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BASIC ASSESSMENT REPORT & ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT

THE PROPOSED MINING PERMIT COMBINED WITH WASTE LICENCE APPLICATION FOR THE MINING OF SLATE INCLUDING ASSOCIATED INFRASTRUCTURE, STRUCTURE AND EARTHWORKS ON A CERTAIN 5HA AREA OF PORTION 6 (A PORTION OF PORTION 2) OF THE FARM BOKKRAAL 344, REGISTRATION DIVISION JP, NORTH WEST PROVINCE.

NAME OF APPLICANT	**Slatello Mine CC**
PREPARED BY	**Milnex CC**
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REFERENCE NUMBER:	**NW30/5/1/3/2/11026MP**

DETAILS OF THE APPLICANT

Project applicant:	Slatello Mine CC		
Registration no (if any):	2007/122956/23		
Contact person:	Mr Vincent du Plessis		
Physical address:	-		
Postal address:			
Postal code:		Cell:	
Telephone:	-	Fax:	

PROJECT INFORMATION

Project Name:	Application for an Environmental Authorisation for Mining Permit combined with Waste Licence Application for the mining of Slate including associated infrastructure, structure and earthworks on a certain 5ha area of Portion 6 (A Portion Of Portion 2) of the farm Bokkraal 344, Registration Division JP, North West Province.
Report Title:	Basic Assessment Report
Prepared By:	Milnex CC
Date:	June 2022

QUALITY CONTROL:

	Report Author:	**Report Reviewer:**
Name:	Ms. Percy Sehaole Reg. EAP (EAPASA) Pr. Sci. Nat.	N/A
Signature:	Sehaole.	

DISCLAIMER:

The DEA screening tool was used in compiling this document

IMPORTANT NOTICE

In terms of the Mineral and Petroleum Resources Development Act (Act 28 of 2002 as amended), the Minister must grant a prospecting or mining right if among others the mining "will not result in unacceptable pollution, ecological degradation or damage to the environment".

Unless an Environmental Authorisation can be granted following the evaluation of an Environmental Impact Assessment and an Environmental Management Programme report in terms of the National Environmental Management Act (Act 107 of 1998) (NEMA), it cannot be concluded that the said activities will not result in unacceptable pollution, ecological degradation or damage to the environment.

In terms of section 16(3)(b) of the EIA Regulations, 2014, any report submitted as part of an application must be prepared in a format that may be determined by the Competent Authority and in terms of section 17 (1) (c) the competent Authority must check whether the application has taken into account any minimum requirements applicable or instructions or guidance provided by the competent authority to the submission of applications.

It is therefore an instruction that the prescribed reports required in respect of applications for an environmental authorisation for listed activities triggered by an application for a right or permit are submitted in the exact format of, and provide all the information required in terms of, this template. Furthermore, please be advised that failure to submit the information required in the format provided in this template will be regarded as a failure to meet the requirements of the Regulation and will lead to the Environmental Authorisation being refused.

It is furthermore an instruction that the Environmental Assessment Practitioner must process and interpret his/her research and analysis and use the findings thereof to compile the information required herein. (Unprocessed supporting information may be attached as appendices). The EAP must ensure that the information required is placed correctly in the relevant sections of the Report, in the order, and under the provided headings as set out below, and ensure that the report is not cluttered with un-interpreted information and that it unambiguously represents the interpretation of the applicant.

BASIC ASSESSMENT REPORT PROCESS

1) The environmental outcomes, impacts and residual risks of the proposed activity must be set out in the basic assessment report.

OBJECTIVE OF THE BASIC ASSESSMENT PROCESS

2) The objective of the basic assessment process is to, through a consultative process—

a) determine the policy and legislative context within which the proposed activity is located and how the activity complies with and responds to the policy and legislative context;
b) identify the alternatives considered, including the activity, location, and technology alternatives;
c) describe the need and desirability of the proposed alternatives**[,]**;
d) through the undertaking of an impact and risk assessment process, inclusive of cumulative impacts which focused on determining the geographical, physical, biological, social, economic, heritage**[ ]**, and cultural sensitivity of the sites and locations within sites and the risk of impact of the proposed activity and technology alternatives on **[the]** these aspects to determine—
    i) the nature, significance, consequence, extent, duration, and probability of the impacts occurring to; and
    ii) the degree to which these impacts—
        aa) can be reversed;
        bb) may cause irreplaceable loss of resources; and
        cc) can be avoided, managed or mitigated; and
e) through a ranking of the site sensitivities and possible impacts the activity and technology alternatives will impose on the sites and location identified through the life of the activity to—
    i) identify and motivate a preferred site, activity and technology alternative;
    ii) identify suitable measures to avoid, manage or mitigate identified impacts; and
    iii) identify residual risks that need to be managed and monitored.

CONTENTS

SCOPING OF ASSESSMENT AND CONTENT OF BASIC ASSESSMENT REPORT

1) Contact Person and correspondence address

A) DETAILS OF:

i) THE EAP WHO PREPARED THE REPORT

ii) EXPERTISE OF THE EAP

NAME OF PRACTITIONER	QUALIFICATIONS	CONTACT DETAILS
Ms. Percy Sehaole Reg. EAP (EAPASA) Pr. Sci. Nat.	Master's Degree in Environmental Science Master's Degree in Environmental Management (refer to **Appendix 1**)	Tel No.: (018) 011 1925 Fax No.: (053) 963 2009 e-mail address: percy@milnex-sa.co.za
Lizanne Esterhuizen	Honours Degree in Environmental Science (refer to **Appendix 1**)	Tel No.: (018) 011 1925 Fax No.: (053) 963 2009 e-mail address: lizanne@milnex-sa.co.za
Christiaan Baron	Master's Degree in Environmental Management (refer to **Appendix 1**)	Tel No.: (018) 011 1925 Fax No.: (053) 963 2009 e-mail address: christiaan@milnex-sa.co.za

Summary of the EAP's past experience. (Attach the EAP's curriculum vitae as **Appendix 2**)

Milnex CC was contracted by **Slatello Mine CC** as the independent environmental consultant to undertake the BAR and EMPr process for a Mining Permit combined with Waste Licence Application for the Mining of Slate including associated infrastructure, structure and earthworks on a certain 5ha area of Portion 6 (a Portion of Portion 2) of the farm Bokkraal 344, Registration Division JP, North West Province. The property is located approximately 29km South of Groot-Marico. Milnex CC does not have any interest in secondary developments that may arise out of the authorisation of the proposed project.

Milnex CC is a specialist environmental consultancy with extensive experience in the mining industry which provides a holistic environmental management service, including environmental assessment and planning to ensure compliance with relevant environmental legislation. Milnex CC benefits from the pooled resources, diverse skills and experience in the environmental and mining field held by its team that has been actively involved in undertaking environmental studies for a wide variety of mining related projects throughout South Africa. The Milnex CC team has considerable experience in environmental impact assessment and environmental management, especially in the mining industry.

Percy Sehaole, Lizanne Esterhuizen and Christiaan Baron have experience consulting in the environmental field. Their key focus is on environmental assessment, advice and management and ensuring compliance to legislation and guidelines. They are currently involved in undertaking EIAs for several projects across the country (refer to **Appendix 2** for CV)

B) DESCRIPTION OF THE PROPERTY.

FARM NAME:	A certain 5ha area of portion 6 (a portion of portion 2) of the Farm Bokkraal 344
APPLICATION AREA (HA)	5 hectares
MUNICIPALITIES	Ditsobotla Local Municipality Ngaka Modiri Molema District Municipality
REGISTRATION DIVISION	JP
DISTANCE AND DIRECTION FROM NEAREST TOWN	The property is located approximately 29km South of Groot-Marico.
21 DIGIT SURVEYOR GENERAL CODE FOR EACH FARM PORTION	TOJP00000000034400006
MINERALS APPLIED FOR	Slate

III. FARM CO-ORDINATES

FARM	LONGITUDE	LATITUDE
A certain 5ha area of portion 6 (a portion of portion 2) of the Farm Bokkraal 344	26° 28' 27.329"" E	25° 48' 16.288"" S
	26° 28' 29.353"" E	25° 48' 11.555"" S
	26° 28' 38.931"" E	25° 48' 19.558"" S
	26° 28' 36.012"" E	25° 48' 23.517"" S

C) LOCALITY MAP (show nearest town, scale not smaller than 1:250000 attached as **Appendix 3).**

A Locality map is attached in **Appendix 3** and on figure 1 below.

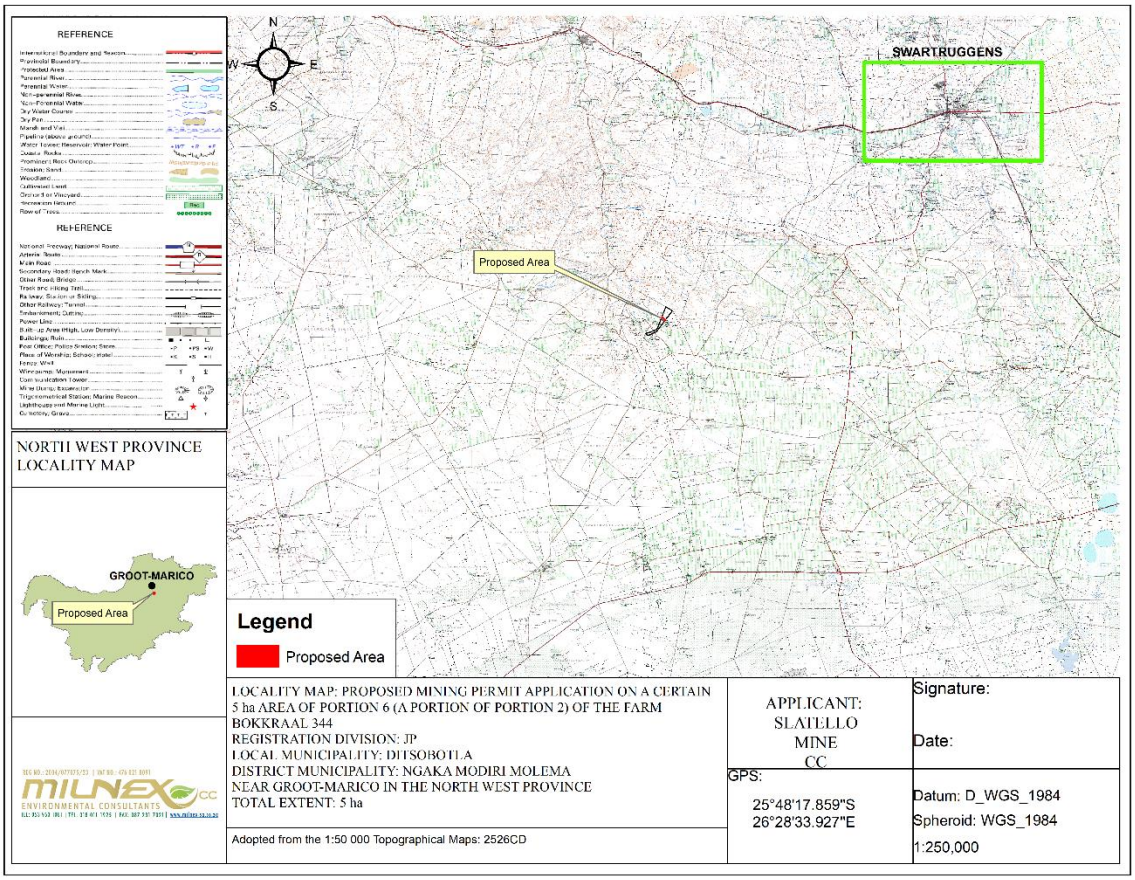


Figure 1: Locality Map in proportion to the nearest town

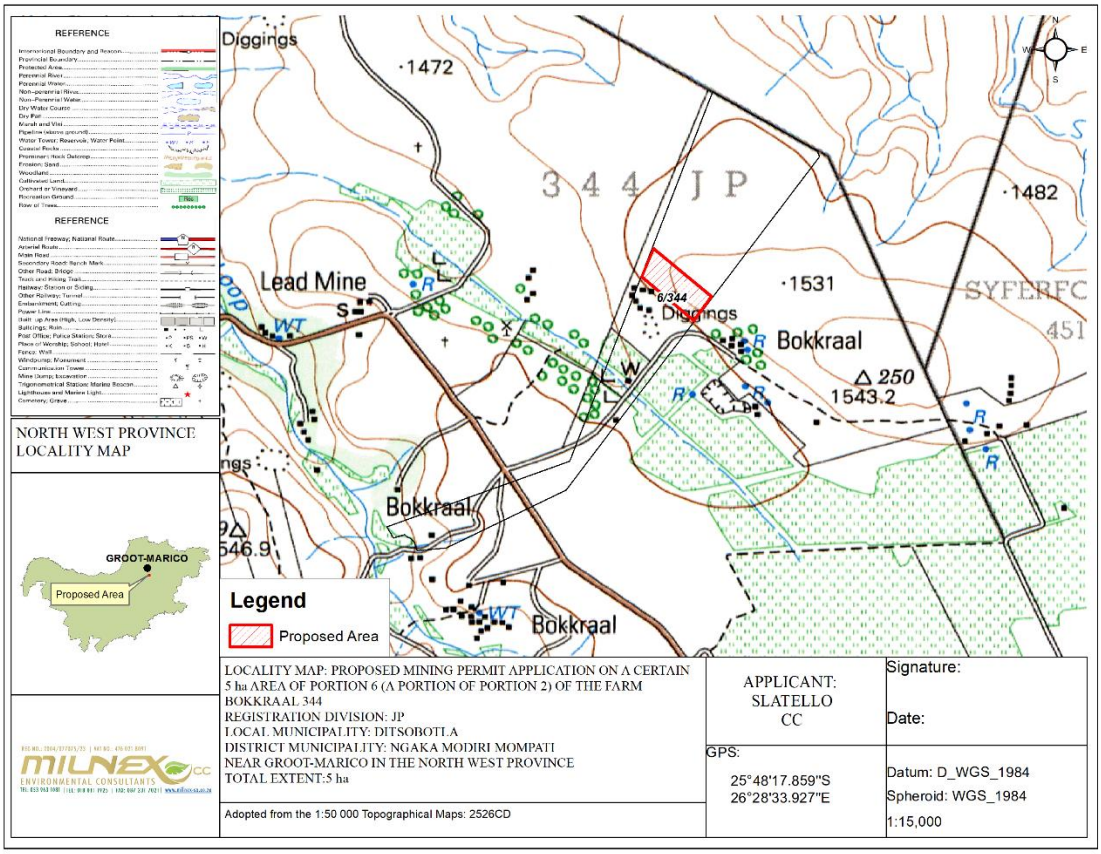


Figure 2: Locality Map

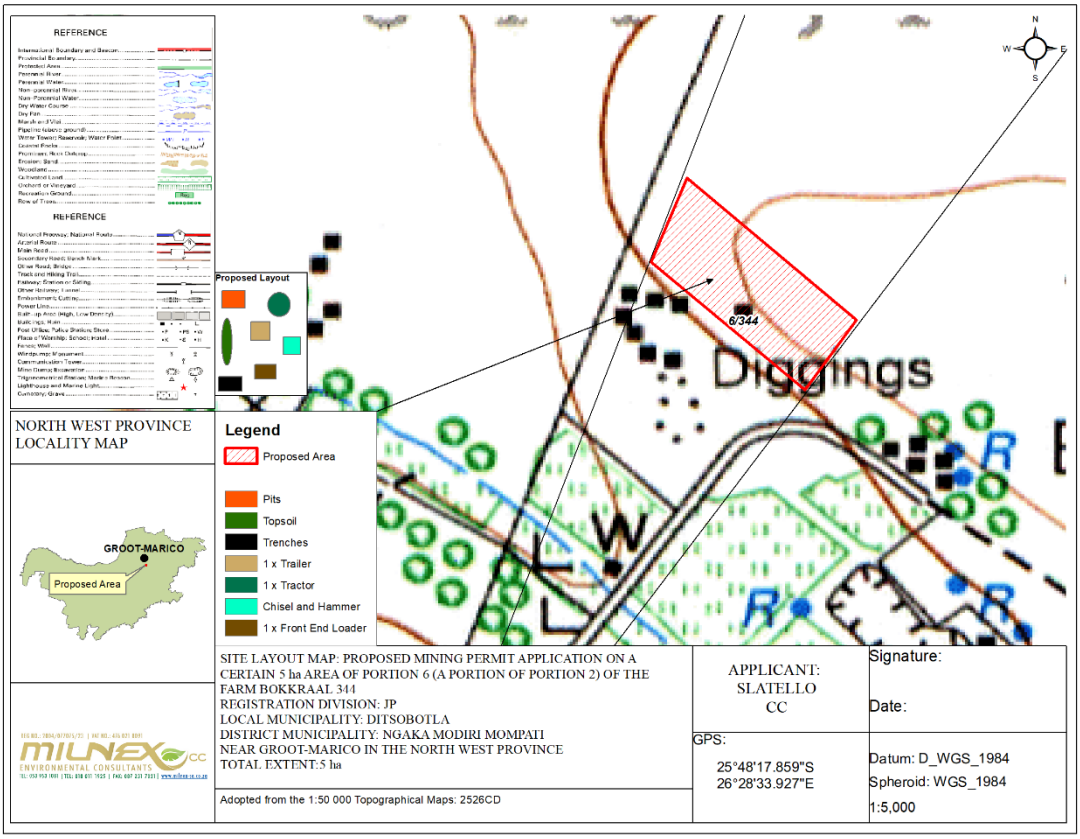


Figure 3: Site Plan Map

D) DESCRIPTION OF THE SCOPE OF THE PROPOSED OVERALL ACTIVITY.

i) LISTED AND SPECIFIED ACTIVITIES

NAME OF ACTIVITY **(E.g. For prospecting -** drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office, access route **etc...etc...etc** **E.g. for mining**,- excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc...etc.)	**Aerial extent of the Activity Ha or m²**	**LISTED ACTIVITY** (Mark with an **X** where applicable or affected).	**APPLICABLE LISTING NOTICE** ***(GNR 544, GNR 545 or GNR 546)***	**WASTE MANAGEMENT AUTHORISATION** (Indicate whether an authorisation is required in terms of the Waste Management Act). **(Mark with an X)**
Mining permit: **Listing Notice 1 (GNR 327) as amended (GNR 517), Activity 21:** *"Any activity including the operation of that activity which requires a mining permit in terms of section 27 of the Mineral and Petroleum Resources Development Act, as well as any other applicable activity as contained in this Listing Notice on in Listing Notice 3 of 2014, required to exercise the mining permit"* **Manual labour slate mining**	The application area is 5ha	X	**Listing Notice 1 (GNR 327) as amended (GNR 517), Activity 21**	-
Clearance of indigenous vegetation: **Listing Notice 1 (GNR 327), Activity 27:** "The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation." **The application area is 5ha**	**The application area is 5ha**	X	**Listing Notice 1 (GNR 327), Activity 27**	-
Listing Notice 3 (GNR 324), Activity 4: "The development of a road wider than 4 metres with a reserve less than 13,5 metres. **(h): North West:**	The application area is 5ha	X	**Listing Notice 3 (GNR 324), Activity 4 (h)(iv)**	-

(iv) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority; **(v)** Core areas in biosphere reserves; **(vi)** Areas within 5 kilometres from protected areas identified in terms of NEMPAA or from a biosphere reserve; **The application area falls with Marico Biosphere reserve and CBA1**				
Clearance of vegetation: **Listing Notice 3 (GNR 324), Activity 12:** The clearance of an area of 300 square metres or more of indigenous vegetation **(h) North West:** **(i)** World Heritage Sites; **core of biosphere reserve**; or sites or areas identified in terms of an international convention. **(iv)** Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority; **The application area falls with Marico Biosphere reserve and CBA1**	The application area is 5ha	X	**Listing Notice 3 (GNR 324), Activity 12 (h)(iv)**	-
NEM:WA 59 of 2008: Residue stockpiles or residue deposits, Category A: (15): The establishment or reclamation of a residue stockpile or residue deposit resulting from activities which require a prospecting right or mining permit, in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002).	The application area is 5ha		**NEM:WA 59 of 2008: Residue stockpiles or residue deposits, Category A: (15)**	**X**

Listed activities

Description of the overall activity. **(Indicate Mining Right, Mining Permit, Prospecting right, Bulk Sampling, Production Right, Exploration Right, Reconnaissance permit, Technical co-operation permit, Additional listed activity)**	1. **Listing Notice 1 (GNR 327) as amended (GNR 517), Activity 21:** *"Any activity including the operation of that activity which requires a mining permit in terms of section 27 of the Mineral and Petroleum Resources Development Act, as well as any other applicable activity as contained in this Listing Notice on in Listing Notice 3 of 2014, required to exercise the mining permit"* 2. **Listing Notice 1 (GNR 327), Activity 27:** *"The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation."* 3. **Listing Notice 3 (GNR 324), Activity 4:** *"The development of a road wider than 4 metres with a reserve less than 13,5 metres.* ***(h): North West:*** ***(iv)*** *Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority;* ***(v)*** *Core areas in biosphere reserves;* ***(vi)*** *Areas within 5 kilometres from protected areas identified in terms of NEMPAA or from a biosphere reserve;* 4. **Listing Notice 3 (GNR 324), Activity 12:** *The clearance of an area of 300 square metres or more of indigenous vegetation* ***(h) North West:*** ***(i)*** *World Heritage Sites;* ***core of biosphere reserve****; or sites or areas identified in terms of an international convention.* ***(iv)*** *Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority;* Mining Permit for the mining of **Slate** including associated infrastructure, structure and earthworks. 5. **NEM:WA 59 of 2008: Residue stockpiles or residue deposits, Category A: (15):** The establishment or reclamation of a residue stockpile or residue deposit resulting from activities which require a prospecting right or mining permit, in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002).

ii) DESCRIPTION OF THE ASSOCIATED STRUCTURES AND INFRASTRUCTURE RELATED TO THE DEVELOPMENT

(Describe Methodology or technology to be employed, and for a linear activity, a description of the route of the activity

Slatello Mine CC has embarked on a process for applying for a Mining Permit for the Mining of Slate including associated infrastructure, structure and earthworks on a certain 5ha area of Portion 6 (a Portion of Portion 2) of the farm Bokkraal 344, Registration Division JP, North West Province. These portions are preferred due to the sites expected mineral resources. **Slatello Mine CC** requires a Mining Permit in terms of NEMA and the Mineral and Petroleum Resources Development Act to

mining for minerals mentioned above within the Ditsobotla Local Municipality, North West Province (refer to a locality map attached in **Appendix 3**).

