they must be carefully managed to ensure their survival. Every generation has a moral responsibility to act as trustee of the national heritage for succeeding generations and the State has an obligation to manage heritage resources in the interest of all South Africans. The Act provides for four categories of protected areas: • National and provincial heritage sites; • Protected areas; • Heritage areas; and • Archaeological and paleontological sites.	It is expected that the proposed industrial development that: ➢ If during the duration of the project, any person employed by the developer, one of its subsidiaries, contractors and sub-contractors, or service provider, finds any artefact of cultural significance or heritage site, this person must cease work at the site of the find and report this find to their immediate supervisor, and through their supervisor to the senior on-site manager. ➢ It is the responsibility of the senior on-site Manager to make an initial assessment of the extent of the find, and confirm the extent of the work stoppage in that area.

The Act stipulates that any person who intends to undertake a development "must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with detail regarding the location, nature and extent of the proposed development". The heritage resources authority must, within 14 days of receiving notification, request the submission of an impact assessment report if there is reason to believe that heritage resources will be affected by such development. The National Heritage Resources Act aims to promote good management of cultural heritage resources and encourages the nurturing and conservation of cultural legacy so that it may be bestowed to future generations.	➢ The senior on-site Manager will inform the ECO of the findings and its immediate impact on the operations. The ECO will then contact a professional archaeologist for an assessment of the findings who will then notify the SAHRA.
Integrated Environmental Management Information Guidelines series: This series of guidelines was published by the Department of Environmental Affairs (DEA), and refers to various environmental aspects. Applicable guidelines in the series include: • Guidelines 5: Companion to NEMA EIA Regulations of 2010 • Guideline 7: Public Participation. • Guideline 9: Need and desirability. Additional guidelines published in terms of the NEMA EIA Regulations, in particular: ➢ Guideline 3: General Guide to EIA Regulations, 2006 ➢ Guideline 4: Public Participation in support of the EIA Regulations, 2006 ➢ Guideline 5: Assessment of alternatives and impacts in support of the EIA Regulations, 200 Occupational Health and Safety Act (85/1993):	The guidelines are used throughout the Basic Assessment Report process

Occupational Health and Safety Act (85/1993): The OHS Act provides for the health and safety of persons at work and for the health and safety of persons indirectly associated with the daily operation of the proposed plant; the protection of persons other than persons at work, against hazards to health and safety arising out of or in connection with the activities of persons at work.	While no permitting or licensing requirements arise from this legislation, this Act will find application during the construction and operation of the proposed development (viz. operation). Health and Safety precautions measures must be put in place for the employees at the base station and the general public (e.g. protection of workers on site) The proposed development site and crew are to be managed in strict accordance with the Occupational Health and Safety Act (Act No. 85 of 1993) [OHSA] and the National Building Regulations.
Model Noise Regulations published under the Environment Conservation Act (Act No 73 of 1989) The Regulations provides a number of prohibitions of noise nuisance conditions one which states: "No person shall – erect a building or structure on residential premises or allow it to be erected there if this may cause a noise or nuisance".	The proposed project will produce minimal amount of noise during the construction phase.
National Building Regulations and Building Standards Act, 1997 (Act No. 103 of 1997) Section 7 of the National Building Standards and Building Regulations Act states that "council must be satisfied that buildings or structures are not dangerous to life or property".	The proposed development is in line with the Act as the structure is not deemed dangerous to life or property.
National Development Plan 2030 The National Development Plan (NDP) offers a long-term perspective. It defines a desired destination and identifies the role different sectors of society need to play in reaching that goal.	The proposed development must be aligned with the NDP.

As a long-term strategic plan, it serves four broad objectives to provide overarching goals for what the nation want to achieve by 2030, Building consensus on the key obstacles to us achieving these goals and what needs to be done to overcome those obstacles, providing a shared long-term strategic framework within which more detailed planning can take place in order to advance the long-term goals set out in the NDP and lastly to create a basis for making choices about how best to use limited resources. The Plan aims to ensure that all South Africans attain a decent standard of living through the elimination of poverty and reduction of inequality.	
National Water Act (No 36 of 1998) The purpose of this act is to ensure that the nation's water resources are protected, used, developed, conserved, managed and controlled in ways which takes into account amongst other factors: ➢ Meeting the basic human needs of present and future generations, ➢ Promoting equitable access to water; ➢ Redressing the results of past racial and gender discrimination; ➢ Promoting the efficient, sustainable and beneficial use of water in the public interest; **Facilitating social and economic development;** ➢ Providing for growing demand for water; ➢ Protecting aquatic and associated ecosystems and their biological diversity; ➢ Reducing and preventing pollution and degradation of water resources; ➢ Meeting international obligations; ➢ Promoting dam safety;	The proposed industrial development is located approximately 100m from a non-perennial stream, which is a tributary of the Olifants river. The project triggers section 21 (c) and (i) water uses and an application will be launched with the Department of Water and Sanitation for authorization.

Managing floods and drought.	
National Forests Act (No 84 of 1998), as amended by the Forestry Laws Amendment Act (No 35 of 2005) According to the National Forest Act (NFA; Act No. 122 of 1984), the Minister may declare a tree, group of trees, woodland or a species of trees as protected. The prohibitions provide that: *no person may cut, damage, disturb, destroy or remove any protected tree, or collect, remove, transport, export, purchase, sell, donate or in any other manner acquire or dispose of any protected tree, except under a license granted by the Minister*'. In essence the National Forests Act (NFA) prohibits the destruction of indigenous trees in any natural forest without a license.	The clearance of vegetation disrupts habitats and ecosystems which impacts biodiversity, therefore conditions of this act should be adhered to.
Conservation of Agricultural Resources Act (No 43 of 1983) (CARA)	No protected trees (if identified on site) will be cut, damaged or disturbed without a license.

The Conservation of Agricultural Resources Act (CARA) is the chief statute that deals with agricultural resources. The objective of the CARA is to provide for the conservation of the natural agricultural resources of South Africa by the maintenance of the production potential of land. In order to maintain production potential of land, the CARA provides for the following mechanisms: • Combating and prevention of erosion, and weakening and destruction of water sources; • Protection of vegetation; and Combating of weeds and invader plants. • The CARA's scope of application does not extend to land situated in "urban areas" or to any land situated within an area declared as a mountain catchment area. It must however be noted that Section 2(2) (a) of the CARA, which provides for the control of weeds and invader plants, does apply to land in urban areas. In the CARA regulations the Minister prescribes control measures to which all land users must comply, in respect of a number of matters, including: • The cultivation of virgin soil; • The protection of cultivated land; • The utilization and protection of the veld vegetation; • Control of weed and invader plants; • The prevention and control of veld fires; and • The restoration and reclamation of eroded land. • Local government does not have primary powers in authorizing any of the above-mentioned measures unless it may be assigned or authorized to do so. Where a local authority is a land user, it will have to comply with the CARA provisions and the CARA regulations in respect of the use of its land.	

Mpumalanga Biodiversity Conservation/Sector Plan (2014) It is a spatial tool (maps) with land-use guidelines to inform permissible land-uses that support biodiversity pattern and ecological processes that also allow for species to adapt to climate change. • Maps identify flexibility in land-use options. • Specifically it is used: • Land-use decision support tool (to assist with evaluating EIAs, inform SDFs) - Reducing loss. • Inform priority areas for protected area expansion - Protect. • Prioritize management interventions (e.g. alien plant control, wetland rehabilitation, monitoring, etc.)- Restore.	The EIA for the proposed development will assess the potential environmental impacts with guidance of the proposed location and the Mpumalanga Biodiversity Sector Plan (2014).
The Mpumalanga Rural Development Programme (MRDP): • Sustainability: improve viable and sustainable natural resource utilization. • Outreach: upgrade and broaden the facilitation of government services to the impoverished. Innovation: develop innovative concepts for public service delivery	This plan must be adhered to during the planning phase to ensure that the development is sited in an area that is not environmentally sensitive and where the land use is permissible.
Steve Tshwete Local Municipality Spatial Development Framework (2017)	The proposed project entails the rezoning of portion 20 of the farm Elandspruit 291 JS, from “Agriculture” to “Industrial 1”. According to the SDF the proposed location is currently zoned an agricultural land.

5. MOTIVATION FOR THE NEED AND DESIRABILITY FOR THE PROPOSED DEVELOPMENT

From exploration to extraction, there is typically a large surge in employment in the local area as a new mine is brought online. Mpumalanga accounts for 83% of South Africa's coal production, with the Witbank area being the centre of the industry. Middelburg is located about 26 KM from Witbank and forms part of the Witbank, Highveld, Eastern Transvaal, South Rand and KaNgwane coalfields. A number of significant coal seams possessing diverse characteristics are present and have a variety of potential markets in power generation, export, domestic, metallurgical, liquefaction and chemical sectors. This is the most important coal-producing area in South Africa and supports some 65 collieries.