ACCESS ROADS

Access will be obtained from existing gravel roads off the Bokkraal gravel. It should be noted that in South Africa the responsibility of maintaining formal gravel roads has generally fallen on public authorities. Maintenance of these formal roads has been carried out either directly by these Provincial Departments or contracted out to private enterprise. The applicant' responsibility will be to maintain his own farm road on his property.

Any internal gravel farm roads which are jointly used with other users will need to be maintained by all parties involved.

The South African National Roads Agency Limited (SANRAL) is *responsible for the planning, design, construction, operation, management, control, maintenance and rehabilitation of the South African national road network, including the financing of these functions.* Therefore, as per the Act, no other parties are allowed to carry out the above mentioned as this is the main functions of Agency (**South African National Roads Agency Limited and National Roads Act 7 of 1998**).

PROVISION OF POTABLE AND PALATABLE WATER

The applicant will ensure that sufficient potable and palatable water, which complies with the requirements set out in Schedule 1 of the National Water Act 36 of 1998 (NWA) will be readily available to all employees and clearly identified as drinkable (**National Water Act 36 of 1998**).

Any water uses which does not fall within Schedule 1 will have to comply with the regulations once the source is established. If water uses under section 21 a-k of the NWA are triggered, a Water Use Licence Application (WULA) will need to be lodged with the department of Water & Sanitation (DWS).

DUST SUPPRESSION

It was the intention of the applicant to implement dust management on site to determine if unacceptable levels of dust fallout occur. Monitoring compliance with the requirements of the National Dust Control Regulations for an activity, in terms of nuisance or disturbance.

The National Framework for Air Quality Management in the Republic of South Africa (the National Framework), as published under Government Notice No. 1144 of 26 October 2018, underpins NEM:AQA by providing national norms and standards for air quality management to ensure compliance with legislation. The National Framework serves as the country's AQMP.

Section 32 of the NEM:AQA makes provision for the Minister or the MEC to prescribe measures for the control of dust in specific places or areas, or by specified machinery or in specific instances. While dust generally does not pose a health risk, it may be regarded as a nuisance. It is the responsibility of the owner of the dust generating activity to take reasonable measures to limit the nuisance factor.

With respect to this, the Minister has published in the gazette the regulations for the control of dust in 2013 (Notice 827, Government Gazette No. 36974). These regulations provide

requirements for measures for the control of dust, which includes the requirements for monitoring, dust management plan development and implementation and reporting.

Section 3. Dustfall standard

Table 1. Acceptable dust fall rates

Restriction Areas	Dustfall rate (D) (mg/m2/day, 30-day average)	Permitted frequency of exceedin dust fall rate
Residential Area	D < 600	Two within a year, not sequential months
Non-residential Area	600 < D < 1200	Two within a year, not sequential months

ABLUTION FACILITIES

Sufficient sanitation facilities shall be provided for the number of users. One (1) toilet facility will be provided which will be fitted with a septic tank at the mining area. This toilet will be properly illuminated, ventilated and kept clean and maintained in good repair.

WASTE ROCK DUMP:

Waste rock dumps will need to be established for the opencast sections. It has been noted the waste rock dumps should be stepped in order to assist with revegetation/ rehabilitation concurrently with operational mining activities.

STORAGE OF DANGEROUS GOODS

During the mining activities, since the activities will be manual labour, it is not foreseen that dangerous goods will be stored on site.

ELECTRICITY

Eskom electricity is currently available in the area and on the farm and will be utilised by the landowner and the employees.

WORKERS ACCOMODATION

Workers will be housed on the farm. It should be noted that the houses will not be in the 5ha mining area however on the remaining areas of portion 6 (A Portion of Portion 2) of the farm Bokkraal 344. Worker's housing will be erected, fit for human occupation. Accommodation rules will be set out once workers are appointed. The houses may be temporary or permanent, it is the discretion of the landowner/applicant as they are the rightful owners of the property and can determine what happens with any infrastructures on site.

NON-MINERAL WASTE MANAGEMENT

No solid waste disposal facilities are to be constructed as part of the mine development. All waste will be managed in accordance with the waste management hierarchy as required by the National Environmental Management: Waste Management Act 59 of 2008.

Waste will be segregated into waste like glass, wood and plastic and removed by licensed waste transporters. and contractors appointed to remove the waste to licensed waste disposal facilities. The on-site waste storage area is proposed to be located within the process plant footprint.

It should be noted that since processing will not be on site, minimal waste will be generated, thus waste classification is not necessary.

SECURITY AND ACCESS CONTROL

A perimeter fence will be constructed around the mining area. Internal fences will also be established around facilities such as the surface mining area. The applicant will investigate whether the access control points will have guards and gates will be placed at the entrance to the mining area.

(i) DESCRIPTION OF PLANNED NON-INVASIVE ACTIVITIES:

(These activities do not disturb the land where mining will take place e.g. aerial photography, desktop studies, aeromagnetic surveys, etc.).

Not applicable

(ii) DESCRIPTION OF PLANNED INVASIVE ACTIVITIES:

SLATE (DIMENSION STONE) QUARRYING

Slate is a metamorphic rock consisting of numerous minerals. While slate is primarily comprised of quartz and either muscovite or illite, quantities of biotite, chlorite, hematite, and pyrite are also commonly present. Less frequently, apatite, graphite, kaolin, magnetite, tourmaline, and zircon can be constituents, as well.

Slate is formed when sedimentary deposits—particularly those containing clay, such as shale-are subjected to extreme pressure. During metamorphosis, the molecules align such that the resulting rock exhibits perfectly cleaved layers that are both broad and thin, a characteristic known as slaty cleavage. This attribute of slate is what allows it to split so readily and cleanly. Slate is naturally found in an array of colors. The most common include black, gray, blue-gray, and mottled varieties. When iron compounds are present in the formation, slate can take on hues of brick red, deep purple, or one of many shades of green. Some slate quickly fades to softer tones once exposed to the atmosphere, while others—classified as “unfading”—will retain their original coloration for many years.

SLATE MINING (QUARRYING) METHODOLOGY IN THE OPEN PIT ENVIRONMENT WILL BE:

Extraction (more commonly referred to as quarrying) consists of removing layers or large slabs of stone from an identified and unearthed geologic deposit. Differences in the particular quarrying techniques used stem from variations in the physical properties of the deposit itself—such as density, fracturing/bedding planes, and depth—financial considerations, and the site owner’s preference.

A flow diagram of typical quarrying operations is shown in Figure 4

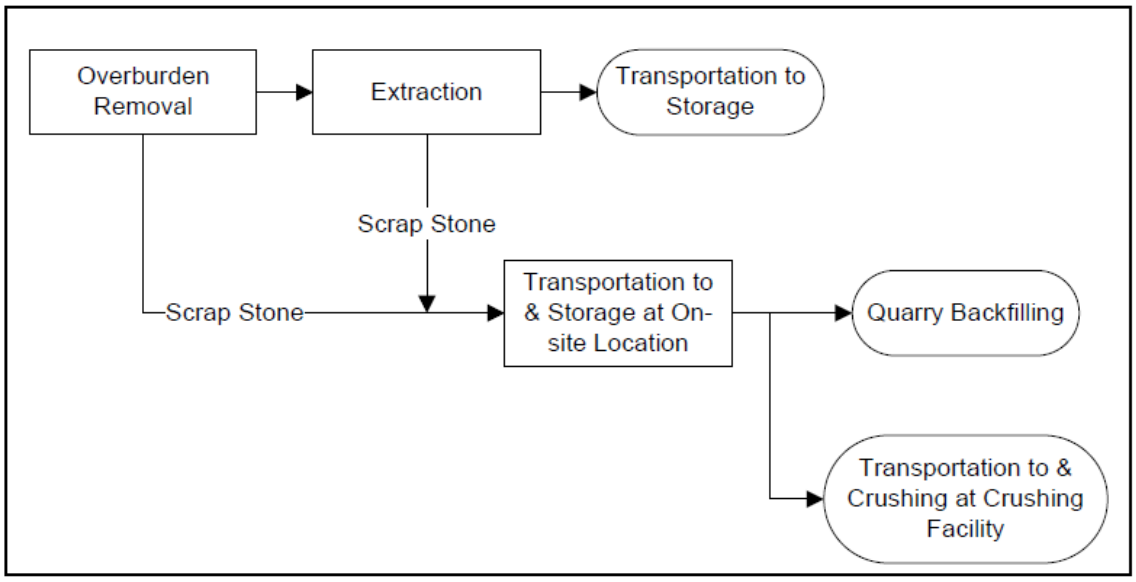


Figure 4: quarrying flow diagram

After the face of the deposit is exposed, the stone is removed from the quarry in layers or slabs. Extraction is accomplished by cutting through the stone with a Chisel & hammer. Since slate has such prominent cleavage, steel wedges can be driven between the strata to pry apart the slabs, as well. This is done by manual labour thus no chemicals or explosives are used.

Below is a figure depicting the manual labour & Chisel used.

Figure 5: Chisel used on site

Picture adapted from Production of Slate Slabs Feasibility Study, 2006.

The current market is for the raw material known as Slasto and Building Stone and will be sold accordingly. Material will be crated and distributed from site. Trucks will collect product, and this will be 8 to 32 ton flat decks. The need for onsite processing is not the current market, however if the need arise this material may be processed off site.

FOR BACKFILLING AND REHABILITATION THE FOLLOWING PROCEDURES WILL BE AS FOLLOW:

- Remove all mining related infrastructure.
- Rehabilitate disturbed areas appropriately.
- Decommissioning of the operational area.
- It should be noted that the open cast area cannot be completely backfilled since the rock layer will be removed and sold.

Therefore benches will be created at closure to create sloped sides. The waste rock and overburden will be backfilled to the open pit area. The area will be sloped as far as possible. Furthermore, as an open cast will be still left behind, the area will be fenced in order to avoid injuries to animals or humans.

QUANTIFYING THE SURFACE AREAS:

Mining will be restricted to the 5ha applied for. Proponent should keep the disturbed areas to a minimum; trees and other plants should not be removed unless necessary; selective quarrying should be adopted so that the entire site is not cleared and affected at once.

E) POLICY AND LEGISLATIVE CONTEXT

Title of legislation, policy or guideline:	Administering authority:	Promulgation Date:
National Environmental Management Act No. 107 of 1998 as amended.	Department of Environmental Affairs	27 November 1998
Constitution of South Africa Act 108 of 1996	National	18 December 1996
The National Heritage Resources Act (Act No. 25 of 1999)	SAHRA	1999
Mineral and Petroleum Resources Development Act (Act No. 28 of 2002)	Department of Mineral Resources & Energy (DMRE)	2002
National Infrastructure Plan	National	
National Environmental Management: Biodiversity Act No. 10 of 2004	Department of Environmental Affairs	7 June 2004
National Environmental Management Waste Act, 2008 (Act No. 59 of 2008)	National & Provincial	1 July 2009
EIA regulations under NEMA	Department of Environmental Affairs	14 December 2014
Conservation of Agricultural Resources Act,1983 (Act No. 43 of 1983)	Department of Agriculture Forestry and Fisheries	1 June 1984
National Environmental Management: Protected Areas Act 57 of 2003.	National and Provincial	18 February 2004
National Environmental Management Air Quality Act, 2004 (Act No. 39 of 2004).	National and Provincial	11 September 2004
National Water Act, 1998 (Act No. 36 of 1998).	National	20 August 1998
North West Province Growth and Development Strategy	Provincial	11 August 2013
Ditsobotla Local Municipality Integrated Development Plan (IDP)	Municipal	
Ngaka Modiri Molema District Municipality Integrated Development Plan (IDP)	Municipal	
National Forest Act (Act 84 of 1998) (NFA)	National	30 October 1998
National Veld & Forest Fires Act (Act 101 of 1998)	National	27 November 1998
National Health Act, 2003 (Act No 61 Of 2003) National Norms and Standards Relating to Environmental Health	National	20 September 2013

POLICY AND LEGISLATIVE CONTEXT

APPLICABLE LEGISLATION AND GUIDELINES USED TO COMPILE THE REPORT (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	**REFERENCE WHERE APPLIED**	**HOW DOES THIS DEVELOPMENT COMPLIY WITH AND RESPOND TO THE LEGISLATION AND POLICY CONTEXT.** (E.g. In terms of the National Water Act a Water Use License has/ has not been applied for)
The Constitution of South Africa (Act No. 108 of 1996)		The Constitution is the supreme law of the Republic and all law and conduct must be consistent with the Constitution. The Chapter on the Bill of Rights contains a number of provisions, which are relevant to securing the protection of the environment. Section 24 states that "everyone has the right to (a) 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 Constitution therefore, compels government to give effect to the people's environmental right and places government under a legal duty to act as a responsible custodian of the countries environment. It compels government to pass legislation and use other measures to protect the environment, to prevent pollution and ecological degradation, promote conservation and secure sustainable development.
The National Environmental Management Act (Act No. 107 of 1998)	S24(1) of NEMA S28(1) of NEMA	NEMA provides for co-operative governance by establishing principles and procedures for decision-makers on matters affecting the environment. An important function of the Act is to serve as an enabling Act for the promulgation of legislation to effectively address integrated environmental management. Some of the principles in the Act are accountability; affordability; cradle to grave management; equity; integration; open information; polluter pays; subsidiary; waste avoidance and minimisation; co-operative governance; sustainable development; and environmental protection and justice.

		The mandate for EIA lays with the National Environmental Management Act (107 of 1998) and the EIA Regulations No. 982, 983, 984, and 985 promulgated in terms of Section 24 of NEMA. The EIA Regulations determine that an Environmental Authorisation is required for certain listed activities, which might have a detrimental effect on the environment. This EIA was triggered by activity 21, 24(ii) and 27 listed in Regulation R983, which requires a 'basic assessment process.'
The National Water Act (Act No. 36 of 1998)	S21	Sustainability and equity are identified as central guiding principles in the protection, use, development, conservation, management and control of water resources. The intention of the Act is to promote the equitable access to water and the sustainable use of water, redress past racial and gender discrimination, and facilitate economic and social development. The Act provides the rights of access to basic water supply and sanitation, and environmentally, it provides for the protection of aquatic and associated ecosystems, the reduction and prevention of pollution and degradation of water resources. As this Act is founded on the principle that National Government has overall responsibility for and authority over water resource management, including the equitable allocation and beneficial use of water in the public interest, a person can only be entitled to use water if the use is permissible under the Act. Chapter 4 of the Act lays the basis for regulating water use.
National Environmental Management: Air Quality Act (Act No. 39 of 2004)	S21	The object of this Act is to protect the environment by providing reasonable measures for the protection and enhancement of the quality of air in the Republic; the prevention of air pollution and ecological degradation; and securing ecologically sustainable development while promoting justifiable economic and social development. Regulations No. R248 (of 31 March 2010) promulgated in terms of Section 21(1) (a) of the National Environmental Management Act: Air Quality Act (39 of 2004) determine that an Atmospheric Emission License (AEL) is required for certain listed activities, which result in atmospheric emissions which have or may have a detrimental effect on the environment. The Regulation also sets out the minimum emission standards for the listed activities. It is not envisaged that an Atmospheric Emission License will be required for the proposed development.
Draft National Dust Control Regulations of 27 May 2011		These regulations are closely related to the NEMAQA. The purpose of the regulations is to prescribe general measures for the control of dust in all areas including. residential and light commercial areas.

		No person may conduct any activity in such a way as to give rise to dust in such quantities and concentrations that (1) The dust, or dust fall, has a detrimental effect on the environment including health, social conditions, economic conditions, ecological conditions or cultural heritage, or has contributed to the degradation of ambient air quality beyond the premises where it originates; or (2) The dust remains visible to the ambient air beyond the premises where it originates: or (3) The dust fall at the boundary or beyond the boundary of the premises where it originates exceeds - a. 600 mg/m2/day averaged over 30 days In residential and light commercial areas measured using reference method ASTM 01739; or b. 1200 mg/m2/day averaged over 30 days in areas other than residential and light commercial areas measured using reference method ASTM 01739.
The National Heritage Resources Act (Act No. 25 of 1999)		The Act aims to introduce an integrated and interactive system for the management of the heritage resources, to promote good government at all levels, and empower civil society to nurture and conserve heritage resources so that they may be bequeathed to future generations and to lay down principles for governing heritage resources management throughout the Republic. It also aims to establish the South African Heritage Resources Agency together with its Council to co-ordinate and promote the management of heritage resources, to set norms and maintain essential national standards and to protect heritage resources, to provide for the protection and management of conservation-worthy places and areas by local authorities, and to provide for matters connected therewith. The Act protects and manages certain categories of heritage resources in South Africa. For the purposes of the Heritage Resources Act, a "heritage resource" includes any place or object of cultural significance. In this regard the Act makes provision for a person undertaking an activity listed in Section 28 of the Act to notify the resources authority. The resources authority may request that a heritage impact assessment be conducted if there is reason to believe that heritage resources will be affected.
Conservation of Agricultural Resources Act (Act No. 85 of 1983)		The objective of the Act is to provide for control over the utilization of the natural agricultural resources of the Republic in order to promote the conservation of the soil, the water sources and the vegetation and the combating of weeds and invader plants; and for matters connected therewith.

		Consent may be required from the Department of Agriculture in order to confirm that the proposed development is not located on high potential agricultural land.
Mineral and Petroleum Resources Development Act (Act No. 28 of 2002)		The Minerals and Petroleum Resources Development Act identifies the state as the official custodian of South Africa's Mineral and Petroleum Resources. Therefore all activities relating to the reconnaissance, prospecting rights, mining rights, mining permits and retention permits are regulated by the State. A mining permit application has been lodge with the Department of Mineral Resources and Energy– North West Province
National Infrastructure Plan		The National Government adopted a National Infrastructure Plan in 2012. With the plan they aim to transform the South African economic landscape while simultaneously creating significant numbers of new jobs, and strengthening the delivery of basic services. Government will over the three years from 2013/14 invest R827 billion in building and upgrading existing infrastructure. These investments will improve access by South Africans to healthcare facilities, schools, water, sanitation, housing and electrification. On the other hand, investments in the construction of ports, roads, railway systems, electricity plants, hospitals, schools and dams will contribute to faster economic growth. This mining activity will indirectly contribute to the growing of the South African economy by supplying SANRAL with material to build and upgrade road infrastructure.
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). **Prohibition on destruction of trees in natural forests** (1) No person may - (a) cut, disturb, damage or destroy any indigenous tree in a natural forest; or

		(b) possess, collect, remove, transport, export, purchase, sell, donate or in any other manner acquire or dispose of any tree, or any forest product derived from a tree contemplated in paragraph (a), except in terms of- (i) a licence issued under subsection (4) or section 23; or (ii) an exemption from the provisions of this subsection published by the Minister in the *Gazette* on the advice of the Council.
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.
National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)		Section 24S of NEMA deals with the management of residue stockpiles and residue deposits and provides that Residue stockpiles and residue deposits must be deposited and managed in accordance with the provisions of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008), on any site demarcated for that purpose in the environmental management plan or environmental management programme in question The management of residue stockpiles and residue deposits must be done in accordance with any conditions set out and any identified measures in the environmental authorisation issued in terms of NEMA, an environmental management programme and a waste management licence issued in terms of NEMA (Regulation 3(2)).
National Environmental Management: Waste Act, 2008 (Act No. 59 Of 2008) Regulations regarding the Planning & Management of Residue Stockpiles & Residue Deposits from a Prospecting, Mining, Exploration or Production Operation		The purpose of these Regulations is to regulate the planning and management of residue stockpiles and residue deposits from a prospecting, mining, exploration or production operation.