Government's commitment is to halve poverty and reduce unemployment to below 15%. Small businesses have been identified as potential powerhouses with the ability to drive South Africa's economic growth. The National Small Business Act and the Accelerated and Shared Growth Initiative of South Africa (AsgiSA) are some of the strategies developed with the objective of bridging the gap between the first and second economies and addressing the deep rooted inequalities that exist therein. The goals of government strategy are, broadly speaking, to: curb unemployment and facilitate job creation, alleviate poverty and ensure redistribution of wealth, offering financial and non-financial support and accelerate formation of new businesses and ensuring sustainability of existing ones. The local municipalities can grow economies by creating new enterprises, attracting investment from outside and growing existing businesses. In this instance, Steve Tshwete Local Municipality can assist the developer by supporting the sustainable growth of an existing business.

The proposed development is aimed at providing mining machinery and convenience by location near the markets, the proposed development location is near the mining houses, industrial activities and electricity power plant. The desired market for the proposed development will need the mining machinery at convenience and location of the service is important. The R555 old Middelburg road is path way for mining and construction vehicles and machinery making the proposed development location convenient for the desired market.

If ever the construction of the storage (workshop) facilities does not take place, a vast number of machinery will be placed and maintained on the environment, leading to contamination of soil and the environment as a whole.

6. DESCRIPTION OF THE PROCESS FOLLOWED TO REACH THE PROPOSED PREFERRED ACTIVITY

6.1 Details of All Alternatives Considered

Alternatives' in relation to a proposed activity means different means of meeting the general purpose and requirement of the activity. The definition is given in terms of the NEMA Regulations, 2014 (as amended, 2017).

A number of alternatives were investigated during the EIA phase. Alternatives involve investigating alternative means of undertaking the project. Below are types or categories of alternatives identified and considered for the proposed project:

6.1.1 Location alternative

The location alternative for the proposed development was not assessed for the proposed development as the proponent has ownership of only portion 20 of Elandspruit 219 JS, which is the preferred location.

6.1.2 Type of activity alternative

The proposed project is on the south-eastern part of Middleburg, the main activities taking place near the proposed site are commercial Farming, agricultural activities, Electric-power stations and mining activities. The current activity within the proposed portion is agricultural, and it is in the process of rezoning into industrial land. The site was the only available portion for the storage of the mining machinery. It has been separated from other properties by a wall; this restricts any activity taking place within the proposed portion from affecting land owners near the site.

6.1.2.1 Design Alternative (Preferred)

The design of the proposed development (Storage Facility, offices and Parking area) was issued by engineers and approved as the only design feasible and convenient for the proposed development.

6.1.2.2 Technology alternatives

Technology, there is no technology needed for the proposed development.

6.1.2.3 Operational alternatives

There are no operational alternatives for the proposed project.

6.1.2.4 No-go option

Izazi Investment Company has been allocated by several mining companies to store equipment and unused machinery within the proposed storage facilities. The site already consist of heavy mining machinery that is regularly maintained and has been placed on a thin unreliable layer of concrete, currently a number of mines have their machinery placed in the same manner within their properties, this is ideally toxic to the environment. If ever the construction of the storage (workshop) facilities does not take place, a vast number of machinery will be placed and maintained on the environment, leading to contamination of soil and the environment as a whole.

The project will bring about the conservation of air, water, and soil through the Environmental management plan that has been designed for the protection, conservation and preservation of the environment, while taking into consideration the Environmental Protection Mitigation Hierarchy.

Below are some of the pictures that were taken onsite

Figure 4: Mining machines, placed on bare land

Figure 5: Present lines maintenance area

7. DETAILS OF THE PUBLIC PARTICIPATION PROCESS UNDERTAKEN

7.1 Objectives of the Public Participation Process (PPP)

The PPP has been designed to achieve the following objectives:

- To ensure that I&APs are well informed about the proposed project;

- To provide I&APs sufficient opportunity to engage and provide input and suggestions regarding the proposed project;
- To verify that stakeholder comments have been accurately recorded;
- To draw on local knowledge in the process of identifying environmental and social issues associated with the proposed project, and to involve I&APs in identifying ways in which these can be addressed; and
- To comply with legal requirements.

7.2 Phases of Public Participation

The PPP has been designed with three main phases of engagement, namely:

7.2.1 Basic Assessment phase

- Identification of stakeholders.
- Distribution of a Background Information Document (BID), placement of newspaper adverts and site notices;
- Conducting of Public Meeting
- Distribution of Draft BAR and EMPr
- Gathering concerns, suggestions and comments from I&APs.

7.2.2 Compilation of Public Participation Documents

- Background Information Document (BID) including the location and a description of the proposed project, the legislative processes that will be followed, and the consultation and registration process including contact details of the responsible person.
- Newspaper Advertisements: an advert was placed in Middelburg Observer Newspaper 1st February 2019. The advert included a brief project description, information about the required legislation, the decision-making authority, details of the appointed independent environmental consultant, information about and proposed project and information on the registration as an Interested and Affected Party (I&APs).
- Site Notices: Site notices were placed at various places around the project area and conspicuous public places on the 1st February 2019. The site notices contained a brief project description, information about the required legislation, the decision-making authority, details of the appointed independent environmental consultant, information on the registration as an Interested and Affected Party (I&APs).
- A Public Meeting will be announced in due time.
- Notification Letter: A letter was sent to stakeholders via email containing information about the proposed project, applicable legislation and decision-making authority and information on the registration as an Interested and Affected Party (I&APs).

- A Registration and Comment Sheet was provided for stakeholders to use for formal registration as I&APs or to submit comments.

7.2.3 Decision making phase

With completion of the authorisation process all registered IAPs will be notified of the decision made by the competent authority (Mpumalanga Department of Agriculture, Rural Development, Land and Environmental Affairs) and will be provided with details, if ever they want to appeal the decision.

7.3 Availability of the Draft Basic Assessment Report

This Draft Basic Assessment Report will be made available for public review from the (date) to the (date)2019.

7.4 Notification of MDARDLEA Decision

The MDARDLEA decision regarding the application and the opportunity to appeal the decision will be announced to the registered I&APs when the decision is issued by the MDARDLEA. The announcement will be made by email/fax or mailed letter.

7.5 Summary of the Issues raised by Interested and Affected Parties

The objective of this section is to provide a summary of the comments and issues raised and reaction to those responses. A draft Basic Assessment Report will be made available for public comment for a period of thirty (30) days, All Comments and issues raised by I&APs received will be attached on the final Basic assessment**.**

8. THE ENVIRONMENTAL ATTRIBUTES ASSOCIATED WITH THE RECEIVING ENVIRONMENT

8.1 Climate

The study area falls within the Highveld region of Mpumalanga, it is highly characterized by moderate to high climatic conditions. The study area is very dry and experiences highest and lowest temperatures compared to any other area in Mpumalanga Province. Temperatures within the study area range between 11 – 36^{0}C during summer season and 1 - 13^{0}C during winter season. The study area is exposed to sever frost and moderately watered climatic conditions with mean annual precipitation of ranging between 593mm and 689mm.

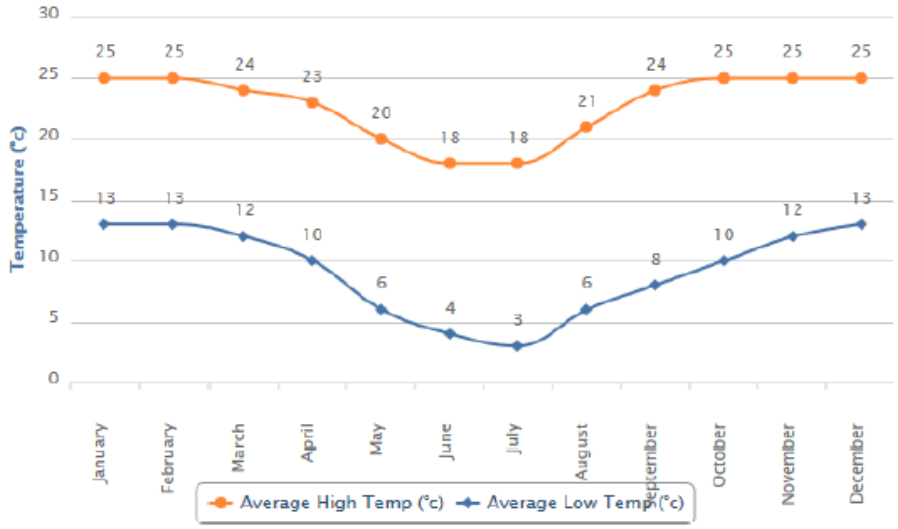

Figure 6: Graph showing annual average temperatures in Steve Tshwete Local Municipality

Rainfall within the study area is seasonal, the area receive more rainfall between October and March with temperatures ranging between 8 and 26^{0}C. The rainfall occurring within the study area occurs mostly with thunder showers for over a short period of time with high intensity.

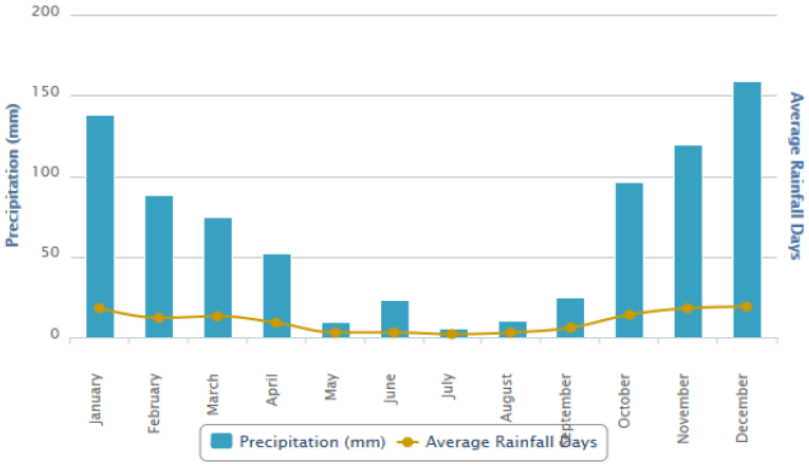

Figure 7: Average Rainfall

8.2 Topography and Landscape

8.2.1 Topography

The study area is situated within the Highveld region, with an average elevation of 1.550 meters (m) above sea level. The study area is relatively flat with a surrounding of small hills and undulating. It can be defined as a moderately undulating plain area as shown in topographical map below.

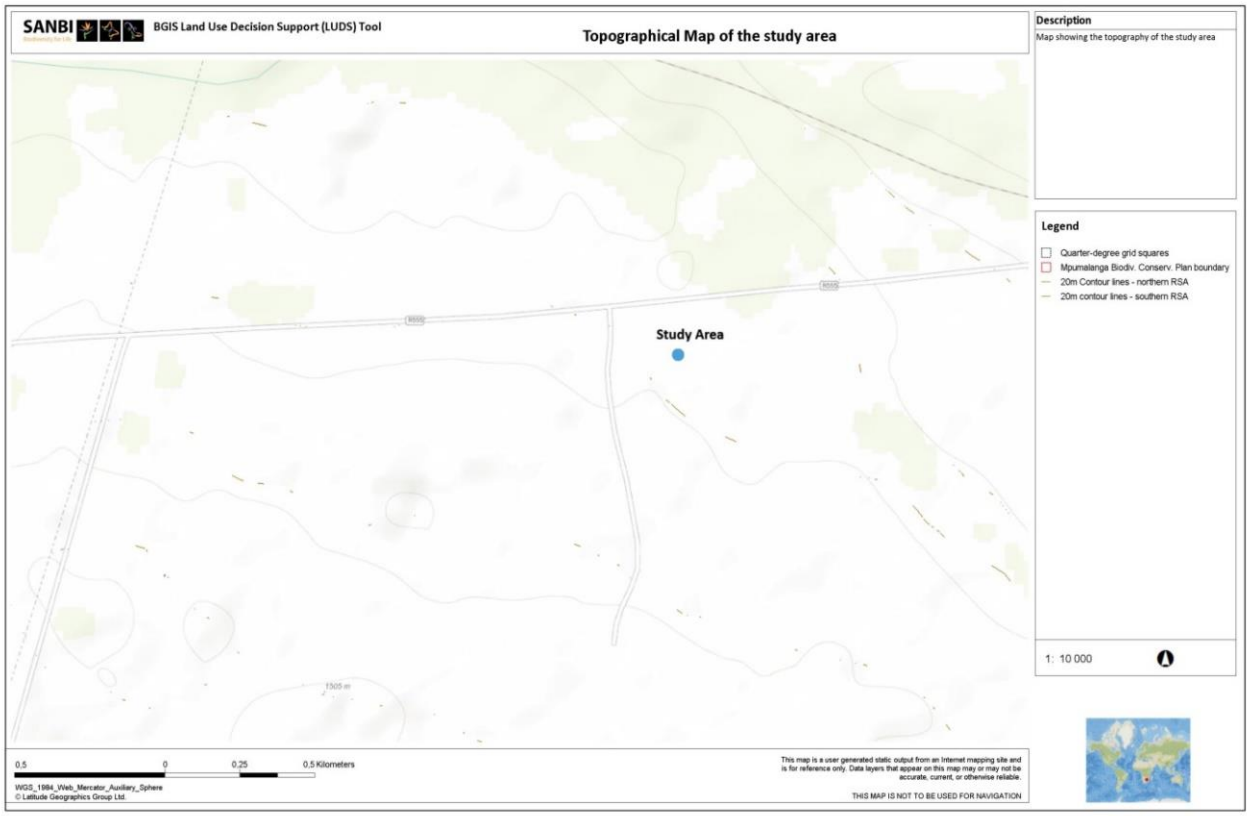

Figure 8: Topographical Map

8.2.2 Biodiversity

8.2.2.1 Fauna

The study area falls within other natural areas of Mpumalanga according to the (2014 Mpumalanga Biodiversity Sector Map). The study area highly variable landscape with extensive sloping plains and a series of ridges slightly elevated over undulating surrounding plains.

The vegetation is species-rich; it is rich in plant taxa and consists of sour grassland dominated by graminiods such as *Themeda, Heteropogon, Eragrostis* and *Elionurus*. The forbs composition is equally diverse and well represented by members of the *Asteraceae* family. However, this vegetation is poorly conserved and large areas occupied by it have been transformed by agriculture. The study area vegetation, although, it is highly transformed

as a result of previous land use including stock farming and developmental infrastructure, it is still intact. As a result of the disturbances, the area is invaded by several Alien Invasive Plant species.

8.2.2.2 Flora

The study area falls mainly within the Grassland Biome. The Grassland Biome is very important from a Red Data perspective, as it is the preferred habitat of several scares bird species. The study area however, has been transformed. Previous studies on this area shows that no frog or mammal species are in the critical conservation Red data list, of the 12 frog species results yielded, none are endemic to the area and all are classified as least concern. Similarly, the mammal species are classified as least concern. There is limited bird or avian activity observed, only Barn swallows (*Hirundo rustica*) and Yellow crowned bishop (*Euplectes afer*). No faunal (amphibians, reptiles or mammals) were encountered or observed on the proposed site. There is limited insect activity, however butterflies and dragonflies within the proposed site, none of which are considered to be of conservation importance.

8.2.2.3 Land Cover

The study area falls within the olds lands in the National Land cover Map, the study area has been modified by agricultural activities. It is surrounded by the cultivated lands in the west to the north of the study area, the south of the study area is also covered by the old lands, the east of the study area with mainly mining activities.

Figure 9: Land cover Map

8.3 Soils and Geology

The study area falls within the Witbank coalfield, which extends from Belfast in the north-east to Springs in the south-west. There are five coal seams present regionally. These coal seams are numbered from 5 (top) to 1 (bottom) and the distribution of these coal seams are affected by the topography of the pre-Karoo basement and the present day erosional surface. The area is characterised by consolidated sedimentary layers of the Karoo Supergroup. It consists mainly of sandstone, shale and coal beds of the Ecca Group (Vryheid Formation).

The study area is characterized by red to yellow apedal soils. These are moderately deep (average 500-1200 mm) structure less soils. The soils are associated with low to moderate rainfall (300-700 mm per annum) and have a high fertility status but is however not suitable for agriculture due to the relative shallowness of the soil profiles. The soils are specifically represented by prominent (in lower areas at the level of the dam) and less than prominent (above the rocky outcrop), C and R horizons. Notable is that the area has undergone serious erosion over many years and thus resulted in "in situ" contexts of weathered sand on rock, in such presenting a lithic soil type due to the sudden handover from soil to rock. The study area is characterized by shallow soil formations, largely as a result of the underlying and extruding geology. The area is also categorized as suitable for grazing, presenting suitable conditions for red grass and Eragrostis communities.