Hazardous Substances Act (No. 15 of 1979)		The object of the Act is inter alia to 'provide for the control of substances which may cause injury or ill health to, or death of, human beings by reason of their toxic, corrosive, irritant, strongly sensitising or flammable nature or the generation of pressure thereby in certain circumstances; for the control of electronic products; for the division of such substances or products into groups in relation to the degree of danger; for the prohibition and control of such substances.' In terms of the Act, substances are divided into schedules, based on their relative degree of toxicity, and the Act provides for the control of importation, manufacture, sale, use, operation, application, modification, disposal and dumping of substances in each schedule.
Subdivision of Agricultural Land Act (No. 70 of 1970)		This Act regulates the subdivision of agricultural land and its use for purposes other than agriculture. The Directorate of Resource Conservation is responsible for the enforcement thereof. Investigations are done by the Provincial Department in support of the execution of the Act. The Act also deals with aspects associated with rezoning land.
Occupational Health and Safety Act (No. 85 of 1993)		The Occupational Health and Safety Act (No. 85 of 1993) (OHSA) provides a legislative framework for the provision of reasonably healthy and safe conditions in the workplace. It also places extensive legal duties on employees and users of machinery and makes major inroads on employers' and employees' common law rights. The OHSA is applicable and states that any person involved with construction, upgrades or developments for use at work or on any premises shall ensure as far as reasonably practicable that nothing about the manner in which it is installed, erected or constructed makes it unsafe or creates a risk to health when properly used.
Mine Health and Safety Act (No. 29 of 1996)		The Mine Health and Safety Act (No. 29 of 1996) (MHSA) aims to protect and promote the health and safety of employees and persons that may be affected by the activities at a mine and outlines both the rights and responsibilities of an employer, as well as the obligations of employees working thereat. The following principles are considered applicable to the Proposed Project and are detailed below: • The primary responsibility for ensuring a health and safe working environment in the mining site is placed on the mine owner. The Act sets out in detail the steps that employers must take to identify, assess records and control health and safety hazards in the mine;

		• The right of workers to participate in health and safety decisions, the right to receive health and safety information, the right to training and the right to withdraw from the workplace in face of danger; • The Act requires the establishment of institutions to promote a culture of health and safety and develop policy, legislation and regulations; and • The responsibility for enforcing MHSA lies with the Mine Health and Safety Inspectorate. The Inspectorate's powers are recast and include the power to impose administrative fines upon employers who contravene the MHSA. The Act also contains innovative approaches to the investigation of accidents, diseases and other occurrences that threaten health and safety.
Government Notice Regulation 704 of 1999		GNR.704 of 1999 under the NWA provides regulations on the use of water for mining and related activities aimed at the protection of water resources (requirements for clean and dirty water separation). GNR.704 requires inter alia the following: • Separation of clean (unpolluted) water from dirty water; • Collection and confinement of the water arising within any dirty area into a dirty water system; • Design, construction, maintenance and operation of the clean water and dirty water management systems so that it is not likely for either system to spill into the other more than once in 50 years; • Design, construction, maintenance and operation of any dam that forms part of a dirty water system to have a minimum freeboard of 0.8m above full supply level, unless otherwise specified in terms of Chapter 12 of the Act; and • Design, construction, and maintenance of all water systems in such a manner as to guarantee the serviceability of such conveyances for flows up to and including those arising as a result of the maximum flood with an average period of recurrence of once in 50 years. **GNR.704 also stipulates that no person in control of a mine or activity may:** Locate or place any residue deposit, dam, reservoir, together with any associated structure or any other facility within the 1:100 year flood line or within a horizontal distance of 100 m from any watercourse or estuary, borehole or well, excluding boreholes or wells drilled specifically to monitor

		the pollution of groundwater, or on water-logged ground, or on ground likely to become water-logged, undermined, unstable or cracked; Place or dispose of any residue or substance which causes or is likely to cause pollution of a water resource, in the workings of any underground or opencast mine excavation, prospecting diggings, pit or any other excavation; or Use any area or locate any sanitary convenience, fuel depots, reservoir or depots for any substance which causes or is likely to cause pollution of a water resource within the 1:50 year flood line of any watercourse or estuary.

F) NEED AND DESIRABILITY OF THE PROPOSED ACTIVITIES.

(Motivate the need and desirability of the proposed development including the need and desirability of the activity in the context of the preferred location).

The farm is 90 hectares in size and the mining area applied for is 5 hectares. The intention of the landowner is to develop the property into a sustainable cattle farming operation. The concern from the landowner is the state of the mine waste dump on the farm which was a result of illegal mining.

The Department of Minerals and Energy in 2000 reported that South Africa is one of the lowest per capita users of dimension stone in the world, however the demand for dimension stone (slates included) is increasing. This situation appears to be improving, as slate exports, contrary to production have decreased by approximately 97% in the period 1995-2000 (from 6.2 kilo tons in 1995 to 0.2 kilo tons in 2000). However there has been an increase in the export of processed stone, as local sales increased to 99.5kt in 2000. In the above Table it is also evident that from 1997, hardly any slate products were exported. Which reveal a high local demand for slate. In other words all of the locally produced slate is consumed in South Africa (**Dinesh Naidoo, 2006**).

The establishment of the mining activity will significantly contribute to achieving the objective Ditsobotla Local Municipality's Integrated Development Plan as Ditsobotla contributes the most to the district GVA in mining (63.0%) (**Ditsobotla Local Municipality's, Draft IDP 2022/2027**).

The current unemployment rate in North West Province stands at 35.7% which was higher than the national figure of 34.9%. Employment will be created for people in the area of Groot Marico, Koster, Swartruggens and Zeerust. This also ties in with skills development of the landowners farming activity on the property.

There is a potential for small-scale mining of materials such as slate for use as building blocks.

G) MOTIVATION FOR THE PREFERRED DEVELOPMENT FOOTPRINT WITHIN THE APPROVED SITE INCLUDING A FULL DESCRIPTION OF THE PROCESS FOLLOWED TO REACH THE PROPOSED DEVELOPMENT FOOTPRINT WITHIN THE APPROVED SITE.

NB!! – This section is about the determination of the specific site layout and the location of infrastructure and activities on site, having taken into consideration the issues raised by interested and affected parties, and the consideration of alternatives to the initially proposed site layout.

Location of the site

The location of the site is preferred due to its shallow stone deposits and the close proximity to the town of Groot Marico in the North West Province, the site has also been previously mined, thus no further significant harm will come to the environment as the site is already heavily degraded. Access will be obtained from existing gravel roads off the Bokkraal gravel.

The applicant purchased the property with the aim of mining on it and concurrently continue with farming activities.

Preferred activity

The mining of Slate is the optimum preferred activity for the site. The slate deposits makes the site ideal for opencast Slate mining. There is a great need for Slate in the surrounding area for the construction and maintenance of the provincial road network. The mine will provide significantly more job opportunities than what is providing currently. And indirectly it will have a positive effect on the socio-economic status in the surrounding communities by supplying material for the upgrading of roads.

There is an area on the property which was mined illegally previously. The concern of the applicant is mine dumps which are scattered over a vast area and would like to see an action plan put in place for the restoration of the environment. Slatello Mine is aware of the slate industry and know it started in the early 1930's. It is one of the few economical activities and is well known as the source for stone.

Technology alternatives

In terms of the technologies proposed, these have been chosen based on the long term success of their mining history.

When it comes to dust suppression two main methods were considered, namely molasses stillage and the wetting (water) of roads. The table below provides a short summary of the advantages and disadvantages of each.

Water	Molasses stillage
More cost effective	Much more expensive
Could lead to the depleting of water resources	Requires less water
No damage (only if used excessively)	The product may be toxic to aquatic organisms. (As this product could have physical effects on aquatic organisms for e.g. floating, osmotic damage)
No harm to humans or animals (Only a high quantity will have harm to humans or animals)	Not Hazardous or toxic. Could cause irritation to eyes, skin or when ingested and inhaled.
Non-flammable	Non-flammable
Eye-wash fountains not needed	Eye-wash fountains in the work place are strongly recommended
	Working procedures should be designed to minimize worker exposure to this product.
Basic storing methods	Storing methods are a bit more complicated. Should be stored in a plastic, plastic lined or stainless steel, tight closed containers between 5 and 40 degrees Centigrade.

Considering the above mentioned information, water will be used for dust suppression purposes.

H) A FULL DESCRIPTION OF THE PROCESS FOLLOWED TO REACH THE PROPOSED DEVELOPMENT FOOTPRINT WITHIN THE APPROVED SITE, INCLUDING:

i) DETAILS OF THE DEVELOPMENT FOOTPRINT ALTERNATIVES CONSIDERED;

- **Consideration of alternatives**

The DEAT 2006 guidelines on 'assessment of alternatives and impacts' proposes the consideration of four types of alternatives namely, the no-go, site, activity, and technology alternatives. It is however, important to note that the regulation and guidelines specifically state that only 'feasible' and 'reasonable' alternatives should be explored. It also recognizes that the consideration of alternatives is an iterative process of feedback between the developer, the EAP and Interested and affected parties, which in some instances culminates in a single preferred project proposal. The following sections explore each type of alternative in relation to the proposed activity.

- **Location alternatives**

This alternative asks the question, if there is not, from an environmental perspective, a more suitable location for the proposed activity. Also, it is expected that the applied for minerals have been deposited on this farm and therefore the applicant would like to commence with their mining activities.

The applicant purchased the property with the aim of mining on it and concurrently continue with farming activities.

Land capability is the combination of soil suitability and climate factors. The proposed development falls within Land in Class 6. (refer to Land capability map on **Figure 6 below** and attached as **Appendix 5).**

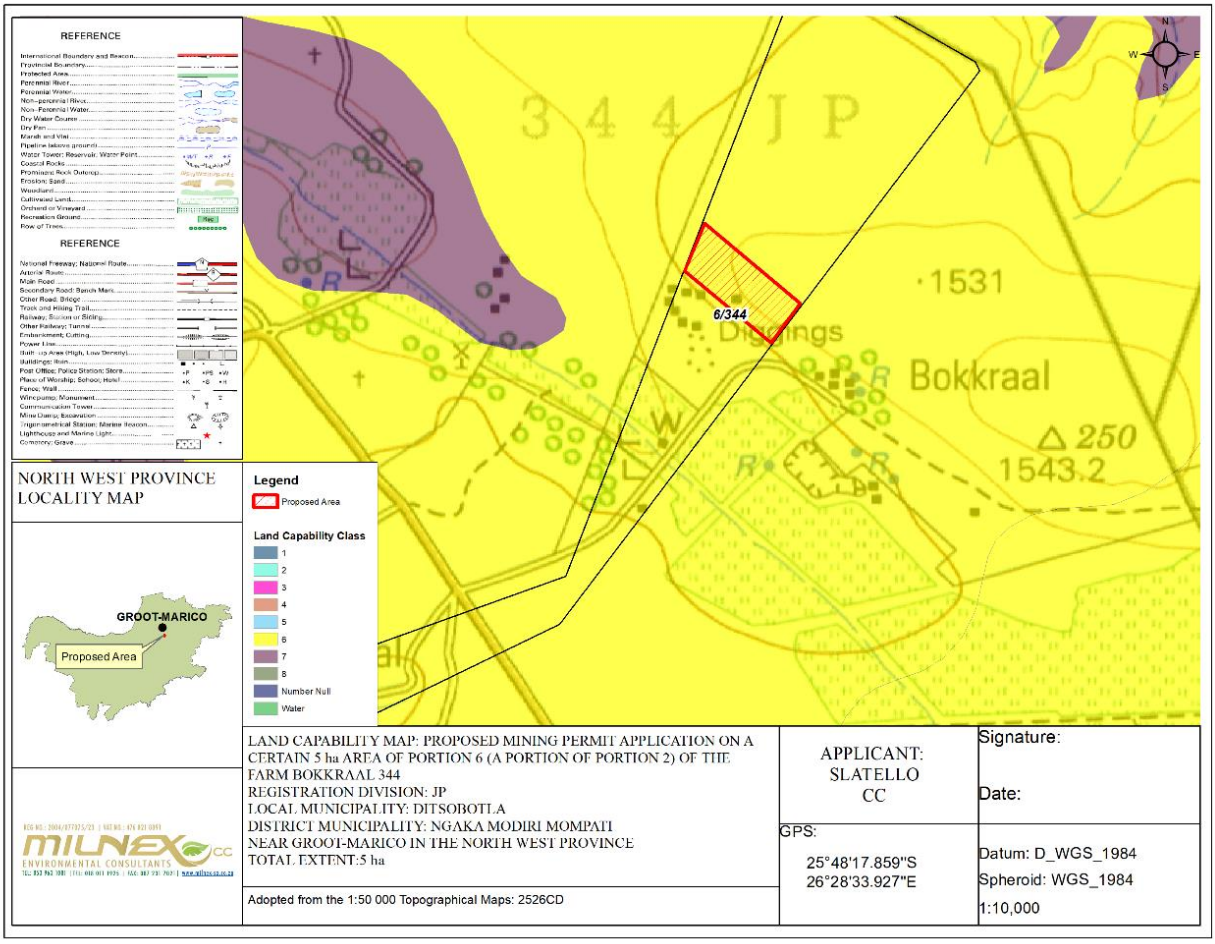


Figure 6: Land Capability Map

- **Activity alternatives**

The environmental impact assessment process also needs to consider if the development of Slate mining would be the most appropriate land use for the particular site.

Mining of other commodities – from the surface and desktop assessment there are no indications that there are other commodities to be mined on the site except Slate.

If the proposed mining permit is not granted the proposed area will still be used for cultivation.

- **Design and layout alternatives**

Design alternatives were considered throughout the planning and design phase (i.e. where is the rock bed located?). The layout follows the limitations of the site and aspects such as, roads, site offices and workshop area as well as fencing– refer **Appendix 4**.

- **Operational alternatives**

Due to the nature of the mining activities, no permanent services in terms of water supply, electricity, or sewerage services are required. Mining activities should be limited to Monday - Saturdays (6:00 – 18:00).

- **No-go alternative**

This alternative considers the option of 'do nothing' and maintaining the status quo. The description provided in section H of this report could be considered the baseline conditions (status quo) to persist should the no-go alternative be preferred. Should the proposed activity not proceed, the site will remain unchanged

ii) DETAILS OF THE PUBLIC PARTICIPATION PROCESS FOLLOWED

Describe the process undertaken to consult interested and affected parties including public meetings and one on one consultation. NB the affected parties must be specifically consulted regardless of whether or not they attended public meetings. (Information to be provided to affected parties must include sufficient detail of the intended operation to enable them to assess what impact the activities will have on them or on the use of their land.

ADVERTISEMENT AND NOTICES

NEWSPAPER ADVERTISEMENT

An advertisement was placed in English in the local newspaper (**Rustenburg Herald**) on **14 March 2022** see **Appendix 6 (iv)**) notifying the public of the EIA process and requesting Interested and Affected Parties (I&APs) to register with, and submit their comments to Milnex CC. I&APs were given the opportunity to raise comments within 30 days of the advertisement.

SITE NOTICES

Site notices was placed (as anticipated on the coordinates below) on site in English to inform surrounding communities and immediately adjacent landowners of the proposed development. I&APs will be given the opportunity to raise comments. Photographic evidence of the site notices will be included in **Appendix 6 (v)**. Below are the coordinates where the site notices were placed.

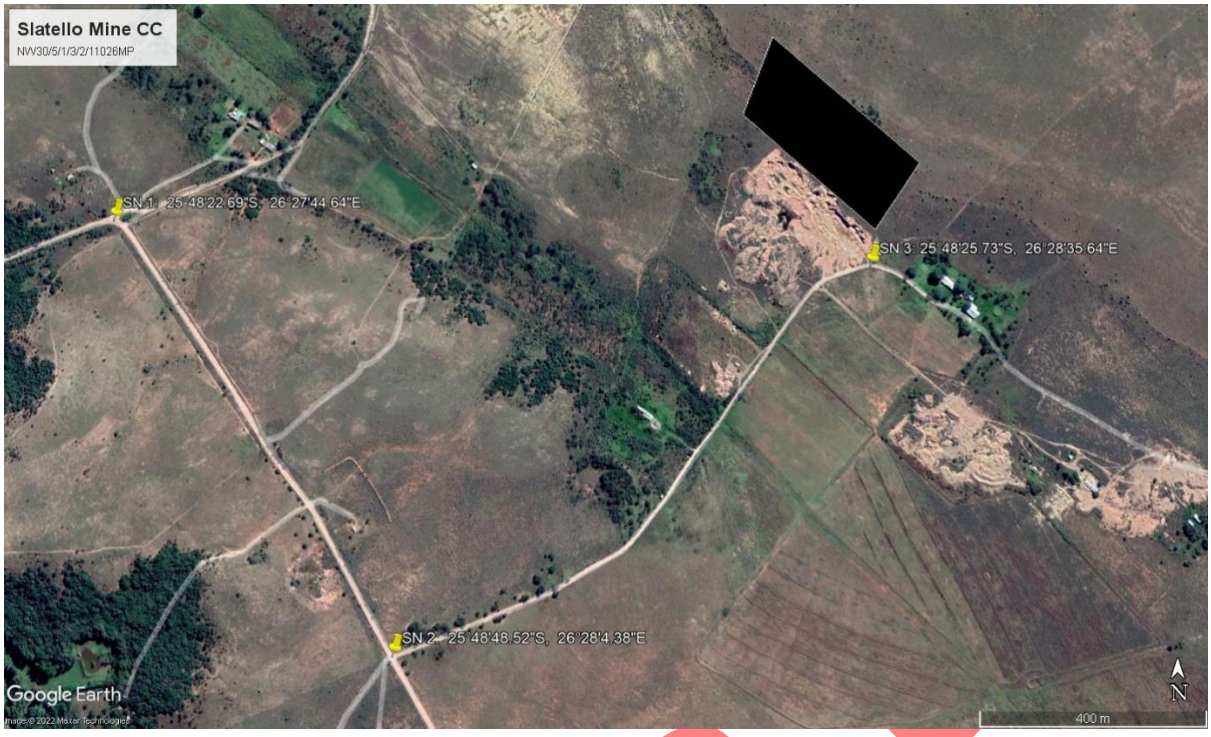


Figure 7: Site notices

DIRECT NOTIFICATION AND CIRCULATION OF BASIC ASSESSMENT REPORT TO IDENTIFIED LANDOWNERS, SURROUNDING LANDOWNERS, OCCUPIERS AND STAKEHOLDERS.

Identified I&APs, including key Stakeholders representing various sectors, Landowners, Surrounding landowners and Occupiers are directly informed of the proposed development and the availability of the **Basic Assessment Report** via registered post or email on **14 March 2022** and were requested to submit comments by **14 April 2022.** A copy of the report is also available at the Milnex offices in Schweizer-Reneke, 4 Botha Street, Schweizer-Reneke and Potchefstroom (Waterberry Street, Waterberry Square, 1st floor, Office 5B, Potchefstroom), between 7:30AM and 5PM, Monday to Friday. For a complete list of stakeholder details and for proof of registered post see **Appendix 6 (i)**.

It is expected from I&APs to provide their inputs and comments within 30 days after receipt of the notification or Basic Assessment Report. When the comment period ends, all comments received will be included in the final Basic Assessment Report & EMP Report.

Table 1: List of Stakeholders, Landowners, & surrounding landowners

Stakeholders
Department of Agriculture and Rural Development
Department of Community Safety and Transport Management
Department of Cooperative Governance, Human Settlements and Traditional Affairs
Department of Public Works and Roads (DPWR)
Department of Mineral Resources and Energy
Department of Economic Development, Environment, Conservation and Tourism
Department of Human Settlements

Stakeholders
Department of Water and Sanitation
Department of Agriculture, Land Reform and Rural Development (DALRRD)
SANRAL
Provincial Heritage Resources Agency
Department of Agriculture Forestry, and Fisheries (DAFF)
Department of Environment, Forestry, and Fisheries (DEFF)
Ngaka Modiri Molema District Municipality
WESSA
Municipal Manager at the Ditsobotla Local Municipality
Ward 13 Councillor at the Ditsobotla Local Municipality

Landowners
Matshego Enterprise Trading (Pty) Ltd Petrus Jacobus Scholtz This landowner is per searchworks performed. However, the property was sold to the Mr Vincent du Plessis. Kindly refer to **Appendix 6 (vi)**

Surrounding Landowner
Rhebokfontein Beleggings (Pty) Ltd Jan Adriaan De Beer
Sikhulile Ngqase Bonginkosi Ignatius Dhlamini
Elsie Dorothea Oberholzer Paul Hendrik Van Der Merwe Evert Frederik Van Der Merwe

Registered I&AP
Armiston Watson
Brian Webb
Jacques Christiaan Halbisch
Maria Christina Halbisch
Committee Mmutlwa wa Noko
Dawid Johannes Fourie
Daan Van Der Merwe
Gideon Groenewald
Janine Watson
Jeanne Kemack
Jo Ann Coetsee
Llewellyn David Kriel
Evergreen River Guest Farm

Registered I&AP
Robert Christopher Kriel & Lynette Joan Kriel
Marico Biosphere Reserve Irene Groenewald
Mervyn Davis
Petronella Erndina Sevior and Kevin Barry Sevior
Pieter Snyders
Pippa Cope
Swartruggens DLU Wilhelm Rochér (Chairperson)
Japhta Nawane

MEETINGS

Meeting was arranged as follows:

A meeting was scheduled for the **06/05/2022 at 10:00am** on the below coordinates on the gravel road leading to the gate going to the application area.