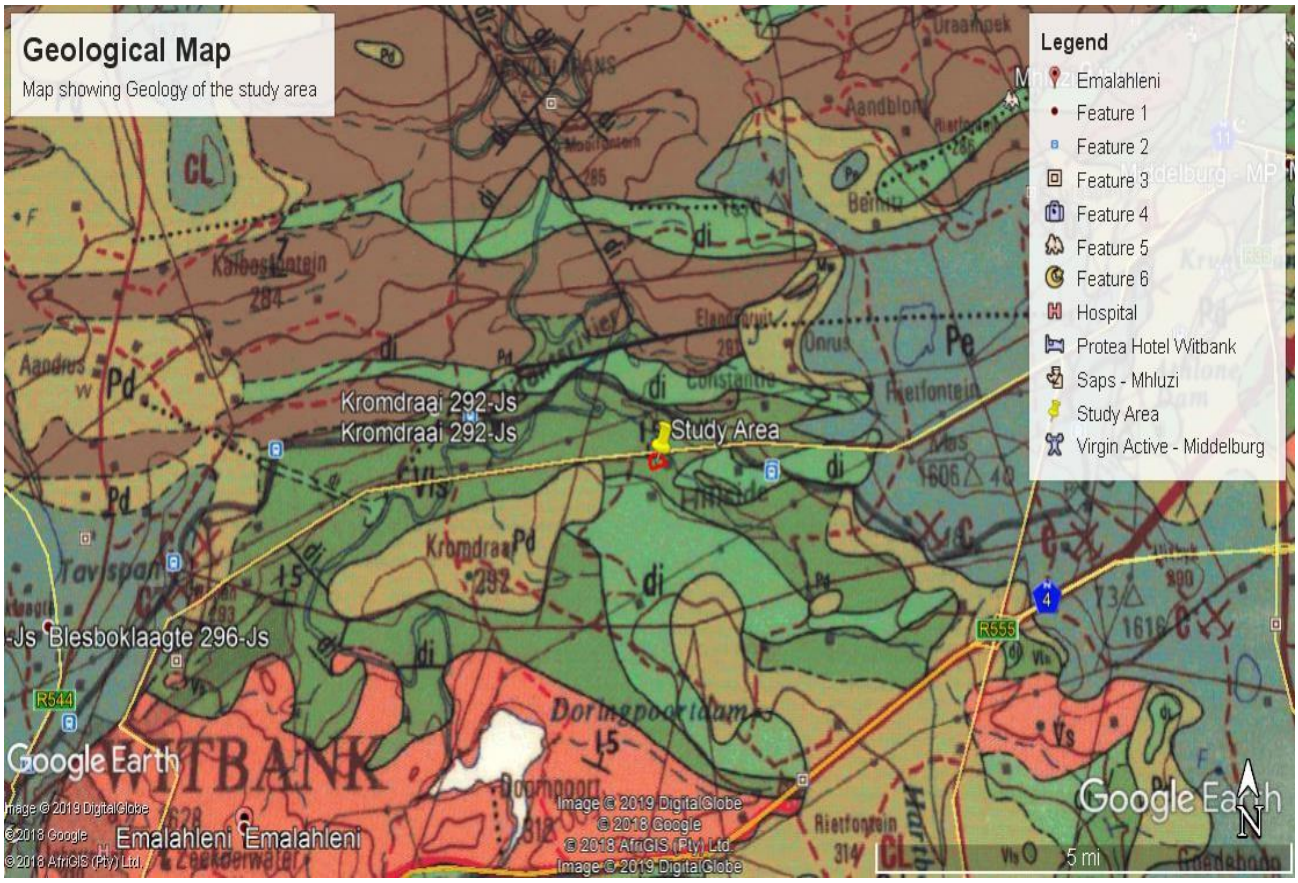

Figure 10: Geological Map

8.4 Vegetation

The vegetation is species-rich; it is rich in plant taxa and consists of sour grassland dominated by graminiods such as Themeda, Heteropogon, Eragrostis and Elionurus. The forbs composition is equally diverse and well represented by members of the Asteraceae family. However, this vegetation is poorly conserved and large areas occupied by it have been transformed by agriculture. The study area vegetation, although, it is highly transformed as a result of previous land use including stock farming and developmental infrastructure, it is still intact. As a result of the disturbances, the area is invaded by several Alien Invasive Plant species (as shown on pictures below).

Figure 11: Cactus (alien plant) species

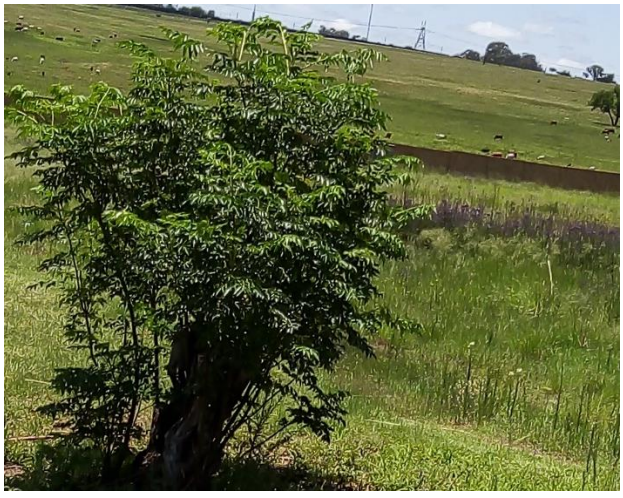

Figure 12: Shrubs and *Pampas graminoids* found on site

8.5 Wetlands and other Surface Water

According to the Freshwater CBA map of Mpumalanga the study area falls within the Other Natural Areas, situated approximately 1000m away from the CBA wetlands of Mpumalanga. The study area falls within the Olifants Water Management Area and the Upper Olifants Sub Water Management Area. The proposed development will not impact on the Olifants Water Management and any other water resources in proximity to the development.

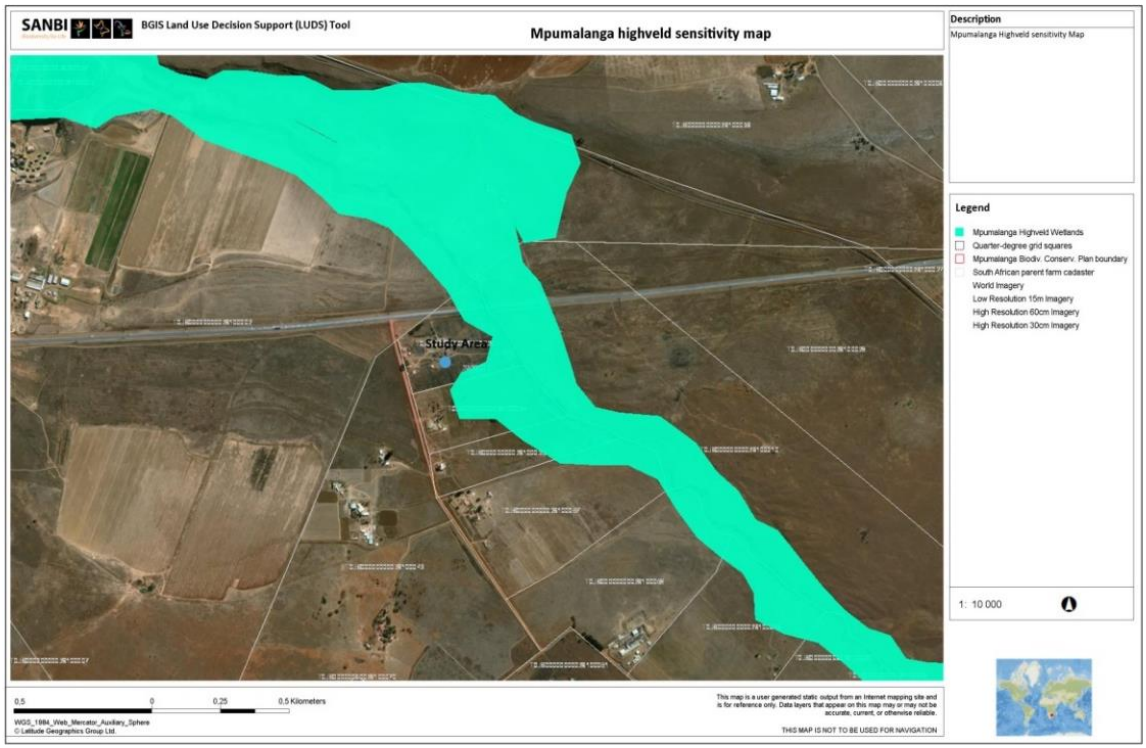

Figure 13: Highveld sensitivity Map

8.6 Local Socio-Economic Structures

8.6.1 Primary Economy

The economic value of mining cannot be ignored. Mining is well-established as the largest economic contributor in the municipality, also impacting the economic status of the province. Employment opportunities associated with the primary sector have resulted in an above average population growth in the last 10 years, increasing the levels of informal housing in the municipality.

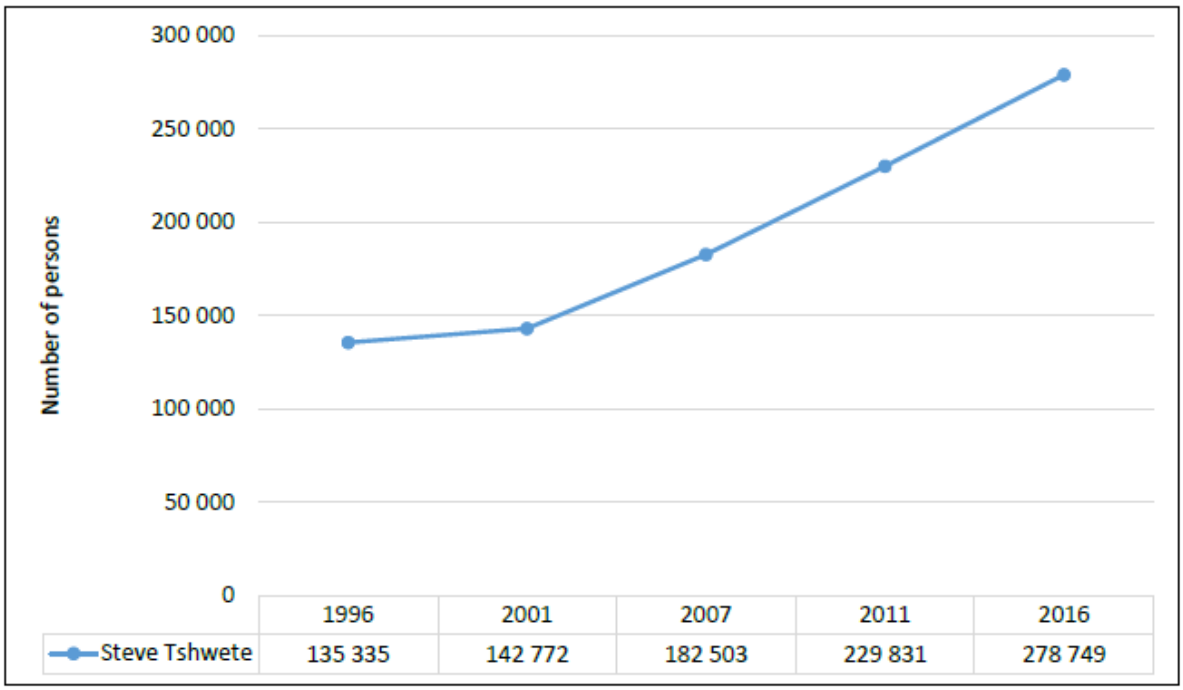

Figure 14: Population size of Steve Tshwete from: 1996, 2001, 2007, 2011 and 2016

8.6.2 Demographics

The Nkangala District Municipality is one of three District Municipalities in the Mpumalanga Province. It is principally rural, and is divided into five Local Municipalities. The district covers an area of 188,118 ha, and has an estimated population size of 1,226,500 people. Twenty-five percent (25%) of the population has had no formal schooling and only 1.9% has tertiary education.

The proposed site is within Steve Tshwete Local Municipality, which is situated at the centre of Nkangala District Municipality. The towns and settlements within Steve Tshwete include Middelburg, Mhluzi, Hendrina, Kwazamokuhle, Rietkuil, Pullenshope, Komati, Presidentsrus, Naledi, Lesedi, Kranspoort, Blinkpan, Koornfontein, Kwa-Makalane and Doornkop.

In 2016 the total population in Steve Tshwete was approximately was 278 749. Population grew by 4.4 %. Over the nine year period from 2007 to 2016, STLM's population increased by 9.7%. The municipality is now ranked the 7th largest population in the province and 19.3% of total population of Nkangala as per the 2016 community survey. This could be attributed to the number of industries that were opened within the 10 years (2001-2011) that attracted workers into Middelburg. It is estimated that the population number for the year 2030 will be at more or less 509 355 people given the historic population growth per annum which will put pressure on the infrastructure and basic service delivery and eventually also sustainable job creation in the long run.

8.7 Regional Socio-Economic Structures

8.7.1 Age and sex structure

From the pyramid below it can observed that a significant portion of the population growth is between 20 and 34 cohort as well as the infants (0-4 cohort). The most populous age group in 2016 was between ages 25 to 29. This could be the result of people migrating to the municipality seeking job opportunities as Steve Tshwete is considered to be one of the economic hubs of Mpumalanga and is often the preferable choice of destination by job seekers across Mpumalanga Province.

The Youth population (15-34 years) constitutes about 40.7% of the total population and the share of the male population in 2016 according to the CS was 52.4% and females 47.6%.

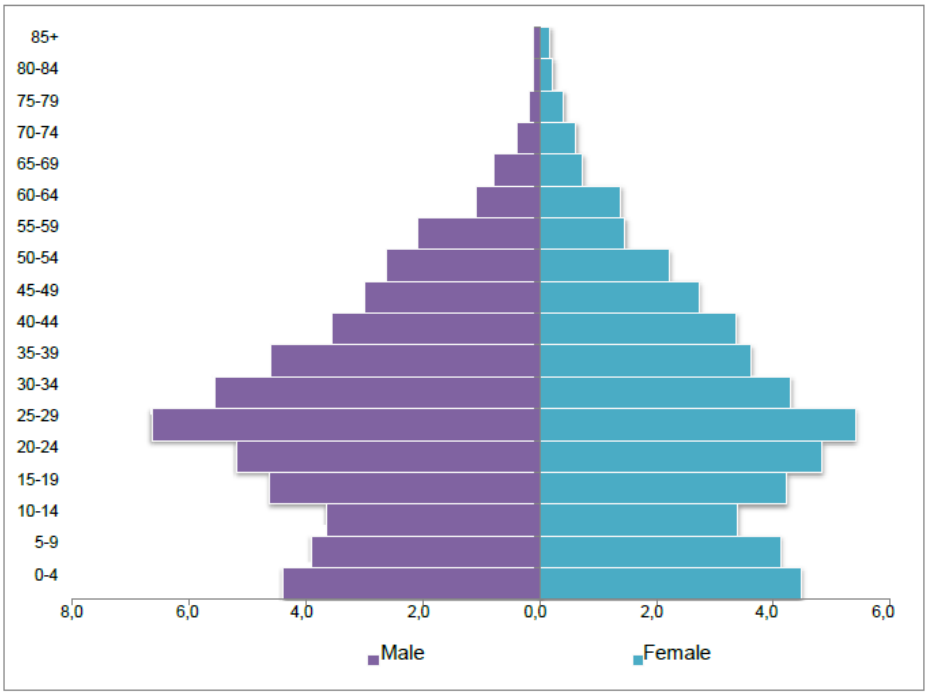

Figure 15: Population distribution by age and gender

8.7.2 Unemployment and Employment Levels

In the last ten years the municipality has made huge investments in infrastructure and housing development as a result of that, poverty and inequality has been decreasing steadily. However the current rate of unemployment and poverty are key factors contributing to high inequality levels.

Table 6: Poverty indicator in Steve Tshwete 2001, 2011 and 2016

According to the 2016 Community Survey of Stat SA, the poverty headcount of Steve Tshwete increased from

INDICATORS	2001	2011	2016
Poverty rate	31.6%	25.9%	21%
Number of people living in poverty	48 865	59 929	53 567
Poverty Gap (R million)	R54	R110	R575

4.3% in 2011 to 5.1% in 2016 which then made the municipality to be 4th lowest in the Province however the poverty intensity decreased slightly from 42.0% to 41.7% in the same period. In 2015, Steve Tshwete's share of population below the lower-bound poverty line was the 2nd lowest (favorable) among the municipal areas.

8.7.3 Local Municipality Economy

In terms of education, the majority of the populations of the municipality have some form of education with only 14.4% of the population having no schooling as depicted in the diagram below. According to the 2016 Community Survey, the population in Steve Tshwete aged 20+ completed grade 12, increased from 73 793 in 2011 to 97 943 (increase of 24 150) in 2016 which translate to an increase of 32.7% in the relevant period. Steve Tshwete's grade 12 pass rate improved from 74.4% in 2011 to 86.3% in 2015 and became the 2nd highest of the municipal areas of the Province. The area achieved an admission rate to university/degree studies of 30.5% in 2015. A joint effort is needed between the municipality, department of education and private sector to ensure that the 66.3% learners who didn't qualify for university admission get accommodated in other institutions such as TVET colleges and technikons.

9. MATRIX USED FOR IMPACT ASSESSMENT AND SIGNIFICANCE OF IMPACTS

The contents and methodology of the basic assessment report aims to provide, as far as possible, a user-friendly analysis of information to allow for easy interpretation.

Matrix: The matrix analysis provides a holistic indication of the relationship and interaction between the various activities, development phases and the impact thereof on the environment. The method aims at providing a first order cause and effective relationship between the environment and the proposed activity.

The matrix is designed to indicate the relationship between the different stressors and receptors which leads to specific impacts. The matrix also indicates the specialist studies that have been conducted to address the potentially most significant impacts. In order to conceptualise the different impacts, the matrix specify the following:

- **Stressor**: Indicates the aspect of the proposed activity, which initiates and cause impacts on elements of the environment.
- **Receptor**: Highlights the recipient and most important components of the environment affected by the stressor.
- **Impact**s: Indicates the net result of the cause-effect between the stressor and receptor.
- **Mitigation**: Impacts need to be mitigated to minimise the effect on the environment.

Table 7: Criteria for rating impacts

CRITERIA	DESCRIPTION			
EXTENT	National (4) The whole of South Africa.	Regional (3) Local and district municipality or extending to provincial.	Local (2) The surrounding environment including adjacent properties.	Site (1) Within the construction site.
DURATION	Permanent (4) Mitigation either by man or natural process will not occur in such a way or in such a time span that the impact can be considered transient.	Long-term (3) The impact will continue or last for the entire operational life of the development, but will be mitigated by direct human action or by natural processes thereafter. The only class of impact which will be non-transitory.	Medium-term (2) The impact will last for the period of the construction phase, where after it will be entirely negated.	Short-term (1) The impact will either disappear with mitigation or will be mitigated through natural process in a span shorter than the construction phase.
INTENSITY	Very High (4) Natural, cultural and social functions and processes are altered to extent that they permanently cease.	High (3) Natural, cultural and social functions and processes are altered to extent that they temporarily cease.	Moderate (2) Affected environment is altered, but natural, cultural and social functions and processes continue albeit in a modified way.	Low (1) Impact affects the environment in such a way that natural, cultural and social functions and processes are not affected.
PROBABILITY OF OCCURRENCE	Definite (4) Impact will certainly occur.	Highly Probable (3) Most likely that the impact will occur.	Probable (2) The impact may occur.	Improbable (1) Likelihood of the impact materialising is very low.
IMPACT REVERSIBILITY	Irreversible (IR)	Barely Reversible (BR)	Partial Reversible (PR)	Competently Reversible (CR)

CRITERIA	DESCRIPTION			
	Impact reversal will certainly be impossible.	Impact can be reversed to some extent with loss of natural resources.	High possibility of impact reversal.	Impact can be totally reversed.
LOSS OF IRREPLACEABLE RESOURCES	Complete Loss (CL) Resources will definitely be lost.	Significant Loss (SL) Most likely that resources will be lost.	Marginal Loss (ML) Resources may be lost.	No Loss (NL) Loss of resources is highly unlikely.