COORDINATES:
Meeting Area: **25°48'48.48"S, 26°28'4.52"E**

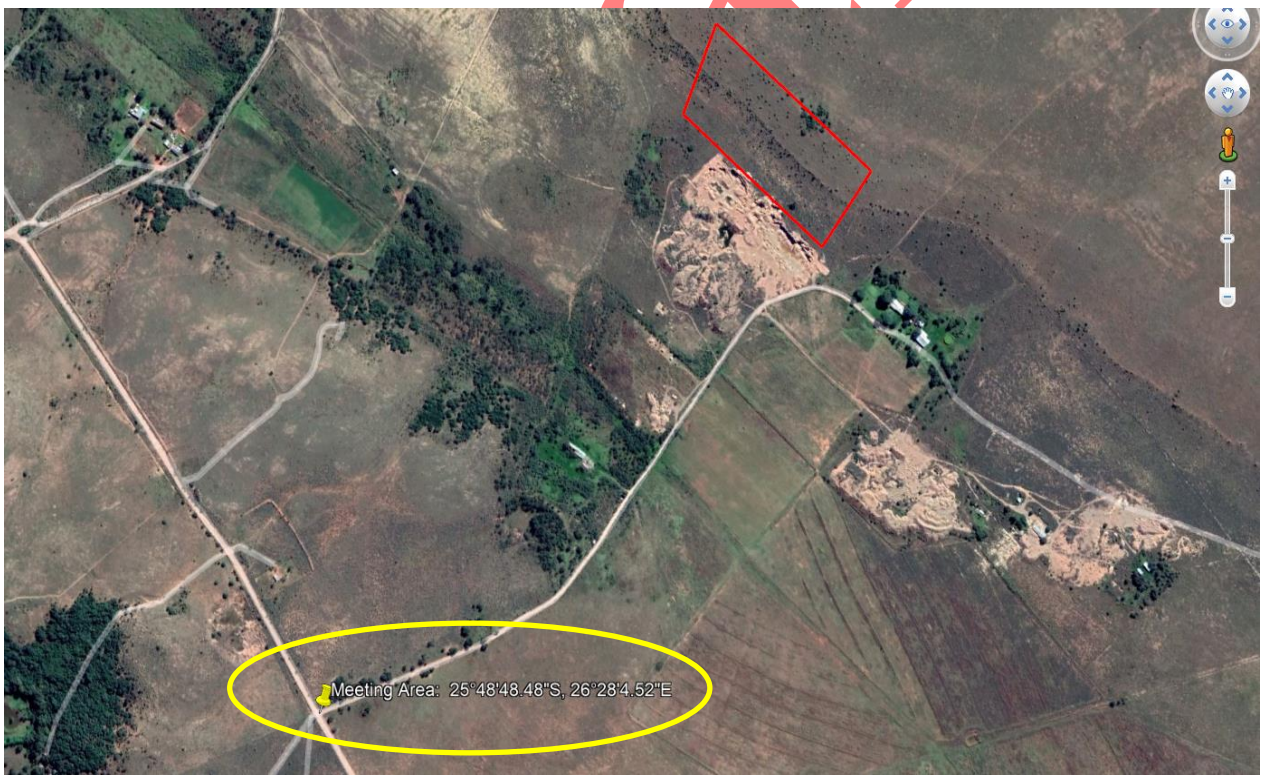


Figure 8: Meeting location indicated with coordinates in conjunction with the application area

The minutes of the meeting and the attendance register are attached as **Appendix 6 (vii)**

Issues Raised by Interested and Affected Parties
Comments received were included in the comments and response table/form (See **Appendix 6 (iii)** for comments and response form).

iii) SUMMARY OF ISSUES RAISED BY I&APS

(Complete the table summarising comments and issues raised, and reaction to those responses)

Interested and Affected Parties **List the names of persons consulted in this column, and** **Mark with an X where those who must be consulted were in fact consulted.**		**Issues raised**	**EAPs response to issues as mandated by the applicant**
Organisation	**Contact person**		
Landowner			
Bokkraal 6/377			
Surrounding Landowners			
Rhebokfontein Beleggings (Pty) Ltd			
Rhebokfontein 6/317	Rhebokfontein 6/317		
Bokkraal 8/344	Sikhulile Ngqase		
	Bonginkosi Ignatius Dhlamini		
Bokkraal 5/344	Elsie Dorothea Oberholzer		
	Paul Hendrik Van Der Merwe		
	Evert Frederik Van Der Merwe		
The Municipality in which jurisdiction the development is located			
Ditsobotla Local Municipality	**Municipal Manager:** Mr Jonas Letlhaku (Acting)	No comments received	
Municipal councilor of the ward in which the site is located			
Ditsobotla Local Municipality	Ward 13 Councillor	No comments received	
Organs of state having jurisdiction			

Department: Mineral Resources and Energy (DMRE)	JH Makhubela	Application for mining permit was accepted on a letter dated 07/03/2022	
	Mr. Chris Tshisevhe	The application was acknowledged on a letter dated 07/03/2022 and requested the following: 1 a) Proof of payment b) Locality map with a scale not less than 1:250000 c) An undertaking under oath 2. Information must be submitted within 30 days 3. the application will follow basic assessment process 4. Submit the report within 90 days 6. Consult relevant organs of state 7. Submit Public Participation Plan	Letter dated 10/03/2022 was submitted to the department with requested information
Department: Agriculture and Rural Development (DARD)	**Head of Department:** Mr Dipepeneneng Serage (Acting)		
Department: Community Safety and Transport Management (DCSTM)	**Head of Department** Ms B Mofokeng		
Department: Cooperative Governance and Traditional Affairs (CGTA)	**Head of Department** Mr JK Mashego		
Department: Economic Development, Environment,	**Ouma Skosana**		

Conservation and Tourism (DEDECT)			
Department: Public Works and Roads (DPWR)	**Director:** Mr Sfiso Diko (Roads Project Implementation)		
North West Parks Board	**Communications Officer:** Ms Dinah Olive Rangaka (Public Relations and Communications Manager)		
North West Tourism Board	**Communications Officer:** Ms Mamaki Estelle Phoolo		
The South African Heritage Resources (PHRA)	Mr. Motlhabane Mosiane		
Department: Water and Sanitation (DWS)	To whom it may concern		
SANRAL	To whom it may concern		
Department of Agriculture, Land Reform and Rural Development (DALRRD)	**Keabetswe Mothupi**		Enquiry sent 15/03/2022 to Keabetswe Mothupi inquiring if the properties on the application area has claims on them
		Email received with land claims letter dated 22/03/2022. The letter states the following: No land claims appear on the database of claims lodged between 1 July 2014 and 24 July 2016 in terms of the Restitution of Land Rights Amendment Act, of 2014	
Other–			

Ngaka Modiri Molema District Municipality	**Municipal Manager:** Mr Allan Olehile Losaba	No comments received	
WESSA	Mr John Wesson	No comments received	
Registered I&AP			

iv) THE ENVIRONMENTAL ATTRIBUTES ASSOCIATED WITH THE SITES

Baseline Environment

The baseline environment is described with specific reference to geotechnical conditions, ecological habitat and landscape features, Soil, land capability and agricultural potential, climate and the visual landscape.

The following section represents the results of the screening for environmental sensitivity of the proposed site for relevant environmental themes associated with the project classification.

TABLE 1: ENVIRONMENTAL SENSITIVITY OF THE PROPOSED AREA

Theme	Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
Agriculture Theme			X	
Animal Species Theme				X
Aquatic Biodiversity Theme	X			
Archaeological and Cultural Heritage Theme	X			
Civil Aviation Theme				X
Defense Theme				X
Paleontology Theme		X		
Plant Species Theme				X
Terrestrial Biodiversity Theme	X			

PAST ILLEGAL MINING ON THE FARM

It should be noted that the 5ha application area is adjacent to an area which was mine illegally in the past and left in a state which was not rehabilitated. Kindly refer to **Figure 9** below and the illegal mined area outlined in yellow and the 5ha application area in red.

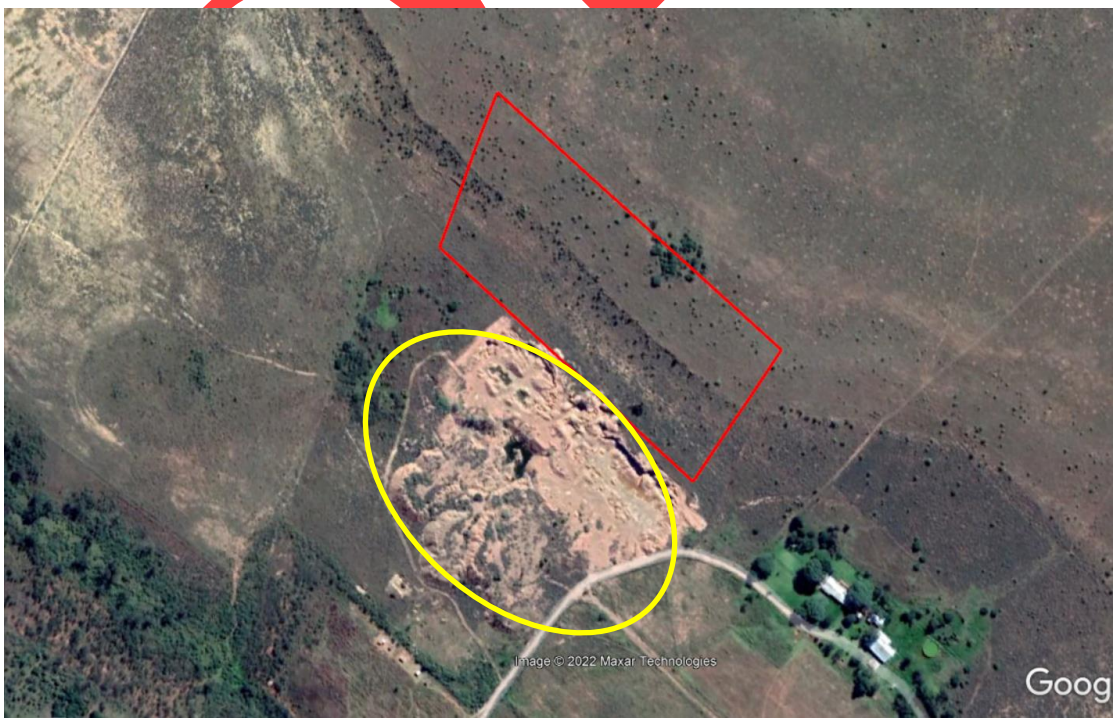


Figure 9: Illegal mined area outlined in yellow and the 5ha application area in red.

APPLICATION AREA IN RELATION TO SURROUNDING AREA ENVIRONMENT

MARICO BIOSPHERE RESERVE

The application area falls within the Marico Biosphere Reserve which was declared as a United Nations, Education, Scientific and Cultural Organization (UNESCO) Biosphere Reserve (Refer to **Figure 11** below). This was approved 25 July 2018 and the late Minister Molewa welcomed the declaration on 30 July 2018. According to maricobiosreserve.org "*this area is comprised of a freshwater system that includes the Molemane, Molopo, and Marico River systems, and forms part of the broader Dolomitic Aquifer System of the North West Province (UNESCO 2018). The Groot-Marico and Molemane rivers feed into the Limpopo River which provides water for people in South Africa, Zimbabwe, Botswana, and Mozambique. The Molopo feeds into the orange river and the Southern aquifers supply water to the Lichtenburg wetland system that feeds into the Harts River and then into the Vaal river.*"

According to the late Minister Molewa *"These are areas which are much more than "protected areas" and form an integral part of a regional planning and development strategy aimed at promoting sustainable development and conservation. They conserve diversity and integrity of plants, animals and micro-organism; Promote research on ecological conservation and other environmental aspects and also provide facilities for education, awareness and training,"* (Department of Forestry, Fisheries and the Environment, 2018).

MARICO PROTECTED AREA

The 5ha area is approximately 270m away from the west boundary of the Marico Protected Environment (Refer to **Figure 11** below). The Marico Protected Environment was declared in terms of the National Environmental Management: Protected Areas Act 57 of 2003 (Refer to insert below of **Figure 10**).

PROVINSIALE KOERANT, 13 SEPTEMBER 2016 No. 7690 27

PROVINCIAL NOTICE 177 OF 2016

ESTABLISHMENT OF THE NEW PROTECTED ENVIRONMENT IN THE NORTH WEST PROVINCE IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT: PROTECTED AREAS ACT, 2003 (ACT NO. 57 OF 2003)

I, Manketsi Tlhape, Member of the Executive Council responsible for Rural, Environment and Agricultural Development, hereby declare by virtue of the powers vested in me by Section 28(1)(a)(i) of the National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003 the properties listed in the schedule hereunder a new protected environment; and that it be named Marico Protected Environment in terms of Section 28(1)(b) of the Act; and assign Marico River Conservation Association as Management Authority in terms of Section 38(2)(a) of the Act.

Manketsi Tlhape

MEC for Rural, Environment and Agricultural Development

Date: 17 / 08 / 2016

Figure 10: Marico Protected Environment declaration under NEM:PA

RIETSPRUIT RUSOORD NATURE RESERVE

Rietspruit Rusoord Nature Reserve is situated approximately 3000m (3km) on the western direction of the 5ha mining permit area (Refer to **Figure 11** below). It is private owned with hiking trails which traversing across a confluence of rivers that form the Marico River.

WATER IN THE SURROUNDING AREA

- The area is a water rich and is also an important water recharge area. It supplies clean water to surrounding communities and countries.
- There are dams and reservoir found within 1000m of the mining permit area
- Rivers and drainage lines located approximately 5000m (5km) away from the 5ha Mining Permit area

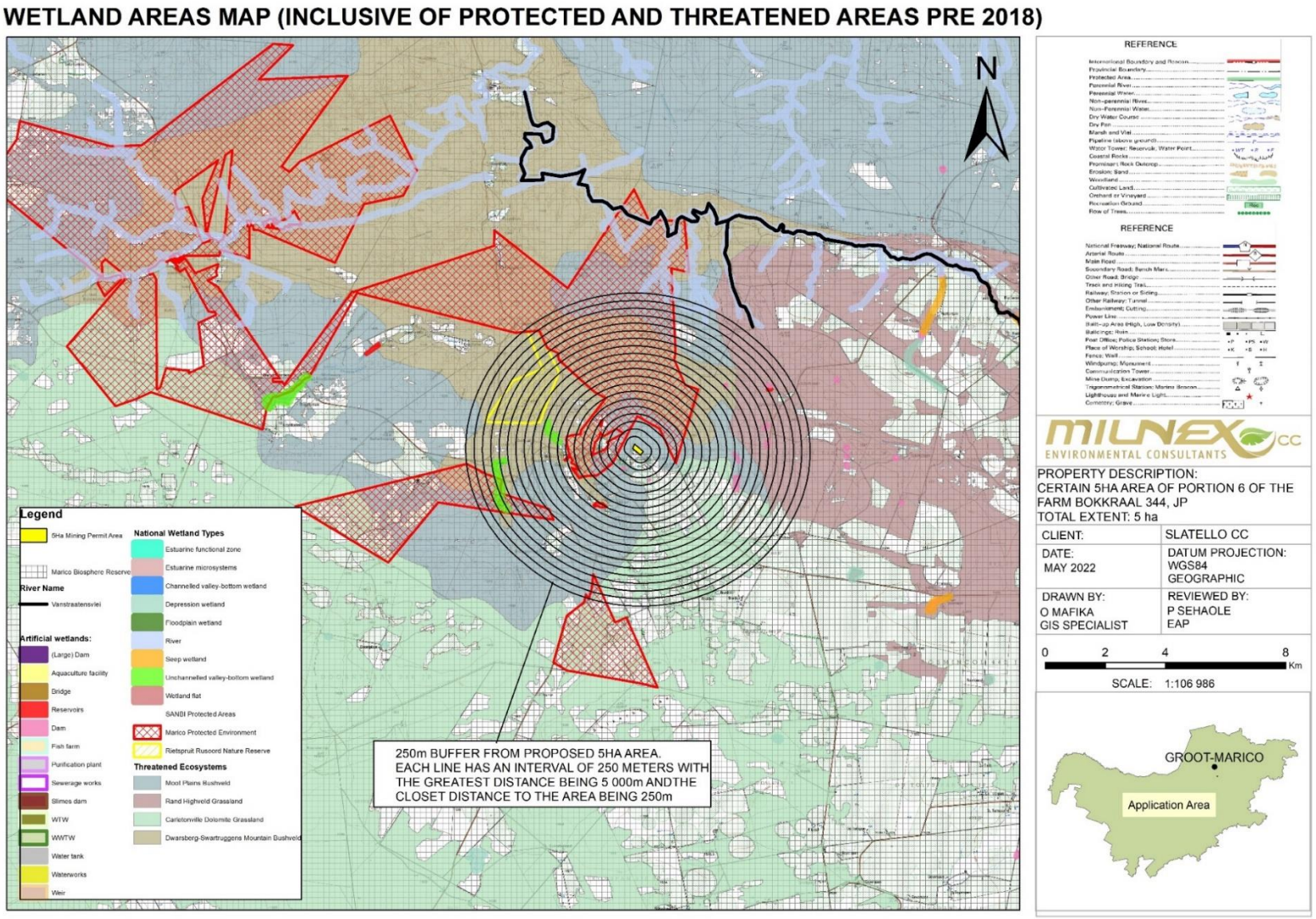


Figure 11: Map depicting distances from Wetlands, Protected areas & Threatened areas in relation to the 5ha mining permit area

Type of environment affected by the proposed activity.
(its current geographical, physical, biological, socio- economic, and cultural character).

Geology and Soils

Primarily comprised of quartz and either muscovite or illite, quantities of biotite, chlorite, hematite, and pyrite are also commonly present. Less frequently, apatite, graphite, kaolin, magnetite, tourmaline, and zircon can be constituents, as well

ECOLOGICAL HABITAT AND LANDSCAPE FEATURES

Moot Plains Bushveld

The result obtained by plotting the coordinates are as follow:

The proposed area falls within vegetation unit SVcb 8, which is known as the Moot Plains Bushveld. The Moot Plains Bushveld is part of the Central Bushveld Bioregion, which is a sub-bioregion for the Savanna Biome.

According to Mucina and Rutherford (2006:465), the Moot Plains Bushveld vegetation covers the North-West and Gauteng Provinces: Main belt occurs immediately south of the Magaliesberg from the Selons River Valley in the west through Maanhaarrand, filling the valley bottom of the Magalies River, proceeding east of the Hartebeestpoort Dam between the Magaliesberg and Daspoort mountain ranges to Pretoria. It also occurs as a narrow belt immediately north of the Magaliesberg from Rustenburg in the west to just east of the Crocodile River in the east: also, south of the Swartruggens–Zeerust line. This Thornveld is situated on an altitude of about 1050-1450m.

The vegetation & landscape features include open to closed, low, often thorny savanna dominated by various species of *Acacia* in the bottomlands and plains as well as woodlands of varying height and density on the lower hillsides. Herbaceous layer is dominated by grasses.

Some other important Taxa found on in the area:

Small Trees: *Acacia nilotica* (d), *A. tortilis* subsp. *heteracantha* (d), *Rhus lancea* (d).

Tall Shrubs: *Buddleja saligna* (d), *Euclea undulata* (d), *Olea europaea* subsp. *africana* (d), *Grewia occidentalis*, *Gymnosporia polyacantha*, *Mystroxylon aethiopicum* subsp. *burkeanum*.

Low Shrubs: *Aptosimum elongatum*, *Felicia fascicularis*, *Lantana rugosa*, *Teucrium trifidum*.

Succulent Shrub: *Kalanchoe paniculata*.

Woody Climber: *Jasminum breviflorum*.

Herbaceous Climber: *Lotononis bainesii*.

Graminoids: *Heteropogon contortus* (d), *Setaria sphacelata* (d), *Themeda triandra* (d), *Aristida congesta*, *Chloris virgata*, *Cynodon dactylon*, *Sporobolus nitens*, *Tragus racemosus*.

Herbs: *Achyropsis avicularis*, *Corchorus asplenifolius*, *Evolvulus alsinoides*, *Helichrysum nudifolium*, *H. undulatum*, *Hermannia depressa*, *Osteospermum muricatum*, *Phyllanthus maderaspatensis*.

Mucina and Rutherford (2006:466) also states that the conservation of this Bushveld type, is vulnerable with a target of 19%. Some 13% statutorily conserved mainly in the Magaliesberg Nature Area. About 28% transformed mainly by cultivation and urban and built-up areas. Very scattered occurrences to sometimes dense patches in places of various alien plants including

Cereus jamacaru, *Eucalyptus* species, *Jacaranda mimosifolia*, *Lantana camara*, *Melia azedarach* and *Schinus* species. Erosion is mainly very low to low, moderate in some areas.

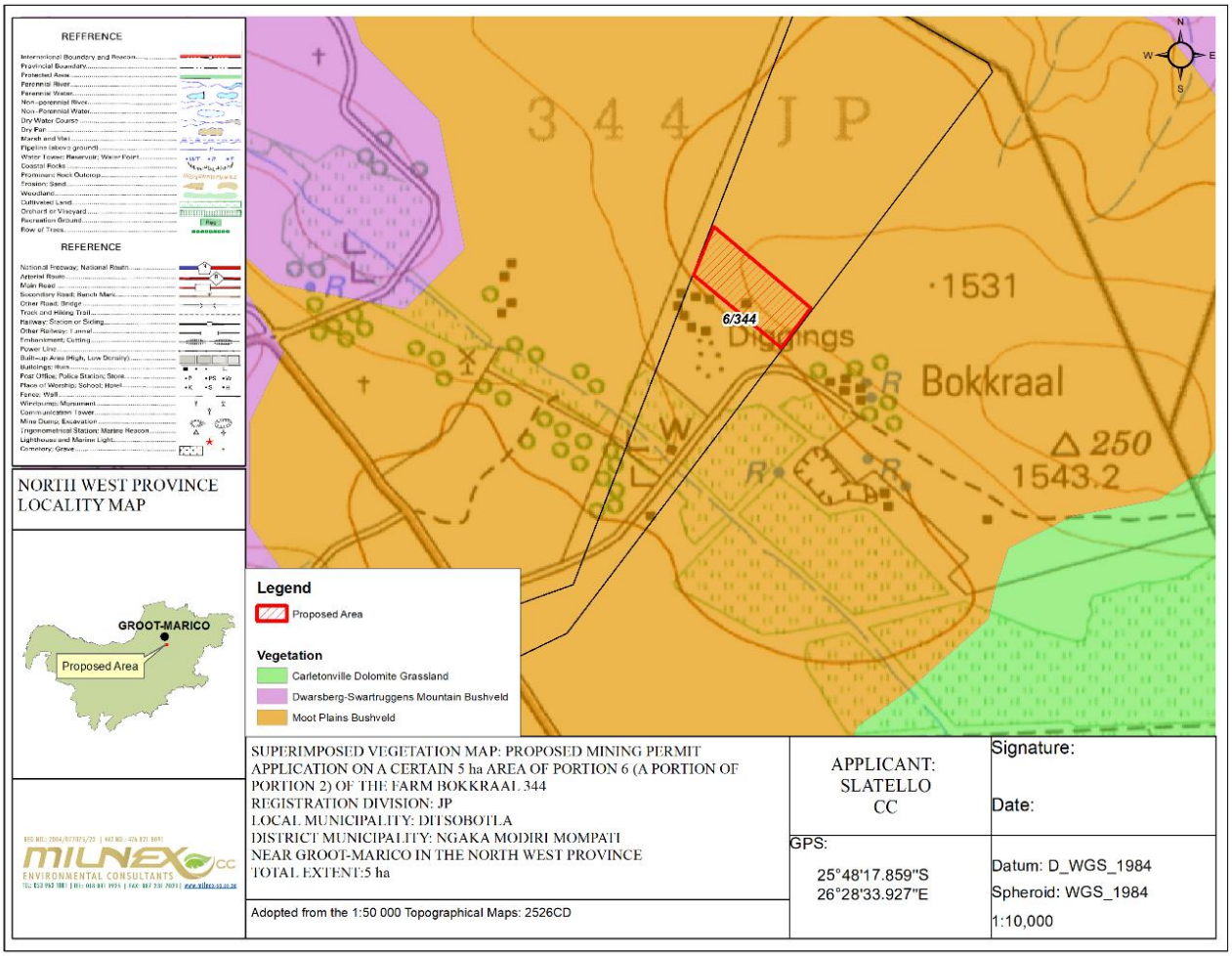


Figure 12: Vegetation types associated with the study site (Mucina & Rutherford 2006/2018).