Significance is determined through a synthesis of impact characteristics. Significance is also an indication of the importance of the impact in terms of both physical extent and time scale, and therefore indicates the level of mitigation required. The total number of points scored for each impact indicates the level of significance of the impact.

Significance = Extent + Duration +Intensity x Probability

Table 8: Methodology used to calculate the significance of Impacts

Low impact/ Minor (3 -10 points)	A low impact has no permanent impact of significance. Mitigation measures are feasible and are readily instituted as part of a standing design, construction or operating procedure.
Medium impact/ Moderate (11 -20 points)	Mitigation is possible with additional design and construction inputs.
High impact (21 -30 points)	The design of the site may be affected. Mitigation and possible remediation are needed during the construction and/or operational phases. The effects of the impact may affect the broader environment.
Very high impact/ Major (31 - 48 points)	Permanent and important impacts. The design of the site may be affected. Intensive remediation is needed during construction and/or operational phases. Any activity which results in a "very high impact" is likely to be a fatal flaw.
Status	Denotes the perceived effect of the impact on the affected area.
Positive (+)	Beneficial impact.
Negative (-)	Deleterious or adverse impact.
Neutral (/)	Impact is neither beneficial nor adverse.

It is important to note that the status of an impact is assigned based on the status quo – i.e. should the project not proceed. Therefore not all negative impacts are equally significant.

10. PROJECT ACTIVITIES AND ENVIRONMENTAL IMPACT ASSESSMENT

10.1 Potential impacts identified

Table 9: Planning design phase and construction potential impacts

IMPACTS	ACTIVITY
CONSTRUCTION PHASE	
• Soil erosion. • Disturbance of flora and fauna. • Habitat destruction. • Soil compaction. • Damage to Paleontological impacts.	Site demarcation
• Dust emissions. • Heavy traffic congestion/ increased local traffic.	Traffic Management
• Dust emissions. • Noise emissions. • Air pollution. • Heavy traffic congestion/ increased local traffic	Movement of construction vehicle
• Concrete spillages • Concrete dust emissions. • Solid and construction waste generation.	Concrete works
• Solid and construction waste generation. • Lead leachate contamination on top soil.	Solid waste management
• Soil erosion. • Soil compaction. • Visual impact.	Soil stock-pilling

• Dust emissions.	
• Oil and fuel spillages. • Oil and fuel leach into ground water. • Contamination of valuable top soil. • Noise emissions.	Refuelling activities
• Increase in employment rate for individuals residing within the proposed location.	Employment opportunities.
OPERATIONAL PHASE	
• Noise emissions. • Oil and fuel spillages.	Storage and maintenance
• Dust emissions. • Noise emissions. • Air pollution. • Heavy traffic congestion/ increased local traffic	Transportation of machinery
• Steep stock piles will prevent visibility of the proposed site.	Visual aspect
• Increase in employment rate for individuals residing within the proposed location.	Employment opportunities
• Improper waste management leads to the accumulation of access waste within the site and surrounding area. • Visual impact. • Solid and construction waste generation.	Solid waste management

• Dust emissions. • Heavy traffic congestion/ increased local traffic.	Traffic management

10.2 Environmental impact ranking

Table 10: Potential Impacts during Construction.

ACTIVITY	RECEPTOR	IMPACT DESCRIPTION	REVERSIBILITY	IRREPLACEBLE LOSS	SIGNIFICANCE RANKING BEFORE MITIGATION				SIGNIFICANCE	RESIDUAL RISK	SIGNIFICANCE RANKING AFTER MITIGATION				SIGNIFICANCE
					E	D	I	P			E	D	I	P	
Site demarcation	Soil and Air quality	**Direct impact:** The site demarcation will influence soil erosion and dust emissions **Indirect impact:** None **Cumulative impact:** None	CR	NL	Site(1)	Medium term (2)	Moderate(2)	Highly probable (3)	15 (-ve)	Low	Site (1)	Short term (1)	Low (1)	Probable (2)	6 (-ve)

PROPOSED MITIGATION AND MANAGEMENT MEASURES

- Only demarcate the site to be used for construction
- Make use of proper measures of demarcation that will not disrupt the surrounding environment, thereby preventing intense soil erosion
- Avoidance of soil stock-pilling in the easterly direction of the proposed site which is steep, stock-pilling must be in the westerly direction of the proposed site
- To prevent erosion and sedimentation, construction activities should be undertaken during the dry season when flows will be substantially reduced.
- Topsoil must be removed from the construction areas only and not spoiled.
- Vehicles should be parked out of the buffer areas when not in use in order to prevent compaction of the soil profile.
- Topsoil should be replaced in the correct order it was extracted and erosion prevention measures be put in place on areas with a steep gradient.
- Sediment barriers/controls should be installed if erosion is observed near the site.
- Any excess subsoil must be removed from the development area once back filling is completed, and spoiled at an agreed spoil site. Weeds and Invader Plants Management.

ACTIVITY	RECEPTOR	IMPACT DESCRIPTION	REVERSIBILITY	IRREPLACEBLE LOSS	SIGNIFICANCE RANKING BEFORE MITIGATION				SIGNIFICANCE	RESIDUAL RISK	SIGNIFICANCE RANKING AFTER MITIGATION				SIGNIFICANCE
					E	D	I	P			E	D	I	P	

Movement of construction vehicles	Air quality and traffic increase	**Direct impact:** The movement of construction vehicles will generate dust and emissions of hydrocarbons emissions. The movement of construction vehicles will increase traffic along the R555 and access road to site **Indirect impact:** None **Cumulative impact:** There are existing mining activities within 10km from the proposed site including heavy load trucks moving along	BR	NL	Local (2)	Medium term (2)	Moderate (2)	Highly probable (3)	18 (-ve)	Low	Local (2)	Medium term (2)	Moderate (2)	Possible (2)	12 (-ve)

		R555 contributing to emissions along the R555													

PROPOSED MITIGATION AND MANAGEMENT MEASURES

- The site manager will ensure the development of an effective time management roster for all transportation, a loading platform must be designed in a way that all machinery can be loaded efficiently and within a minimum amount of time.
- During transportation of heavy machinery using large abnormal trucks, well trained drivers that have a valid driving license authorized by the South African traffic officials will be allocated to transport such machinery, precautions will be taken to notify all drivers on the road, such as a normal vehicle traveling prior the abnormal vehicles.
- Strict Measures to minimize dust on the access road in front of the proposed location will be taken, such as adequate dust suppression twice a day, throughout all construction stages.
- The construction vehicles will reside on site until all proposed construction activities have ended.
- All Construction materials should be placed within the site barrier, to avoid unnecessary truck and vehicular movements; this will avoid the drastic event of the formation of insoluble compounds (such as CO_2, HCO, HCl, $NaCl_2$) that can be formed through access carbon monoxide gas reacting with natural atmospheric elements and other emissions in the atmosphere. These gases are known to cause eye and skin irritation for humans in the event of acid precipitation.

ACTIVITY	RECEPTOR	IMPACT DESCRIPTION	REVERSIBILITY	IRREPLACEBLE LOSS	SIGNIFICANCE RANKING BEFORE MITIGATION				SIGNIFICANCE	RESIDUAL RISK	SIGNIFICANCE RANKING AFTER MITIGATION				SIGNIFICANCE
					E	D	I	P			E	I	D	P	

Batching, earthworks and movement of construction vehicles.	Air and Fauna	**Direct impact:** The construction activities will generate noise; some of animal species may be disturbed and move from their habitat due to noise around the site. **Indirect impact:** None **Cumulative impact:** None	PR	ML	Local (2)	Medium term (2)	Moderate (2)	Highly probable (3)	18 (-ve)	Low	Site (1)	Short term (1)	Moderate (2)	Probable (2)	8 (-ve)

PROPOSED MITIGATION AND MANAGEMENT MEASURES

Every attempt must be made to reduce noise levels to ensure minimum nuisance by the noise source.

The site operator must use appropriate, modern equipment, which produces the least noise.

- Any unavoidably noisy equipment must be identified and located in an area where it has least impact.

- The use of noise shielding screens should be considered by the project team as and when required.
- This would be applicable to items such as air conditioning units, compressors and refrigeration equipment.
- The use of radios, tape recorders, compact disc players, television sets etc. shall not be permitted unless the volume is kept sufficiently low as to avoid any intrusion on members of the public within range.

No on-site noise generating work, such as routine maintenance and repairs, is to be conducted outside of approved working hours unless in consultation with the local authority

ACTIVITY	RECEPTOR	IMPACT DESCRIPTION	REVERSIBILITY	IRREPLACEBLE LOSS	SIGNIFICANCE RANKING BEFORE MITIGATION				SIGNIFICANCE	RESIDUAL RISK	SIGNIFICANCE RANKING AFTER MITIGATION				SIGNIFICANCE
					E	D	I	P			E	I	D	P	
Waste generation	Soil	**Direct impact:** During construction activities minimal waste will be generated from rubbles and general waste from food and construction vehicles **Indirect impact:**	CR	NL	Site (1)	Medium term (2)	Moderate (2)	Probable (2)	10 (-ve)	Low	Site (1)	Short term (1)	Low (1)	Probable (2)	6 (-ve)

		Cumulative impact:													

PROPOSED MITIGATION AND MANAGEMENT MEASURES

- All solid waste will be managed with accordance to a waste management plan and a waste management strategy.
- The site manager will ensure adequate waste stations are allocated on site; this will consist of compact waste bins for heavy solids, stream units for domestic wastes, and slim bins for other types of wastes. All this bins will be monitored as to ensure that they do not overflow.
- The site manager will allocate a waste removal association, to ensure the removal of all solid wastes from site every 3 working days. This entails of clearing the compact bins, stream units and slim bins. All waste will be disposed in the nearest landfill site.
- In the case of an overflow of waste or any unforeseen circumstances, a waste management emergency plan should be introduced to all contractors within the proposed site.
- All workers will be educated and well informed of the cradle-to-grave management of waste products, and the waste hierarchy approach, this will help prevent unnecessary disposal of wastes (disposal on site would lead to deep burial of waste and affect the surrounding environment and induce the management there-off.
- All waste will be separated using waste sorting slim bins, and no waste will be accumulated within the site location for a period longer than 3 days. Appropriate Landfill sites will be used to dispose different types of waste.
- No hazardous waste will be placed on site, during the construction phases.

Chemical toilets will be placed on site and no sewage treatment plants are required

ACTIVITY	RECEPTOR	IMPACT DESCRIPTION	REVERSIBILITY	IRREPLACEBLE LOSS	SIGNIFICANCE RANKING BEFORE MITIGATION				SIGNIFICANCE	RESIDUAL RISK	SIGNIFICANCE RANKING AFTER MITIGATION				SIGNIFICANCE
					E	D	I	P			E	I	D	P	
Refueling activities	Soil and groundwater	**Direct impact:** Refueling activities of construction vehicles and machinery may cause fuel spillages contaminating soil and ground water **Indirect impact:** None **Cumulative impact:** None	ML	BR	Local (2)	Medium (2)	High (3)	Highly probable (3)	21 (-ve)	Moderate	Site (1)	Medium (2)	Moderate (2)	Probable (2)	10 (-ve)

PROPOSED MITIGATION AND MANAGEMENT MEASURES

- All fluids will be handled with accordance to a waste management plan and a waste management strategy.
- Heavy/ light vehicles will be refueled off site, in designated petrol and diesel stations. Only dirty oil and fuel from old motor fuel machinery will be stored for a minimal amount of time within the proposed site.
- The dirty oil and fuel will be treated as hazardous fluids; the site manager will ensure that all site employees follow safe procedures, while handling such substances.

- The fluids will not be stored for more than 5 days on site, the allocated storage areas will be lined and measures will be taken to deprive them of direct contact with valuable top soil. The soil will be completely protected from such fluids.
- In the event of hazardous waste spillages, the site manager will notify the appropriate authority within 2 days of occurrence. A spill kit and measures to use it will be made visible to all employees and notifications will be sent accordingly.
- Primary safety precautions should be practiced on site at all times, such as:
  - Store materials properly, as directed on their labels.
  - Flammable chemicals should be stored in a cool, dry place away from heat and sunlight.
  - Some chemicals like acids must be stored separately from each other.
  - Always wash your hands after using any unsafe material.
  - Transferring flammable liquids like gasoline, from 1 container to another can make static electricity that could ignite the fumes, always carry chemicals in approved containers.
  - Fire extinguishers will be allocated visibly within site vehicles and temporary stands.

ACTIVITY	RECEPTOR	IMPACT DESCRIPTION	REVERSIBILITY	IRREPLACEBLE LOSS	SIGNIFICANCE RANKING BEFORE MITIGATION				SIGNIFICANCE	RESIDUAL RISK	SIGNIFICANCE RANKING AFTER MITIGATION				SIGNIFICANCE
					E	D	I	P			E	I	D	P	
CONSTRUCTION PHASE															
Employment opportunity for low skilled labour	Social and Economic	**Direct impact:** The direct employment of locals with low level skills	N/A	N/A	Regional (3)	Long term (3)	Very high (4)	Definite (4)	40 (+ve)	High	Regional (3)	Long term (3)	Very high (4)	Definite (4)	40 (+ve)

		will improve local economy and increase employment rate in the local area **Indirect impact:** Reduction of crime, employment contributes immensely in reducing crime. **Cumulative impact:** None													

IMPACT ENHANCEMENT:

- The authorization of such a project would enhance the employment status within the proposed site's region. Thereby solidifying a positively modified socio-economic background. More families will be impacted positively as employment opportunities will be made available in abundance.

Table 11: Potential Impacts during Operational phase

ACTIVITY	RECEPTOR	IMPACT DESCRIPTION	REVERSIBILITY	IRREPLACEBLE LOSS	SIGNIFICANCE RANKING BEFORE MITIGATION				SIGNIFICANCE	RESIDUAL RISK	SIGNIFICANCE RANKING AFTER MITIGATION				SIGNIFICANCE
					E	D	I	P			E	I	D	P	
Storage and Maintenance	Soil, groundwater and air.	**Direct impact:** Unmonitored Oil and fuel spillage flowing from the storage facility into the surrounding environment. **Indirect impact:** None **Cumulative impact:** None	BR	ML	Local (2)	Medium term (2)	High (3)	Highly improbable (3)	21 (-ve)	Medium	Site (1)	Medium term (2)	Moderate(2)	Probable (2)	10 (-ve)

PROPOSED MITIGATION AND MANAGEMENT MEASURES

- All maintenance activities of the old and new machinery will take place within the allocated storage facilities on site. This will help to manage the amount of spillages that occur during such activities.
- All fluids will be handled with accordance to a waste management plan and a waste management strategy.
- Only dirty oil and fuel from old motor fuel machinery will be stored for a minimal amount of time within the proposed site.
- The dirty oil and fuel will be treated as hazardous fluids, the site manager will ensure that all site employees follow safe procedures, while handling such substances.
- The fluids will not be stored for more than 5 days on site, the allocated storage areas will be lined and measures will be taken to deprive them of direct contact with valuable top soil. The soil will be completely protected from such fluids.
- The conditions of machines will be evaluated upon arrival; this is to place the machines in appropriate locations. Meaning those that require heavy maintenance will be placed in one side and the ones that don't require maintenance will be placed on the other. The area containing heavy maintenance equipment will be restricted of any form of liquid flow as the fluids used in this phase contain vast amount of particles, hazardous fluids and pollutants.
- In the event of hazardous waste spillages, the site manager will notify the appropriate authority within 2 days of occurrence. A spill kit and measures to use it will be made visible to all employees and notifications will be sent accordingly.
- Primary safety precautions should be practiced on site at all times, such as:
    - Store materials properly, as directed on their labels.
    - Flammable chemicals should be stored in a cool, dry place away from heat and sunlight.
    - Some chemicals like acids must be stored separately from each other.
    - Always wash your hands after using any unsafe material.
    - Transferring flammable liquids like gasoline, from 1 container to another can make static electricity that could ignite the fumes, always carry chemicals in approved containers.
    - Fire extinguishers will be allocated visibly within site vehicles and temporary stands.

ACTIVITY	RECEPTOR	IMPACT DESCRIPTION	REVERSIBILITY	IRREPLACEBLE LOSS	SIGNIFICANCE RANKING BEFORE MITIGATION				SIGNIFICANCE	RESIDUAL RISK	SIGNIFICANCE RANKING AFTER MITIGATION				SIGNIFICANCE
					E	D	I	P			E	I	D	P	
Visual	Visual Aspect	**Direct impact:** The built structures will decrease visibility of the surrounding land activities. **Indirect Impact:** The storage facilities and other structures may prevent some plants species from receiving sunlight thereby depriving them from their natural growth cycle. **Cumulative impact:** None	BL	ML	Local (2)	Permanent (4)	Moderate (2)	Highly probable (3)	24 (-ve)	Medium	Local (2)	Permanent (4)	Moderate (2)	Probable (2)	16 (-ve)

PROPOSED MITIGATION AND MANAGEMENT MEASURES

- The proposed storage facilities must be kept at minimal appropriate height, leaving visibility of other land activities taking place next to the site location.
- Only high temperature absorptive colors should be used to paint the offices and the storage facilities, no reflective colors are to be used on the buildings or the roofing of the proposed structures on site as this site is located on a dry sloppy region,

The site manager should ensure that this happens as reflective colors may cause visual distractions to the motorists passing through the R555 near the site.