AGRICULTURE THEME SENSITIVITY

Map of relative Agriculture theme sensitivity according to the DEA Screening Tool, which illustrates the Agriculture Theme Sensitivity is Medium and high sensitivity areas. Please see **Appendix 7** for the colour map.

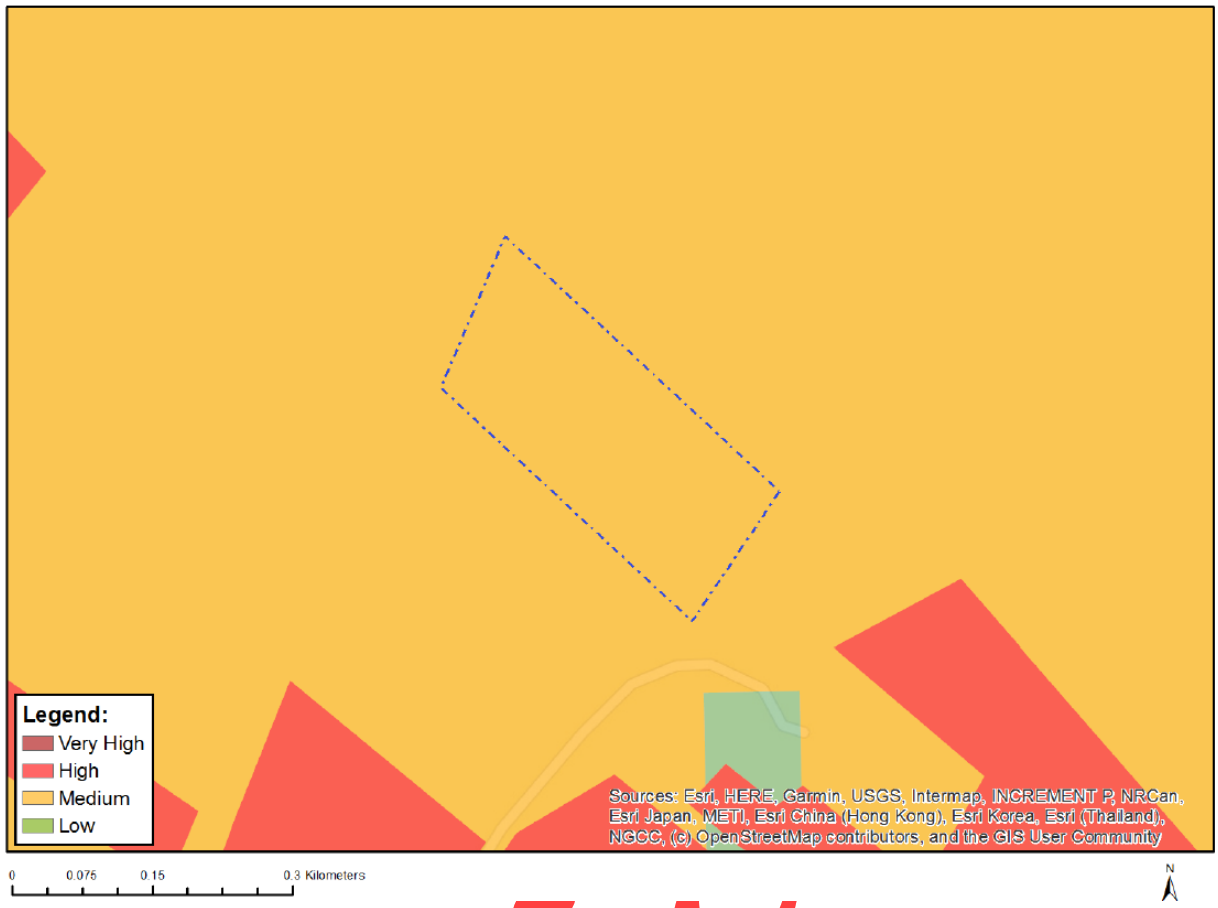


Figure 13: Agriculture Combined Sensitivity

PROTECTED AREA

Prospecting and mining activities in protected area

48. (1) Despite other legislation, no person may conduct commercial prospecting or mining activities-

(a) in a special nature reserve or nature reserve;
(b) in a protected environment without the written permission of the Minister and
(c) in a protected area referred to in section 9(b) or (d) the Cabinet member responsible for minerals and energy affairs; or

(2) The Minister, after consultation with the Cabinet member responsible for mineral and energy affairs, must review all mining activities which were lawfully conducted in areas indicated in subsection (l)(a), (b) and (c) immediately before this section took effect.

(3) The Minister, after consultation with the Cabinet member responsible for mineral and energy affairs, may, in relation to the activities contemplated in subsection (2), as well as in relation to mining activities conducted in areas contemplated in that subsection which were declared as such after the commencement of this section, prescribe conditions under which those activities may continue in order to reduce or eliminate the impact of those activities on the environment or for the environmental protection of the area concerned.

(4) When applying this section, the Minister must take into account the interests of local communities and the environmental principles referred to in section 2 of the National Environmental Management Act, 1998

The 5ha falls within the Marico Biosphere Reserve (UNESCO) declared area, however it does not within Marico Protected Environment & Rietspruit Rusoord Nature Reserve.

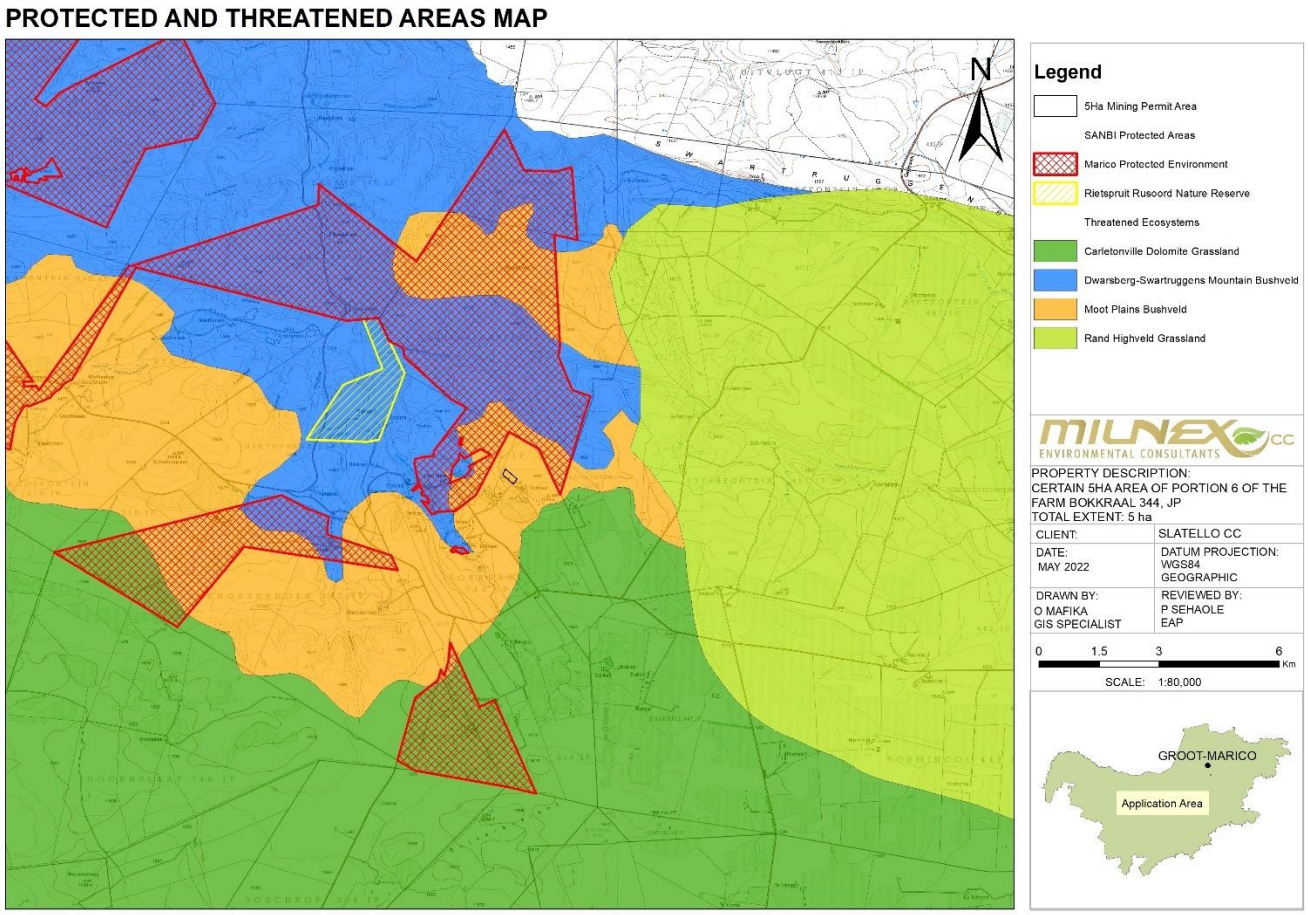


Figure 14: Threatened & Protected Area Map.

Critical Biodiversity Area

Critical Biodiversity Areas (CBAs) are terrestrial and aquatic areas of high biodiversity value that need to be conserved and maintained in a natural or near-natural state to ensure the continued existence and functioning of species and ecosystems and the delivery of ecosystem services (MTPA, 2014). According to the National Environmental Management Act (NEMA) (Act no. 107 of 1998) certain activities have strict guidelines or are prohibited within CBAs and ESAs. Refer to the listed activities under the NEMA: Environmental Impact Assessment Regulations of 2014 (GNR 982) as promulgated in terms of the National Environmental Management Act (Act 107 of 1998) (NEMA) [as amended] for a comprehensive breakdown. The following terms are used to categorise the various land used types according to their biodiversity and environmental importance:

- Critical Biodiversity Area One (CBA1);
- Critical Biodiversity Area Two (CBA2);
- Ecological Support Area (ESA);
- Other Natural Areas (ONA); and
- Protected Area (PA).

According to the data for Critical Biodiversity Areas, the proposed area falls within Critical Biodiversity Area One (1) and Ecological Support Areas one (1) (**Figure 15**).

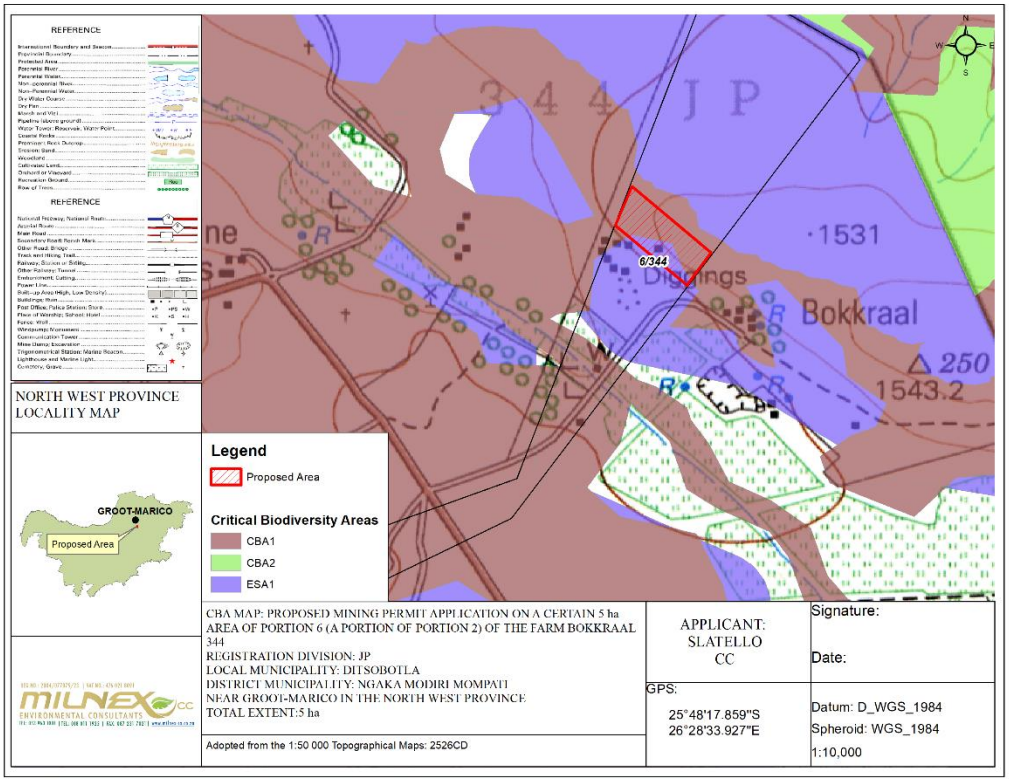


Figure 15: Critical Biodiversity Areas (CBAs) associated with the study site.

AQUATIC & TERRESTRIAL BIODIVERSITY

The area is a water rich and is also an important water recharge area. It supplies clean water to surrounding communities and countries. Since the area falls within Marico Biosphere Reserve, it should be noted that the Marico Biosphere Reserve lies within the watershed area of these three major rivers of South Africa, and it is the only place where these three rivers share catchments/drainage regions. The rivers are as follows Limpopo River, Orange River & Vaal River.

Map of relative Aquatic Biodiversity theme sensitivity according to the DEA Screening Tool, which illustrates the Aquatic Biodiversity Theme Sensitivity is very high. Please see **Appendix 7** for the colour map.

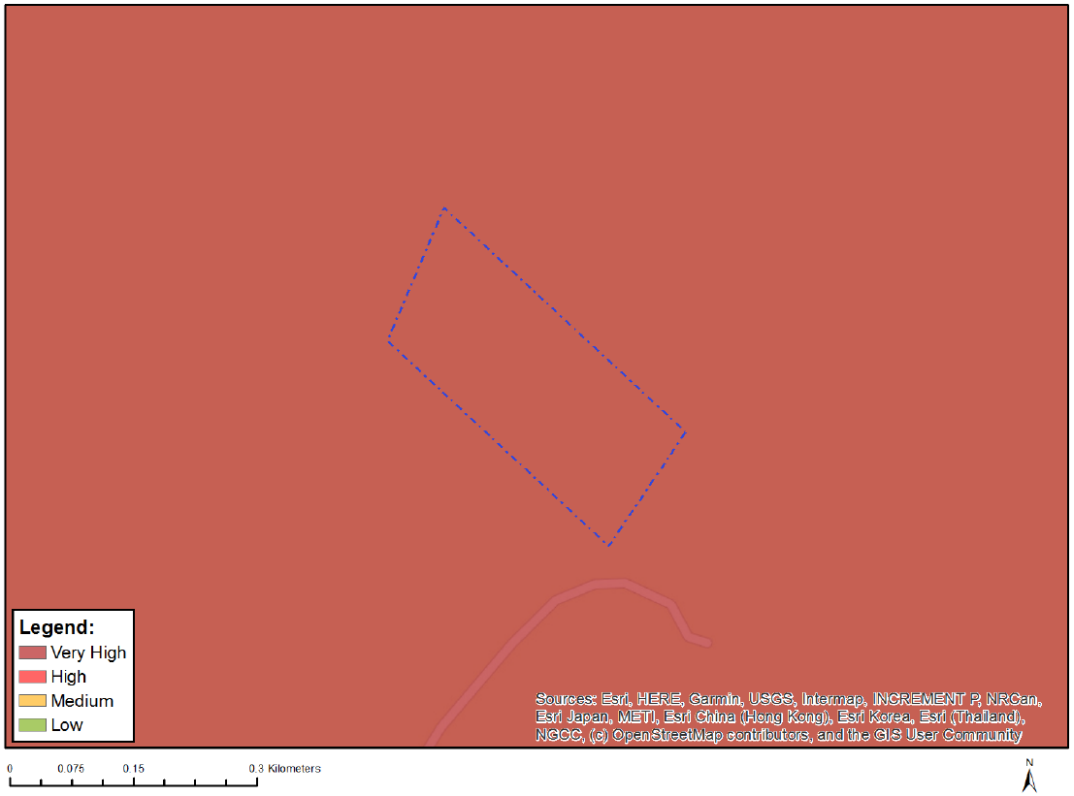


Figure 16: Aquatic Biodiversity Combined Sensitivity

Map of relative Terrestrial Biodiversity theme sensitivity according to the DEA Screening Tool, which illustrates the Terrestrial Biodiversity Theme Sensitivity is very high. Please see **Appendix 7** for the colour map.

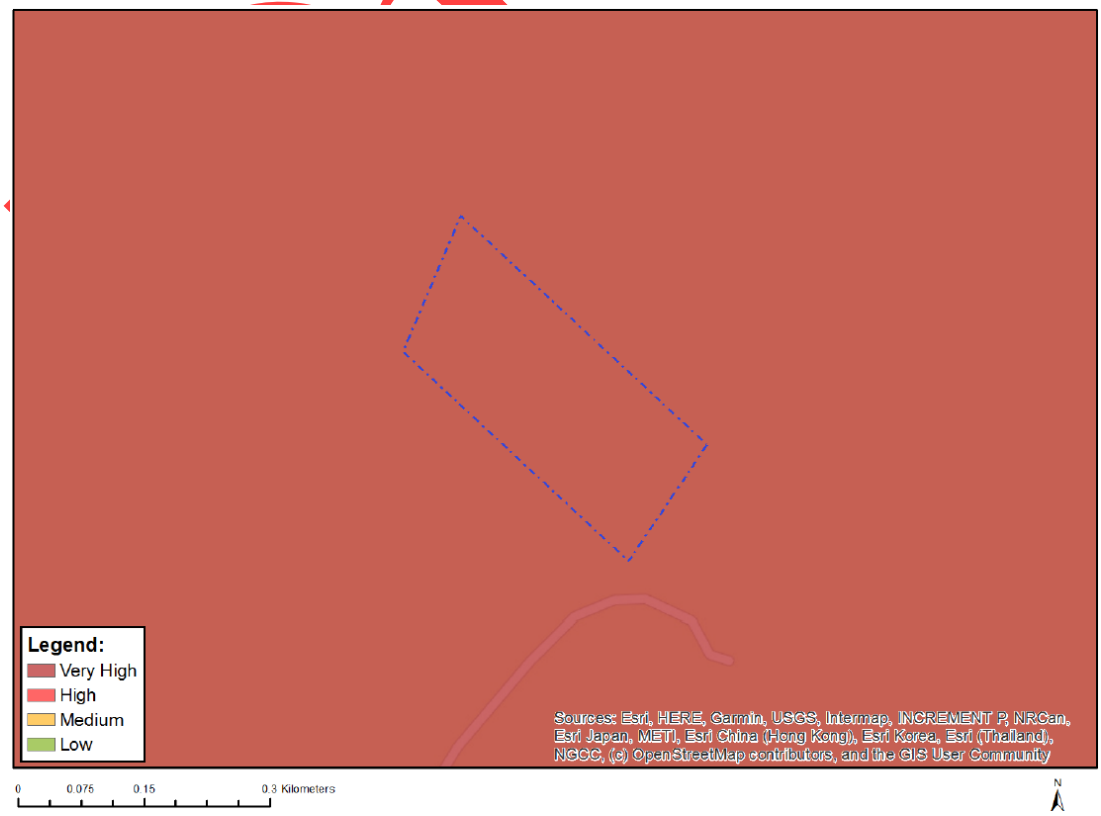


Figure 17: Terrestrial Biodiversity Theme Sensitivity

BIODIVERSITY PRIORITY AREAS FOR MINING

The Mining and Biodiversity Guideline was developed in 2013 for the purpose of mainstreaming biodiversity management practices into the mining sector (DEA, DMR, Chamber of Mines, SAMBF & SANBI 2013). This Guideline provides explicit direction in terms of where mining-related impacts are legally prohibited, where biodiversity priority areas may present high risks for mining projects, and where biodiversity may limit the potential for mining. The Guideline distinguishes between four categories of biodiversity priority areas in relation to their importance from a biodiversity and ecosystem service perspective as well as the implications for mining in these areas (**Table below**).

Table: Four categories of biodiversity priority areas in relation to their biodiversity importance and implications for mining.