ACTIVITY	RECEPTOR	IMPACT DESCRIPTION	REVERSIBILITY	IRREPLACEBLE LOSS	SIGNIFICANCE RANKING BEFORE MITIGATION				SIGNIFICANCE	RESIDUAL RISK	SIGNIFICANCE RANKING AFTER MITIGATION				SIGNIFICANCE
					E	D	I	P			E	I	D	P	
Solid waste generation	soil	**Direct impact:** Generation of general waste during normal daily activities. **Indirect impact:** None **Cumulative impact:** None	CR	NL	Site (1)	Medium term (2)	High (3)	Definite (4)	24 (-ve)	Low	Site (1)	Medium term (2)	Moderate (2)	Probable (2)	10 (-ve)

PROPOSED MITIGATION AND MANAGEMENT MEASURES

- All solid waste will be managed with accordance to a waste management plan and a waste management strategy.
- The site manager will ensure adequate waste stations are allocated on site, this will consist of compact waste bins for heavy solids, stream units for domestic wastes, and slim bins for other types of wastes. All this bins will be monitored as to ensure that they do not overflow.
- The site manager will allocate a waste removal association, to ensure the removal of all solid wastes from site every 3 working days. This entails of clearing the compact bins, stream units and slim bins. All waste will be disposed in the nearest landfill site.
- In the case of an overflow of waste or any unforeseen circumstances, a waste management emergency plan should be introduced to all contractors within the proposed site.
- All workers will be educated and well informed of the cradle-to-grave management of waste products, and the waste hierarchy approach, this will help prevent unnecessary disposal of wastes (disposal on site would lead to deep burial of waste and affect the surrounding environment and induce the management there-off.
- All waste will be separated using waste sorting slim bins, and no waste will be accumulated within the site location for a period longer than 3 days.
- Appropriate and licensed Landfill sites will be used to dispose of waste.
- No hazardous waste will be placed on site, during the construction phases.
- Chemical toilets will be placed on site and no sewage treatment plants are required.

ACTIVITY	RECEPTOR	IMPACT DESCRIPTION	REVERSIBILITY	IRREPLACEBLE LOSS	SIGNIFICANCE RANKING BEFORE MITIGATION				SIGNIFICANCE	RESIDUAL RISK	SIGNIFICANCE RANKING AFTER MITIGATION				SIGNIFICANCE
					E	D	I	P			E	I	D	P	
Providing services to market	Social and economic	**Direct impact:** The operation of the proposed development will provide mining machinery and improve the convenience and the nearby mining houses. The local economy will be improved.	N/A	N/A	Regional (3)	Permanent (4)	Very high (4)	Highly probable (3)	31 (+ve)	High	Regional (3)	Permanent (4)	Very high (4)	Definite (4)	44 (+ve)
		Indirect impact: Be serving more clients, the development will require more employees which will													

		increase the employment of the local area **Cumulative impact:** None													
Impact enhancement: Izazi Investment must consistently providing services and mining machinery with convenience and create good relations with the markets and clients to enhance business and increase clientele.															

10.3 Summary of the positive and negative impacts and risks of the proposed activity and identified alternatives

Positive and negative impacts associated with the proposed prospecting activities include:

- Destruction / loss of indigenous natural vegetation during site preparation
- Establishment and spread of declared weeds and alien invader plants
- Physical disturbance of soils during land clearing
- Dust Pollution (nuisance)
- Economic multiplier effects from the use of local contractors.
- Visual Disturbance
- Potential impact on heritage resources
- Physical disturbance of soils during land clearing
- Economic multiplier effects from the use of local contractors.
- Socio economic impacts
- Traffic disturbance
- Health and safety
- Security and safety

The proposed activities have low to medium significance since these are most of negative impacts occur during construction and they are short term activities. Apart from the noise impact which will be for long term, the proposed development will help enhance the concept of sustainable development, preserving top soil and ground water within the local or regionally affected areas, it will generate jobs and its operational phase will enhance convenience of services. All associated mines will use the storage facilities and undertake all maintenance activities within the proposed storage facilities, minimising the possibility of oil and fuel leaks directly on the top soil. The planned activities and negative impacts can be controlled and avoided or minimised therefore the layout does not require revision. Mitigation measures will be used to control any potential impact.

10.4 Aspects for inclusion as conditions of Authorisation

Izazi Investment Pty (Ltd) should comply with all Environmental legislations. Specific environmental legislation to be adhered to include; National Environmental Management Act, Act 107 of 1998 (NEMA) as amended in 2017;

- The Applicant/ Project manager shall ensure that all relevant permits and consent are obtained from all necessary regulatory authorities early in the planning phase.
- The project should be undertaken in accordance with all applicable relevant legislation
- No unauthorised access to the site should be permitted.

- The project manager/contractor shall obtain all necessary relevant information and documentation before commencing with the proposed activity.

10.5 Recommendation from Environmental Assessment Practitioner

Based on the information provided, it is the opinion of Tshikovha Green Climate and Change that no fatal flaws have been identified for the proposed development and that the information contained in this report is sufficient enough to allow MDARDLEA to make an informed decision. Tshikovha Green Climate and Change therefore recommends that Environmental Authorisation be granted for the proposed development based on the following recommendations:

- The project entails the conversion of land use activities from agricultural to industrial based land, it does not require any alteration of bare land.
- The project highly reduces the possibility of environmental resource depletion (soil, groundwater and air), that may occur due to continual storage of machinery directly on the top soil. The structures involved (2 storage facilities, offices, and parking area) will help prevent all anticipated direct impacts (such as uncontrolled traffic, oil and fuel spills) on environmental resources.
- The proposed activity is not anticipated to have significant environmental impacts.
- The following recommendations should be implemented in order to ensure that potential impacts associated with the establishment and operation of the site are minimised:
    - Any areas disturbed during construction and operation must be rehabilitated.
    - All construction activities must take place within the proposed site demarcated area.
    - Maintenance activities must only take place inside the storage facilities (workshops), after constructions.
    - All vehicle refuelling will take place off site, this will help prevent the contamination of soil and groundwater.
    - Construction may only take place during working hours.
    - All solid waste will be managed with accordance to a waste management plan and a waste management strategy.
    - The site manager will ensure adequate waste stations are allocated on site, this will consist of compact waste bins for heavy solids, stream units for domestic wastes, and slim bins for other types of wastes. All this bins will be monitored as to ensure that they do not overflow.
    - The site manager will allocate a waste removal association, to ensure the removal of all solid wastes from site every 3 working days. This entails of clearing the compact bins, stream units and slim bins. All waste will be disposed in the nearest landfill site.
    - In the case of an overflow of waste or any unforeseen circumstances, a waste management emergency plan should be introduced to all contractors within the proposed site.
    - All workers will be educated and well informed of the cradle-to-grave management of waste products, and the waste hierarchy approach, this will help prevent unnecessary disposal of wastes

(disposal on site would lead to deep burial of waste and affect the surrounding environment and induce the management there-off).

- All waste will be separated using waste sorting slim bins, and no waste will be accumulated within the site location for a period longer than 3 days. Appropriate Landfill sites will be used to dispose different types of waste.
- No hazardous waste will be placed on site, during the construction phases.

- Chemical toilets will be placed on site and no sewage treatment plants are required.
- Activities that negatively impact on the regional environment should be mitigated to lower site inclusive.
- Trampling and disturbance associated with construction should be limited to within 5m (five metres) of the footprint of the site.
- On completion of the project all litter and construction debris shall be immediately removed from the site and carried to the nearest landfill site.
- Mitigation measures to reduce the potential visual impact should be implemented as far as possible.
- All hazardous waste must be disposed of at the hazardous waste site and registers be kept there

10.6 Environmental Management Programme report

An Environmental Management Programme report (EMPr) has been produced and provide a set of practical and actionable mitigation, monitoring and institutional measures to be taken into account during the construction and operational phases of the proposed project, should environmental authorisation be granted. The aim of EMPr is to eliminate adverse environmental and social impacts, offset them, or reduce them to acceptable levels. The following environmental management objectives are recommended for the proposed development and associated infrastructures:

- Monitor soils so as to avoid unnecessary erosion, and implement erosion control measures to preserve the quality of the soil for rehabilitation.
- Development planning must restrict the area of impact to minimum and designated areas only.
- Monitor and prevent contamination, and undertake appropriate remedial actions.
- Limit the visual and noise impact on receptors.
- Avoid impact on possible heritage finds.
- Promote health and safety of workers.
- Excavate and rehabilitate any trenches as close as possible to natural environment.
- Limit dust and other emissions to within allowable limits.
- Use regular monitoring systems to easily manage all spills, contamination, waste accumulations and dust suppression productivity.

11. UNDERTAKING

a) The EAP herewith confirms:

- **i.** the correctness of the information provided in the reports;
- **ii.** the inclusion of comments and inputs from stakeholders and I&APs ;
- **iii.** the inclusion of inputs and recommendations from the specialist reports where relevant; and
- **iv.** that the information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested and affected. Parties are correctly reflected herein.

Signature of the environmental assessment practitioner:

Tshikovha Green and Climate Change Advocates

Name of company:

January 2019

Date:

-END-