Category	Biodiversity Priority Areas	Risks for Mining	Implications for Mining
A. Legally Protected	• Protected areas (including National Parks, Nature Reserves, World Heritage Sites, Protected Environments, Nature Reserves) • Areas declared under Section 49 of the Mineral and Petroleum Resources Development Act (No. 28 of 2002)	**Mining Prohibited**	Mining projects cannot commence as mining is legally prohibited. Although mining is prohibited in Protected Areas, it may be allowed in Protected Environments if both the Minister of Mineral Resources and Minister of Environmental Affairs approve it. In cases where mining activities were conducted lawfully in protected areas before Section 48 of the Protected Areas Act (No. 57 of 2003) came into effect, the Minister of Environmental Affairs may, after consulting with the Minister of Mineral Resources, allow such mining activities to continue, subject to prescribed conditions that reduce environmental impacts.
B. Highest Biodiversity Importance	• Critically endangered and endangered ecosystems • Critical Biodiversity Areas (or equivalent areas) from provincial spatial biodiversity plans • River and wetland Freshwater Ecosystem Priority Areas (FEPAs) and a 1km buffer around these FEPAs • Ramsar Sites	**Highest Risk for Mining**	Environmental screening, environmental impact assessment (EIA) and their associated biodiversity specialist studies should focus on confirming the presence and significance of these biodiversity features, and to provide site-specific basis on which to apply the mitigation hierarchy to inform regulatory decision-making for mining, water use licences, and environmental authorisations. If they are confirmed, the likelihood of a fatal flaw for new mining projects is very high because of the significance of the biodiversity features in these areas and the associated ecosystem services. These areas are viewed as necessary to

			ensure protection of biodiversity, environmental sustainability, and human well-being. An EIA should include the strategic assessment of optimum, sustainable land use for an area and will determine the significance of the impact on biodiversity. This assessment should fully consider the environmental sensitivity of the area, the overall environmental and socio-economic costs and benefits of mining, as well as the potential strategic importance of the minerals to the country. Authorisations may well not be granted. If granted, the authorisation may set limits on allowed activities and impacts and may specify biodiversity offsets that would be written into licence agreements and/or authorisations.
C. High Biodiversity Importance	• Protected area buffers (including buffers around National Parks, World Heritage Sites* and Nature Reserves) • Transfrontier Conservation Areas (remaining areas outside of formally proclaimed protected areas) • Other identified priorities from provincial spatial biodiversity plans • High water yield areas • Coastal Protection Zone • Estuarine functional zone *Note that the status of buffer areas of World Heritage Sites is subject to a current intra-governmental process	**High Risk for Mining**	These areas are important for conserving biodiversity, for supporting or buffering other biodiversity priority areas, and for maintaining important ecosystem services for communities or the country. An EIA should include an assessment of optimum, sustainable land use for an area and will determine the significance of the impact on biodiversity. Mining options may be limited in these areas, and limitations for mining projects are possible. Authorisations may set limits and specify biodiversity offsets that would be written into licence agreements and/or authorisations.
D. Moderate Biodiversity Importance	• Ecological support areas • Vulnerable ecosystems	**Moderate Risk for Mining**	These areas are of moderate biodiversity value.

	• Focus areas for protected area expansion (land-based and offshore protection)		EIAs and their associated specialist studies should focus on confirming the presence and significance of these biodiversity features, identifying features (e.g. threatened (land-based and offshore protection) species) not included in the existing datasets, and on providing site-specific information to guide the application of the mitigation hierarchy. Authorisations may set limits and specify biodiversity offsets that would be written into licence agreements and/or authorisations.

Based on **Figure 18,** the proposed area falls withing Category C with High Risk for Mining. Kindly refer to the table above for details on mining implications on category C

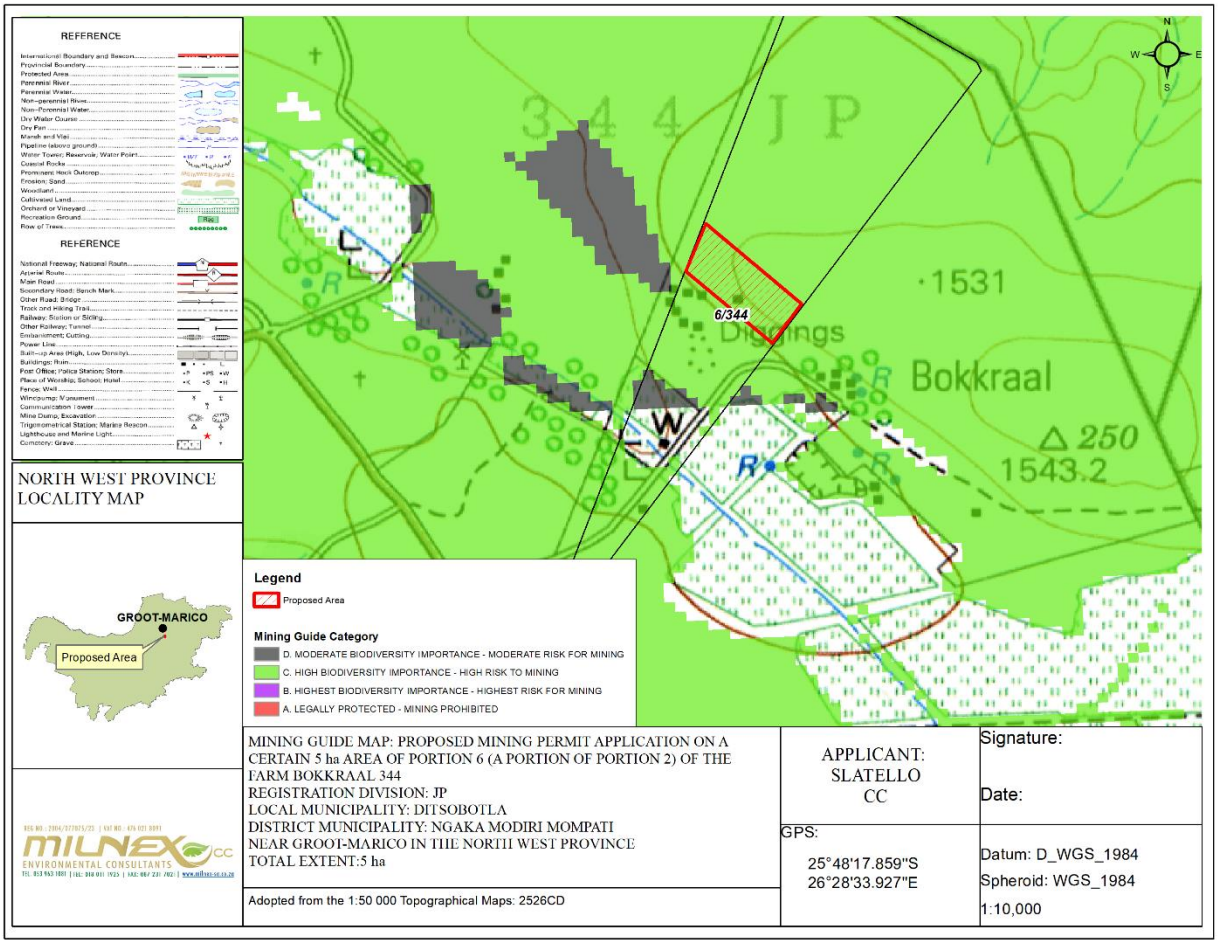


Figure 18: Biodiversity priority areas, in accordance with the Mining of Biodiversity Guidelines, associated with the study site.

IMPORTANT BIRD AND BIODIVERSITY AREAS

Important Bird Areas (IBAs) are a network of sites that are significant for the long-term viability of naturally occurring bird populations (Birdlife 2019). Many sites are also important for other forms of biodiversity; therefore, the conservation of Important Bird & Biodiversity Areas ensures the survival of a correspondingly large number of other animals and plants.

No IBAs were identified within the vicinity of the study site (**Figure 19**).

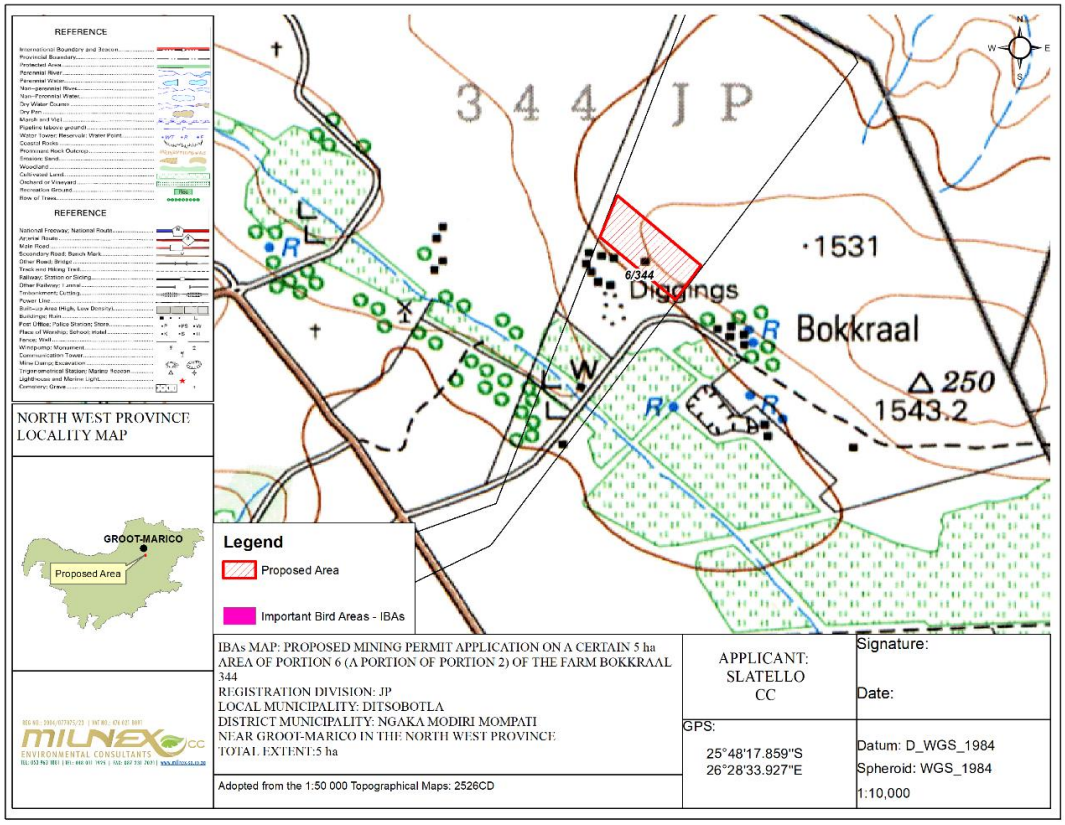


Figure 19: Important Bird and Biodiversity Areas associated with the study site.

The important Biodiversity Areas are identified on **Figure 20** below.

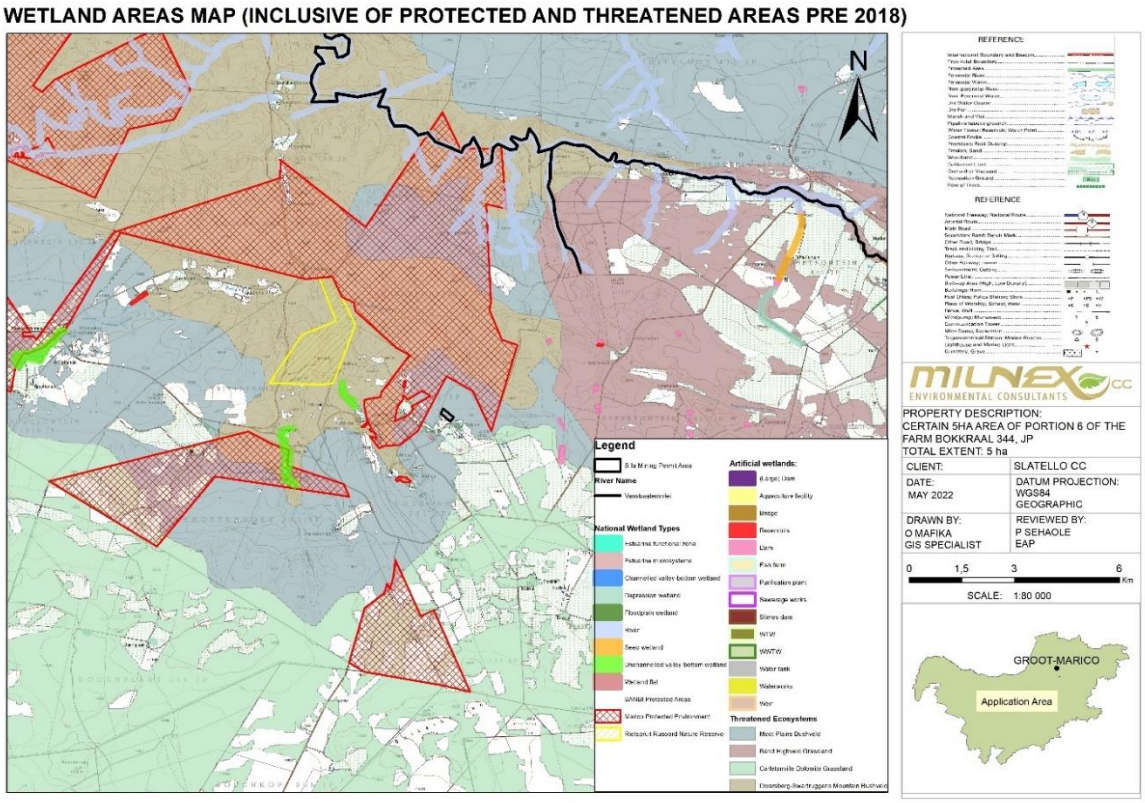


Figure 20: Important Biodiversity Areas associated with the study site (Protected & Threatened Area).

LAND CAPABILITY AND AGRICULTURAL POTENTIAL

CLIMATE

Climate Groot-Marico

Groot-Marico has the semi-arid climate prevailing. It hardly rains. The average annual temperature for Groot-Marico is 24° degrees and there is about 300 mm of rain in a year. It is dry for 236 days a year with an average humidity of 48% and an UV-index of 5 (Besttimetovisit.co.za).

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Day temp. (°C)	28	28	27	23	21	18	18	21	26	28	28	29
Night temp. (°C)	18	16	15	12	9	6	6	8	12	15	16	18

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Precipitation (mm)	61	43	29	29	6	2	1	1	3	29	42	53
Days with rain	17	14	14	11	3	2	2	1	3	7	11	16
Dry days	14	14	17	19	28	28	29	30	27	24	19	15

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Sun hours per day	12	11	10	8	7	7	7	8	10	12	12	12
Wind force (Bft)	2	2	2	2	2	3	3	3	3	3	3	3
UV-index	6	6	5	5	4	4	4	5	5	6	6	6

WIND ROSE FOR THE APPLICATION AREA

From the wind rose, the following is evident:

- Prevailing winds frequently blow from a South and South-Southeasterly direction to a North and North-Northwesterly direction
- The likelihood of winds with a speed ranging from >1km/hr to >12km/hr occurring is greater than that of winds with a speed greater than 19km/hr
- It is also evident that speed of the wind increases as wind blows away from the site and not towards the site

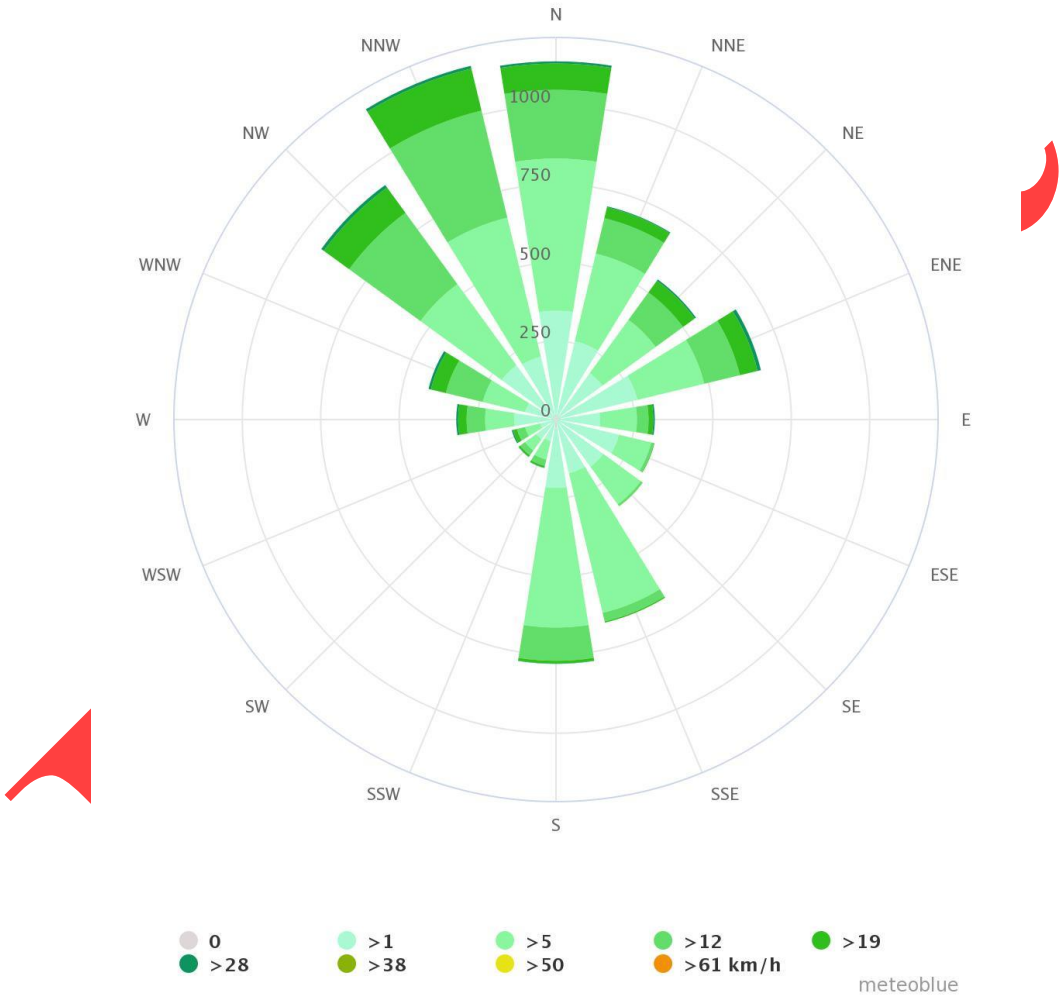


Figure 21: Wind rose from the application area

CULTURAL AND HERITAGE ASPECTS

Cultural Heritage in South Africa (includes all heritage resources) is protected by the **National Heritage Resources Act (Act 25 of 1999) (NHRA).** According to Section 3 of the Act, all Heritage resources include **"all objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects and material, meteorites and rare geological specimens**".

If such resources are found during the mining or development activities, they shall not be disturbed without a permit from the relevant heritage resource Authority, which means that before such sites are disturbed by development it is incumbent on the developer to ensure that

a heritage impact assessment is done and the Provincial Heritage Resources Authority and SAHRA must be contacted immediately and work must stop.

If anything of Archaeological and/or paleontological significance is found during the construction and operational phase of the mine the following applies:

- NHRA 38(4)c(i) – If any evidence of archaeological sites or remains (e.g. remnants of stone-made structures, indigenous ceramics, bones, stone artefacts, ostrich eggshell fragments, charcoal and ash concentrations), fossils or other categories of heritage resources are found during the proposed development, SAHRA APM Unit (021 462 5402) must be alerted as per section 35(3) of the NHRA. Non-compliance with section of the NHRA is an offense in terms of section 51(1)e of the NHRA and item 5 of the Schedule;
- NHRA 38(4)c(ii) – If unmarked human burials are uncovered, the SAHRA Burial Grounds and Graves (BGG) Unit (012 320 8490), must be alerted immediately as per section 36(6) of the NHRA. Non-compliance with section of the NHRA is an offense in terms of section 51(1)e of the NHRA and item 5 of the Schedule;
- NHRA 38(4)e – The following conditions apply with regards to the appointment of specialists: i) If heritage resources are uncovered during the course of the development, a professional archaeologist or palaeontologist, depending on the nature of the finds, must be contracted as soon as possible to inspect the heritage resource. If the newly discovered heritage resources prove to be of archaeological or palaeontological significance, a Phase 2 rescue operation may be required subject to permits issued by SAHRA;

According to the DEA Screening Report the application area falls within high Archaeological and cultural heritage theme sensitivity and the Palaeontology Theme Sensitivity is high. Please refer to **figure 22** and **figure 23** below or **Appendix 7**.

Figure 22: Archaeological and cultural heritage theme sensitivity

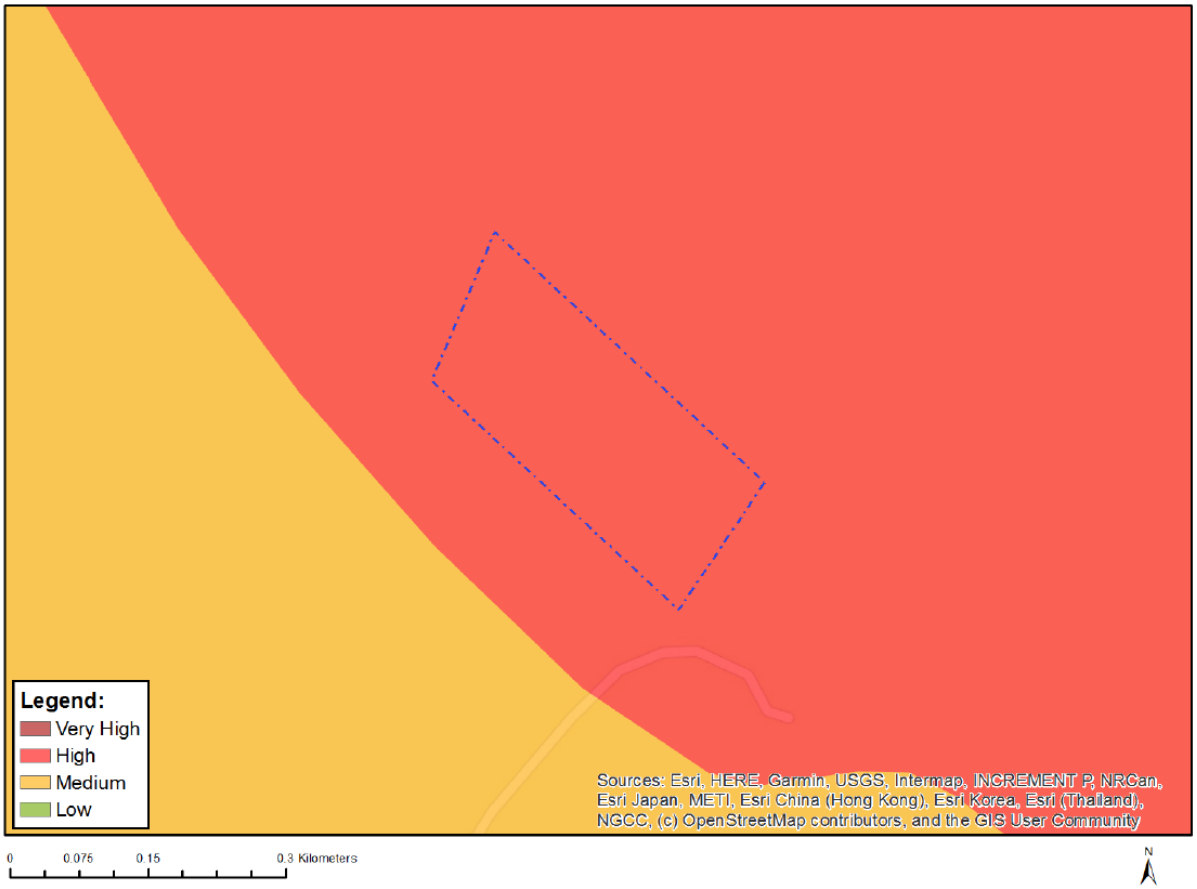


Figure 23: Palaeontology Theme Sensitivity

DESCRIPTION OF THE CURRENT LAND USES

Site Visit, Topographical map & google earth revealed that land uses on and in the immediate vicinity of the proposed development are essentially comprised of natural areas. Below is the land cover of the proposed area which consist of open bush, trees and area used for potential grazing.

Agriculture is the primary economic activity and the main land use in the area.

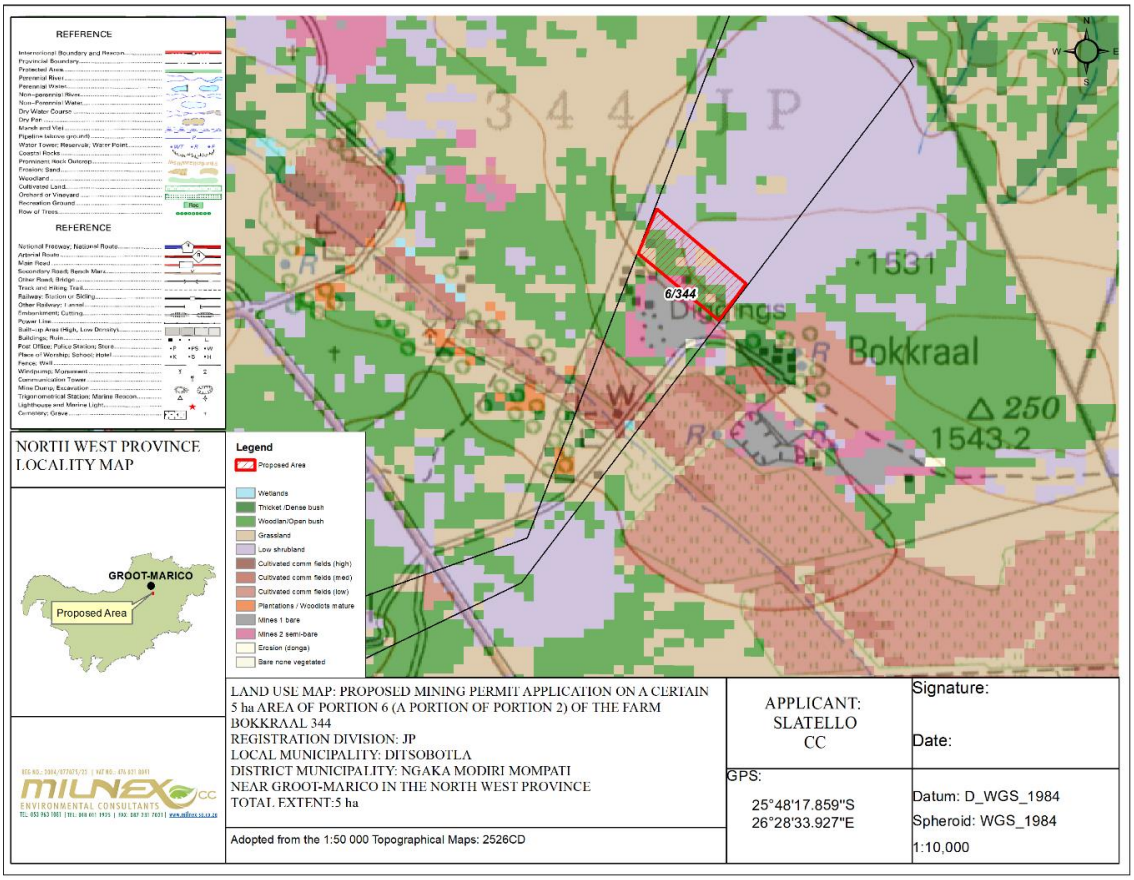


Figure 24: Current Landcover associated with the study site and surrounding areas.

v) IMPACTS AND RISKS IDENTIFIED INCLUDING THE NATURE, SIGNIFICANCE, CONSEQUENCE, EXTENT, DURATION AND PROBABILITY OF THE IMPACTS, INCLUDING THE DEGREE TO WHICH THESE IMPACTS -

(aa) can be reversed;
(bb) may cause irreplaceable loss of resources; and
(cc) can be avoided, managed or mitigated;

Significance of potential impacts

The following sections present the outcome of the significance rating exercise. The results suggest that the mining activities will have an impact on the natural vegetation and the agricultural activities, if not properly mitigated.

INITIAL CLEARANCE AND SITE PREPARATION PHASE

Direct impacts: During this phase minor negative impacts are foreseen over the short term. The latter refers to a period of weeks. The site preparation may result in the loss or fragmentation of indigenous natural fauna and flora, loss or fragmentation of habitats, soil erosion, hydrology, and temporary noise disturbance, generation of waste, visual intrusions, increase in heavy vehicle traffic, and risk to safety, livestock and farm infrastructure, and increased risk of veld fires. The abovementioned impacts are discussed in more detail below:

- Loss, destruction or fragmentation of indigenous natural fauna and flora:

According to Mucina and Rutherford (2006:465), the **Moot Plains Bushveld vegetation** covers the North-West and Gauteng Provinces: Main belt occurs immediately south of the Magaliesberg from the Selons River Valley in the west through Maanhaarrand, filling the valley bottom of the Magalies River, proceeding east of the Hartebeestpoort Dam between the Magaliesberg and Daspoort mountain ranges to Pretoria. It also occurs as a narrow belt immediately north of the Magaliesberg from Rustenburg in the west to just east of the Crocodile River in the east: also, south of the Swartruggens–Zeerust line. This Thornveld is situated on an altitude of about 1050-1450m.

The vegetation & landscape features include open to closed, low, often thorny savanna dominated by various species of Acacia in the bottomlands and plains as well as woodlands of varying height and density on the lower hillsides. Herbaceous layer is dominated by grasses.

Loss or fragmentation of indigenous natural fauna and flora	**Pre-mitigation impact rating**	**Post mitigation impact rating**
Status (positive or negative)	Negative	Negative
Extent	Site (1)	Site (1)
Probability	Definite (4)	Possible (2)
Duration	Long term (3)	Medium term (2)
Magnitude	High (3)	Medium (2)
Reversibility	Barely reversible (3)	Partly reversible (2)
Irreplaceable loss of resources	Significant loss of resource (3)	Marginal loss of resource (2)
Cumulative impact	Medium cumulative impacts (3)	
Significance	**Negative High (51)**	**Negative low (24)**
Can impacts be mitigated?	If the development is approved, Applicant must ensure that no mammalian species are disturbed, trapped, hunted or killed. If the development is approved, every effort should be made to confine the footprint to the blocks allocated for the development and have the least possible edge effects on the surrounding area. The EMPr also provides numerous mitigation measures – refer to section (f) of the EMPr. The potential impacts associated with damage to and loss of farmland should be effectively mitigated. The aspects that should be covered include: • The site should be fenced off prior to commencement of construction activities; • The footprint associated with the construction related activities (access roads, construction platforms, workshop etc.) should be confined to the fenced off area and minimised where possible; • An Environmental Control Officer (ECO) should be appointed to monitor the establishment phase of the construction phase; • All areas disturbed by construction related activities, such as access roads on the site, construction platforms, workshop area etc.,	

	should be rehabilitated at the end of the construction phase; • The implementation of a rehabilitation programme should be included in the terms of reference for the Applicant/s appointed. Specifications for the rehabilitation are provided throughout the EMPr – section (f) of the EMPr. • The implementation of the Rehabilitation Programme should be monitored by the ECO.

- Loss destruction or fragmentation of habitats – The proposed 5ha area is covered in natural vegetations with dense trees. Faunal species will primarily be affected by the overall loss of habitat.

Loss or fragmentation of habitats	**Pre-mitigation impact rating**	**Post mitigation impact rating**
Status (positive or negative)	Negative	Negative
Extent	Site (1)	Site (1)
Probability	Definite (4)	Possible (2)
Duration	Medium term (2)	Medium term (2)
Magnitude	High (3)	High (3)
Reversibility	Barely reversible (3)	Partly reversible (2)
Irreplaceable loss of resources	Significant loss of resource (3)	Marginal loss of resource (2)
Cumulative impact	Medium cumulative impacts (3)	
Significance	**Negative medium (48)**	**Negative medium (36)**
Can impacts be mitigated?	Exotic and invasive plant species should not be allowed to establish, if the development is approved. Where exotic and invasive plant species are found at the site continuous eradication should take place. If the development is approved, every effort should be made to confine the footprint to the blocks allocated for development – section (f) of the EMPr also provides numerous mitigation measures related to fauna and flora.	

- Loss of topsoil –Topsoil may be lost due to poor topsoil management (burial, erosion, etc.). The effect will be the loss of soil fertility on disturbed areas after rehabilitation. This will result in potential fertile agricultural land being lost.

Loss of topsoil	**Pre-mitigation impact rating**	**Post mitigation impact rating**
Status (positive or negative)	Negative	Negative
Geographical extent	Local (2)	Local (2)
Probability	Probable (3)	Possible (2)
Duration	Long term (3)	Medium term (2)
Magnitude	Medium (3)	Medium (2)
Reversibility	Barely reversible (3)	Partial reversible (1)
Irreplaceable loss of resources	Significant loss of resource (3)	Marginal loss of resource (2)
Cumulative impact	Medium cumulative impacts (3)	

Significance	**Negative High (51)**	**Negative Low (24)**
Can impacts be mitigated?	The following mitigation or management measures are provided: • If an activity will mechanically disturb below surface in any way, then any available topsoil should first be stripped from the entire surface and stockpiled for re-spreading during rehabilitation. • Topsoil stockpiles must be conserved against losses through erosion by establishing vegetation cover on them. • Dispose of all subsurface spoils from excavations where they will not impact on undisturbed land. • During rehabilitation, the stockpiled topsoil must be evenly spread over the entire disturbed surface. • Erosion must be controlled where necessary on top soiled areas. The mine rehabilitation strategy may include the following measures which are designed to minimize the loss of topsoil material respread on rehabilitated areas and promote successful vegetation establishment. • Minimize the length of time that topsoil material is to be stockpiled. • Contour rip to encourage rainfall infiltration and minimise run-off. • Respread topsoil material in even layers at a thickness appropriate for the landform and land capability of the area to be rehabilitated. • Construct contour banks in accordance with the applicable landform design criteria to limit slope lengths and control run-off. • stockpiles are located in areas away from drainage lines or windy areas in order to minimise the risk of soil and wind erosion; • Rehabilitation areas of returned topsoil will be ripped, with care taken not to bring subsurface materials to the surface (e.g. large rocks). Ripping should only be sufficient to allow equipment to work efficiently. Ripping along slopes should be along contour.	

- Soil erosion – Progressive rehabilitation will be undertaken to stabilize disturbed areas as quickly as practical and to limit erosion.

Soil erosion	**Pre-mitigation impact rating**	**Post mitigation impact rating**
Status (positive or negative)	Negative	Negative
Geographical extent	Site (1)	Site (1)
Probability	Probable (3)	Possible (2)
Duration	Long term (3)	Medium term (2)
Magnitude	Medium (2)	Medium (2)
Reversibility	Barely reversable (3)	Completely reversable (1)
Irreplaceable loss of resources	Significant (3)	Marginal (2)
Cumulative impact	Medium cumulative impact (3).	
Significance	**Negative Medium (32)**	**Negative low (22)**
Can impacts be mitigated?	• The following mitigation or management measures are provided: Implement an effective system of run-off control, where it is required, that collects and safely disseminates run-off water from all hardened surfaces and prevents potential down slope erosion. • Monitor the area regularly after larger rainfall events to determine where erosion may be initiated and then mitigate by modifying the soil micro-topography and revegetation or soil erosion control efforts accordingly. Progressive rehabilitation will be undertaken to stabilize disturbed areas as quickly as practical and to limit erosion. • Restrict clearing to areas essential for the works • Windrow vegetation debris along the contour • Minimize length of time soil is exposed • Divert run-off from undisturbed areas away from the works	

- Temporary noise disturbance - Preparation activities will result in the generation of noise over a period of months. Sources of noise are likely to include employees on site and trucks which will pick up slate, however, mining activities should be limited to Monday - Saturdays (6:00 – 18:00).

Temporary noise disturbance	**Pre-mitigation impact rating**	**Post mitigation impact rating**
Status (positive or negative)	Negative	Negative
Extent	Local (2)	Local (2)
Probability	Probable (3)	Possible (2)
Duration	Short term (1)	Short term (1)
Magnitude	Medium (2)	Low (1)
Reversibility	Completely reversible (1)	Completely reversible (1)
Irreplaceable loss of resources	No loss of resource (1)	No loss of resource (1)
Cumulative impact	Negligible cumulative impact (1).	

Significance	**Negative low (18)**	**Negative low (8)**
Can impacts be mitigated?	Yes, management actions related to noise pollution are included in section (f) of the EMPr.	

- Generation of waste - general waste, construction waste, sewage and grey water

  - The workers on site are likely to generate general waste such as food wastes, packaging, bottles, etc. The applicant will need to ensure that general waste is appropriately disposed.
  - Sufficient sanitation facilities shall be provided for the number of users. One (1) toilet facility will be provided which will be fitted with a septic tank at the mining area. This toilet will be properly illuminated, ventilated and kept clean and maintained in good repair.

Generation of waste	**Pre-mitigation impact rating**	**Post mitigation impact rating**
Status (positive or negative)	Negative	Negative
Extent	Local/district (2)	Local/district (2)
Probability	Probable (3)	Possible (2)
Duration	Medium term (2)	Medium term (2)
Magnitude	Low (1)	Low (1)
Reversibility	Partly reversible (2)	Partly reversible (2)
Irreplaceable loss of resources	No loss of resource (1)	No loss of resource (1)
Cumulative impact	Low cumulative impact (2) - If general waste is left on site livestock could mistakenly eat it, which might in turn harm or kill them.	
Significance	**Negative low (12)**	**Negative low (11)**
Can impacts be mitigated?	Yes, it is therefore important that all management actions and mitigation measures included in section (f) of the EMPr are implemented. • Sewerage waste is to be removed from site. The department of water affairs have provided guidelines for the establishment of septic tanks.	

Impacts on heritage objects –

Cultural Heritage in South Africa (includes all heritage resources) is protected by the **National Heritage Resources Act (Act 25 of 1999) (NHRA).** According to Section 3 of the Act, all Heritage resources include **"all objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects and material, meteorites and rare geological specimens**".

If such resources are found during the mining or development activities, they shall not be disturbed without a permit from the relevant heritage resource Authority, which means that before such sites are disturbed by development it is incumbent on the developer to ensure that a heritage impact assessment is done and the Provincial Heritage Resources Authority and SAHRA must be contacted immediately and work must stop.

If anything of Archaeological and/or paleontological significance is found during the construction and operational phase of the mine the following applies:

- NHRA 38(4)c(i) – If any evidence of archaeological sites or remains (e.g. remnants of stone-made structures, indigenous ceramics, bones, stone artefacts, ostrich eggshell fragments, charcoal and ash concentrations), fossils or other categories of heritage resources are found during the proposed development, SAHRA APM Unit (021 462 5402) must be alerted as per section 35(3) of the NHRA. Non-compliance with section of the NHRA is an offense in terms of section 51(1)e of the NHRA and item 5 of the Schedule;
- NHRA 38(4)c(ii) – If unmarked human burials are uncovered, the SAHRA Burial Grounds and Graves (BGG) Unit (012 320 8490), must be alerted immediately as per section 36(6) of the NHRA. Non-compliance with section of the NHRA is an offense in terms of section 51(1)e of the NHRA and item 5 of the Schedule;
- NHRA 38(4)e – The following conditions apply with regards to the appointment of specialists: i) If heritage resources are uncovered during the course of the development, a professional archaeologist or palaeontologist, depending on the nature of the finds, must be contracted as soon as possible to inspect the heritage resource. If the newly discovered heritage resources prove to be of archaeological or palaeontological significance, a Phase 2 rescue operation may be required subject to permits issued by SAHRA;

According to the DEA Screening Report the application area falls within low Archaeological and cultural heritage theme sensitivity and the Palaeontology Theme Sensitivity is medium.

Impacts on heritage objects	**Pre-mitigation impact rating**	**Post mitigation impact rating**
Status (positive or negative)	Negative	Negative
Extent	Local (2)	Local (2)
Probability	Unlikely (1)	Unlikely (1)
Duration	Permanent (4)	Permanent (4)
Magnitude	Medium (2)	Low (1)
Reversibility	Irreversible (4)	Irreversible (4)
Irreplaceable loss of resources	Significant loss of resources (3)	Marginal loss of resource (2)
Cumulative impact	The impact would result in negligible to no cumulative effects (1).	
Significance	**Negative medium (30)**	**Negative low (14)**
Can impacts be mitigated?	If archaeological sites or graves are exposed during construction work, it should immediately be reported to a heritage practitioner so that an investigation and evaluation of the finds can be made. Also refer to section (f) of the EMPr.	

Indirect impacts: The nuisance aspects generally associated with the installation of infrastructure or ground preparation will also be applicable to this development, which relates primarily to the increase in vehicle traffic associated with mining practices, the influx of job seekers to the area, risk to safety, livestock and farm infrastructure, and increased risk of veld fires.

- <u>Increase in vehicle traffic</u>

- The site has access to the national dirt road and product will be transported on this road to customers. The current state of the roads in North West is deteriorating
- The movement of heavy vehicles have the potential to damage local farm roads and create dust and safety impacts for other road users in the area. Access will be obtained from existing gravel roads off the Bokkraal gravel.
- The volume of traffic along this road is low as it is existing farm roads and the movement of heavy vehicles along this road is likely to damage the road surface and impact on other road users.

Increase in vehicle traffic	**Pre-mitigation impact rating**	**Post mitigation impact rating**
Status (positive or negative)	Negative	Negative
Extent	Local (2)	Local (2)
Probability	Possible (2)	Unlikely (1)
Duration	Medium term (2)	Medium term (2)
Magnitude	Medium (2)	Low (1)
Reversibility	Completely reversible (1)	Completely reversible (1)
Irreplaceable loss of resources	No loss of resource (1)	No loss of resource (1)
Cumulative impact	Low cumulative impact (2). If damage to roads is not repaired, then this will affect the farming activities in the area, and result in higher maintenance costs for vehicles of local farmers and other road users. The costs will be borne by road users who were no responsible for the damage.	
Significance	**Negative Low (20)**	**Negative low (9)**
Can impacts be mitigated?	The potential impacts associated with heavy vehicles can be effectively mitigated. The mitigation measures include: • In the event that the state of the roads deteriorates due to our mining activities, we will implement corrective measures. • Dust suppression measures must be implemented for heavy vehicles such as wetting of gravel roads on a regular basis • All vehicles must be road-worthy and drivers must be qualified and made aware of the potential road safety issues and need for strict speed limits. Also refer section (f) of the EMPr. For mitigation measures related to traffic.	

- <u>Risk to safety, livestock / game and infrastructure</u>

  - The presence of and movement of workers on and off the site poses a potential safety threat to local famer's, farm workers, and the communities in the vicinity of the site.
  - In addition, infrastructure, such as fences and gates, may be damaged and livestock losses may also result from gates being left open and/or fences being damaged or livestock theft linked either directly or indirectly to the presence of mine workers on the site.

Risk to safety, livestock and infrastructure	Pre-mitigation impact rating	Post mitigation impact rating
Status (positive or negative)	Negative	Negative
Extent	Local (2)	Site (1)
Probability	Possible (2)	Unlikely (1)
Duration	Medium term (2)	Medium term (2)
Magnitude	Medium (2)	Low (1)
Reversibility	Completely reversible (1)	Completely reversible (1)
Irreplaceable loss of resources	Marginal loss of resource (2)	No loss of resource (1)
Cumulative impact	Low cumulative effects (2), provided losses are compensated for.	
Significance	**Negative low (22)**	**Negative low (8)**
Can impacts be mitigated?	Key mitigation measures include: • **Slatello Mine CC** should enter into an agreement with the landowner / local farmers in the area whereby damages to farm property etc. during the construction phase will be compensated for. The agreement should be signed before the construction phase commences; • The mining area should be fenced off prior to the commencement of the construction phase. • The movement of miners on the site should be confined to the fenced off area during working hours; • **Slatello Mine CC** may be liable for compensating landowner/local farmers in full for any crop losses / livestock losses and/or damage to infrastructure that can be linked to miners. This should be contained in the Code of Conduct to be signed between the proponent, the Applicants and neighbouring landowners. The agreement should also cover loses and costs associated with fires caused by miners or construction related activities. • The Environmental Management Programme (EMPr) should outline procedures for managing and storing waste on site, specifically plastic waste that poses a threat to livestock if ingested. • **Slatello Mine CC** must ensure that all workers are informed at the outset of the construction phase of the conditions contained on the Code of Conduct, specifically consequences of stock theft and trespassing on adjacent farms. • **Slatello Mine CC** must ensure that workers who are found guilty of trespassing, stealing livestock and/or damaging infrastructure are dismissed and charged. This should be contained in the	

	Code of Conduct. All dismissals must be in accordance with South African labour legislation;

- Increased risk of veld fires - The presence of miners and mining-related activities on the site poses an increased risk of grass fires that could in turn pose a threat to livestock, crops, wildlife, farmsteads and the communities in the area. In the process, infrastructure may also be damaged or destroyed and human lives threatened. The potential risk of grass fires was heightened by the windy conditions in the area, especially during the dry, windy winter months from May to October. Fire-fighting equipment should be provided on site during the construction phase.

Increased risk of veld fires	**Pre-mitigation impact rating**	**Post mitigation impact rating**
Status (positive or negative)	Negative	Negative
Extent	Region (3)	Local (2)
Probability	Probable (3)	Possible (2)
Duration	Medium term (2)	Medium term (2)
Magnitude	Very high (4)	Medium (2)
Reversibility	Irreversible (4)	Partly reversible (2)
Irreplaceable loss of resources	Significant loss of resource (3)	Marginal loss of resource (2)
Cumulative impact	Negligible cumulative effects (1), provided losses are compensated for.	
Significance	**Negative high (64)**	**Negative low (22)**
Can impacts be mitigated?	The mitigation measures include: • A fire-break should be constructed around the perimeter of the site prior to the commencement of the construction phase; • Applicant should ensure that open fires on the site for cooking or heating are not allowed except in designated areas; • Applicant to ensure that construction related activities that pose a potential fire risk, such as welding, are properly managed and are confined to areas where the risk of fires has been reduced. Measures to reduce the risk of fires include avoiding working in high wind conditions when the risk of fires is greater. In this regard special care should be taken during the high risk dry, windy winter months; • Applicant to provide adequate firefighting equipment on-site, including a fire fighting vehicle; • Applicant to provide fire-fighting training to selected mining staff; • No mining staff, with the exception of security staff, to be accommodated on site over night; • As per the conditions of the Code of Conduct, in the advent of a fire being caused by miners and or mining activities, the appointed Applicants must compensate farmers for any damage caused to their farms. The Applicant should also compensate the	

	firefighting costs borne by farmers and local authorities.

OPERATIONAL PHASE

Direct impacts: During the operational phase the study area will serve as a mining area and the impacts are generally associated with soil erosion, change in land use, impacts associated with the, increase in storm water runoff, increased consumption of water, visual intrusion, the generation of general waste, leakage of hazardous materials, and the change in the sense of place. The operational phase will also have a direct positive impact through the provision of permanent employment opportunities and facilitating a positive economic growth. The abovementioned impacts are discussed in more detail below:

- Soil erosion –

The largest risk factor for soil erosion will be during the operational phase when the mining activity ensues, and soil is left bare until the benches will be rehabilitated. Erosion will be localised within the site. This will ultimately lead to the irretrievable commitment of this resource. The measurable effect of reducing erosion by utilizing mitigation measures may reduce possible erosion significantly. The conditions of the EMP will be adhered to throughout the mining operation and commitment to rehabilitation is of paramount importance in order to obtain a closure certificate from DMRE.

Soil erosion	**Pre-mitigation impact rating**	**Post mitigation impact rating**
Status (positive or negative)	Negative	Negative
Extent	Local (2)	Site (1)
Probability	Probable (3)	Possible (2)
Duration	Long term (3)	Medium term (2)
Magnitude	High (3)	High (3)
Reversibility	Partly reversible (2)	Completely reversible (1)
Irreplaceable loss of resources	Marginal loss of resource (2)	No loss of resource (1)
Cumulative impact	Low cumulative effects (2), should these impacts occur, there will be a cumulative impact on the air and water resources in the study area in terms of pollution.	
Significance	**Negative medium (42)**	**Negative Low (27)**
Can impacts be mitigated?	Yes, to avoid soil erosion it will be a good practice to not remove all the vegetation at once but to only clear the area as it becomes necessary and to implement concurrent rehabilitation. • The following mitigation or management measures are provided: Implement an effective system of run-off control, where it is required, that collects and safely disseminates run-off water from all hardened surfaces and prevents potential down slope erosion. • Monitor the area regularly after larger rainfall events to determine where erosion may be initiated and then mitigate by modifying the soil micro-topography and revegetation or soil erosion control efforts accordingly	

	Also refer to section (f) of the EMPr.

- Change in land-use – The proposed 5ha area will be changed from natural to mining.

Change in land use	Pre-mitigation impact rating	Post mitigation impact rating
Status (positive or negative)	Negative	Negative
Extent	Local (2)	Local (2)
Probability	Probable (3)	Possible (2)
Duration	Medium term (2)	Short term (1)
Magnitude	High (3)	Medium (2)
Reversibility	Partly reversible (2)	Partly reversible (2)
Irreplaceable loss of resources	Marginal loss of resource (2)	Marginal loss of resource (2)
Cumulative impact	Low cumulative effects (2) – the right holder should enter into a surface use agreement with the landowner to compensate for any financial losses.	
Significance	**Negative medium (39)**	**Negative low (22)**
Can impacts be mitigated?	The proponent should establish a Rehabilitation Fund to be used to rehabilitate the area once the proposed facility has been decommissioned. The fund should be funded by revenue generated during the operational phase of the project. The motivation for the establishment of a Rehabilitation Fund is based on the experience in the mining sector where many mines on closure have not set aside sufficient funds for closure and decommissioning. Also refer to section (f) of the EMPr.	

- Generation of alternative land use income – Income generated through the potential mining of the minerals applied for will provide the reserve enterprise with increased cash flow and rural livelihood.

Increased consumption of water	Pre-mitigation impact rating	Post mitigation impact rating
Status (positive or negative)	Negative	Negative
Extent	Site (1)	Site (1)
Probability	Definite (4)	Definite (4)
Duration	Medium term (2)	Medium term (2)
Magnitude	Medium (2)	Medium (2)
Reversibility	Irreversible (4)	Irreversible (4)
Irreplaceable loss of resources	Marginal loss of resources (2)	Marginal loss of resources (2)
Cumulative impact	Low cumulative impacts (2) - An additional demand on water sources could result in a significant cumulative impact with regards to the availability of water.	
Significance	**Negative medium (30)**	**Negative medium (30)**
Can impacts be mitigated?	Yes, management actions and mitigation measures related to the use of water are included in section (f) of the EMPr.	

- Increase in storm water runoff – The development is likely to result in an increase in storm water run-off that needs to be managed to prevent soil erosion.

Increase in storm water runoff	Pre-mitigation impact rating	Post mitigation impact rating
Status (positive or negative)	Negative	Negative
Extent	Local (2)	Site (1)
Probability	Possible (2)	Unlikely (1)
Duration	Medium term (2)	Medium term (2)
Magnitude	Medium (2)	Low (1)
Reversibility	Barley reversible (3)	Partly reversible (2)
Irreplaceable loss of resources	Marginal loss of resource (2)	No loss of resource (1)
Cumulative impact	Low cumulative impact (2) - Should these impacts occur, there will be cumulative impacts on the wider area.	
Significance	**Negative medium (26)**	**Negative low (9)**
Can impacts be mitigated?	Yes. It is therefore important that all management actions and mitigation measures included in section (f) of the EMPr. are implemented to ensure that these impacts do not occur	

- Increased consumption of water – Water will be used for dust suppression and the portable water supply for employees and workers.

Increased consumption of water	Pre-mitigation impact rating	Post mitigation impact rating
Status (positive or negative)	Negative	Negative
Extent	Local (2)	Local (2)
Probability	Definite (4)	Definite (4)
Duration	Medium term (2)	Medium term (2)
Magnitude	Medium (3)	Medium (2)
Reversibility	Irreversible (4)	Irreversible (4)
Irreplaceable loss of resources	Significant loss of resources (3)	Marginal loss of resources (2)
Cumulative impact	Medium cumulative impacts (4) - An additional demand on water sources could result in a significant cumulative impact with regards to the availability of water.	
Significance	**Negative high (57)**	**Negative medium (36)**
Can impacts be mitigated?	Yes, management actions and mitigation measures related to the use of water are included in section (f) of the EMPr.	

- Generation of waste –Workers will be present on the mining area site from 6:00 – 18:00, Monday to Saturday. Sources of general waste will be waste food, packaging, paper, etc. General waste will be stored on the site and removed on a weekly basis.

Generation of waste	Pre-mitigation impact rating	Post mitigation impact rating
Status (positive or negative)	Negative	Negative
Extent	Local (2)	Local (2)
Probability	Possible (2)	Possible (2)

Duration	Medium term (2)	Medium term (2)
Magnitude	Low (1)	Low (1)
Reversibility	Partly reversible (2)	Partly reversible (2)
Irreplaceable loss of resources	Marginal loss of resources (2)	No loss of resource (1)
Cumulative impact	Medium cumulative impact (3) -. If general waste is left on site livestock could mistakenly eat it, which might in turn harm or kill them.	
Significance	**Negative low (13)**	**Negative low (12)**
Can impacts be mitigated?	Yes, management actions related to waste management are included in section (f) of the EMPr.	

- Leakage of hazardous materials - During the mining activities, since the activities will be manual labour, it is not foreseen that dangerous goods will be stored on site.

Leakage of hazardous materials	**Pre-mitigation impact rating**	**Post mitigation impact rating**
Status (positive or negative)	Negative	Negative
Extent	Local	Site
Probability	Possible	Unlikely
Duration	Medium term	Short term
Magnitude	High	Medium
Reversibility	Partly reversible	Partly reversible
Irreplaceable loss of resources	Significant loss of resource	Marginal loss of resource
Cumulative impact	Medium Cumulative impacts	
Significance	**No impact**	**No impact**
Can impacts be mitigated?	Yes. It is therefore important that all management actions and mitigation measures included in the section (f) of EMPr are implemented to ensure that these impacts do not occur.	

- Noise disturbance - Mining activities will result in the generation of noise over a period of 3-5 years. Sources of noise are likely to include employees on site and trucks which will pick up slate, however, mining activities should be limited to Monday - Saturdays (6:00 – 18:00).

Temporary noise disturbance	**Pre-mitigation impact rating**	**Post mitigation impact rating**
Status (positive or negative)	Negative	Negative
Extent	Local (2)	Local (2)
Probability	Possible (2)	Unlikely (1)
Duration	Medium term (2)	Medium term (2)
Magnitude	Medium (2)	Low (1)
Reversibility	Completely reversible (1)	Completely reversible (1)
Irreplaceable loss of resources	No loss of resource (1)	No loss of resource (1)
Cumulative impact	Low cumulative impact (2).	
Significance	**Negative low (20)**	**Negative low (9)**
Can impacts be mitigated?	Yes, management actions related to noise pollution are included in section (f) of the EMPr.	

Indirect impacts: The operational phase will have an indirect negative impact through the change in the sense of place and an indirect positive impact through the provision of additional electrical infrastructure.

- Potential impact on tourism – The proposed area is approximately 2.6km away from Bokkraal Waterfall Valley, 2.8km away from Red Cliff Lodge South Africa and 4.2km away from Rietspruit Private Nature Reserve, Marico Biosphere Reserve, Marico Protected Environment and other which are not identified on the maps.

Potential impacts on tourism	**Pre-mitigation impact rating**	**Post mitigation impact rating**
Status (positive or negative)	Negative	Negative
Extent	Province/region (3)	Local (2)
Probability	Possible (2)	Possible (2)
Duration	Medium term (2)	Medium term (2)
Magnitude	Very High (4)	Very High (4)
Reversibility	Irreversible (4)	Barely reversible (3)
Irreplaceable loss of resources	Significant loss of resource (3)	Marginal loss of resource (2)
Cumulative impact	High cumulative impact (4)	
Significance	**Negative high impact (72)**	**Negative high impact (60)**
Can impacts be mitigated?	Yes. It is therefore important that all management actions and mitigation measures included in the section (f) of EMPr are implemented to ensure that these impacts do not occur.	

DECOMMISIONING PHASE (MINE CLOSURE AND REHABILITATION)

Direct impacts: Typically, the major social impacts associated with the decommissioning phase are linked to the loss of jobs and associated income. This has implications for the households who are directly affected, the communities within which they live. If infrastructures are removed after a 3/5 year period, the site will be returned to its natural state. Therefore, the physical environment will benefit from the closure of the mining area.

- Rehabilitation of the physical environment – Proponent should keep the disturbed areas to a minimum; trees and other plants should not be removed unless necessary; selective quarrying should be adopted so that the entire site is not cleared and affected at once.

Rehabilitation of the physical environment	**Pre-mitigation impact rating**	**Post mitigation impact rating**
Status (positive or negative)	Positive	Positive
Extent	Local (2)	Local (2)
Probability	Definite (4)	Definite (4)
Duration	Long term (3)	Long term (3)
Magnitude	High (3)	High (3)
Reversibility	N/A	N/A
Irreplaceable loss of resources	N/A	N/A
Cumulative impact	The impact would result in negligible to no cumulative effects (1)	

Significance	**Positive low (27)**	**Positive low (27)**
Can impacts be mitigated?	No mitigation measures required.	

DECOMMISSIONING

Disturbance of the earth's surface by any form of mining will result in complete removal of existing vegetation and ecosystems within the disturbed area. The impacts are significant, but localized to the disturbed area, and the overall extent of the impact is determined by the concentration of mining and the sensitivity of the disturbed ecosystems. During the operational phase of a quarry's life, the impact on the environmental can be lessened by planning with future closure in mind.

The objectives of the quarry closure and decommissioning are to:

- Provide a safe and stable landform compatible with the intended final use;
- Comply with relevant regulatory requirements and attain regulatory consensus on the successful closure and rehabilitation of the mining area;
- Complete the closure, decommissioning and rehabilitation works as quickly and cost effectively as possible whilst achieving primary objectives
- Produce a final "walk away" landform that is stable and that blends aesthetically into the surrounding landforms, yet as far as possible does not limit possible future land uses

- Loss of employment - Given the relatively large number of people employed during the operational phase, the decommissioning of the facility has the potential to have a negative social impact on the local community.

Loss of employment	**Pre-mitigation impact rating**	**Post mitigation impact rating**
Status (positive or negative)	Negative	Negative
Extent	Local (2)	Local (2)
Probability	Possible (2)	Possible (2)
Duration	Medium term (2)	Medium term (1)
Magnitude	Medium (2)	Medium (2)
Reversibility	Partly reversible (2)	Partly reversible (2)
Irreplaceable loss of resources	No loss of resource ()	No loss of resource (1)
Cumulative impact	High cumulative impact (4)	
Significance	**Negative low (22)**	**Negative low (20)**
Can impacts be mitigated?	The following mitigation measures are recommended: • All structures and infrastructure associated with the proposed facility should be dismantled and transported off-site on decommissioning; • **Slatello Mine CC** should establish an Environmental Rehabilitation Trust Fund to cover the costs of decommissioning and rehabilitation of disturbed areas.	

Indirect impacts: No indirect impacts are anticipated from the decommissioning phase of the proposed development.

vi) METHODOLOGY USED IN DETERMINING AND RANKING THE NATURE, SIGNIFICANCE, CONSEQUENCES, EXTENT, DURATION AND PROBABILITY OF POTENTIAL ENVIRONMENTAL IMPACTS AND RISKS

Method of environmental assessment

The environmental assessment aims to identify the various possible environmental impacts that could results from the proposed development. Different impacts need to be evaluated in terms of its significance and in doing so highlight the most critical issues to be addressed.

Significance is determined through a synthesis of impact characteristics which include context and intensity of an impact. Context refers to the geographical scale i.e. site, local, national or global whereas intensity is defined by the severity of the impact e.g. the magnitude of deviation from background conditions, the size of the area affected, the duration of the impact and the overall probability of occurrence. Significance is calculated as shown in the Table below.

Significance is 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.

Impact Rating System

Impact assessment must take account of the nature, scale and duration of impacts on the environment whether such impacts are positive or negative. Each impact is also assessed according to the following project phases:

- Construction
- Operation
- Decommissioning

Where necessary, the proposal for mitigation or optimisation of an impact should be detailed. A brief discussion of the impact and the rationale behind the assessment of its significance should also be included. The rating system is applied to the potential impacts on the receiving environment and includes an objective evaluation of the mitigation of the impact. In assessing the significance of each impact the following criteria is used:

Table: The rating system

NATURE		
Include a brief description of the impact of environmental parameter being assessed in the context of the project. This criterion includes a brief written statement of the environmental aspect being impacted upon by a particular action or activity.		
GEOGRAPHICAL EXTENT		
This is defined as the area over which the impact will be experienced.		
1	Site	The impact will only affect the site.
2	Local/district	Will affect the local area or district.
3	Province/region	Will affect the entire province or region.
4	International and National	Will affect the entire country.
PROBABILITY		

This describes the chance of occurrence of an impact.		
1	Unlikely	The chance of the impact occurring is extremely low (Less than a 25% chance of occurrence).
2	Possible	The impact may occur (Between a 25% to 50% chance of occurrence).
3	Probable	The impact will likely occur (Between a 50% to 75% chance of occurrence).
4	Definite	Impact will certainly occur (Greater than a 75% chance of occurrence).
DURATION		
This describes the duration of the impacts. Duration indicates the lifetime of the impact as a result of the proposed activity.		
1	Short term	The impact will either disappear with mitigation or will be mitigated through natural processes in a span shorter than the construction phase (0 – 1 years), or the impact will last for the period of a relatively short construction period and a limited recovery time after construction, thereafter it will be entirely negated (0 – 2 years).
2	Medium term	The impact will continue or last for some time after the construction phase but will be mitigated by direct human action or by natural processes thereafter (2 – 10 years).
3	Long term	The impact and its effects 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 (10 – 30 years).
4	Permanent	The only class of impact that will be non-transitory. Mitigation either by man or natural process will not occur in such a way or such a time span that the impact can be considered indefinite.
INTENSITY/ MAGNITUDE		
Describes the severity of an impact.		
1	Low	Impact affects the quality, use and integrity of the system/component in a way that is barely perceptible.
2	Medium	Impact alters the quality, use and integrity of the system/component but system/component still continues to function in a moderately modified way and maintains general integrity (some impact on integrity).
3	High	Impact affects the continued viability of the system/ component and the quality, use, integrity and functionality of the system or component is severely impaired and may temporarily cease. High costs of rehabilitation and remediation.
4	Very high	Impact affects the continued viability of the system/component and the quality, use, integrity and functionality of the system or component permanently ceases and is irreversibly impaired. Rehabilitation and remediation often impossible. If possible rehabilitation

		and remediation often unfeasible due to extremely high costs of rehabilitation and remediation.
REVERSIBILITY		
This describes the degree to which an impact can be successfully reversed upon completion of the proposed activity.		
1	Completely reversible	The impact is reversible with implementation of minor mitigation measures.
2	Partly reversible	The impact is partly reversible but more intense mitigation measures are required.
3	Barely reversible	The impact is unlikely to be reversed even with intense mitigation measures.
4	Irreversible	The impact is irreversible and no mitigation measures exist.
IRREPLACEABLE LOSS OF RESOURCES		
This describes the degree to which resources will be irreplaceably lost as a result of a proposed activity.		
1	No loss of resource	The impact will not result in the loss of any resources.
2	Marginal loss of resource	The impact will result in marginal loss of resources.
3	Significant loss of resources	The impact will result in significant loss of resources.
4	Complete loss of resources	The impact is result in a complete loss of all resources.
CUMULATIVE EFFECT		
This describes the cumulative effect of the impacts. A cumulative impact is an effect which in itself may not be significant but may become significant if added to other existing or potential impacts emanating from other similar or diverse activities as a result of the project activity in question.		
1	Negligible cumulative impact	The impact would result in negligible to no cumulative effects.
2	Low cumulative impact	The impact would result in insignificant cumulative effects.
3	Medium cumulative impact	The impact would result in minor cumulative effects.
4	High cumulative impact	The impact would result in significant cumulative effects
SIGNIFICANCE		
Significance is determined through a synthesis of impact characteristics. Significance is 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 calculation of the significance of an impact uses the following formula: (Extent + probability + reversibility + irreplaceability + duration + cumulative effect) x magnitude/intensity. The summation of the different criteria will produce a non-weighted value. By multiplying this value with the magnitude/intensity, the resultant value acquires a weighted characteristic which can be measured and assigned a significance rating.		

Points	Impact significance rating	Description
6 to 28	Negative low impact	The anticipated impact will have negligible negative effects and will require little to no mitigation.
6 to 28	Positive low impact	The anticipated impact will have minor positive effects.
29 to 50	Negative medium impact	The anticipated impact will have moderate negative effects and will require moderate mitigation measures.
29 to 50	Positive medium impact	The anticipated impact will have moderate positive effects.
51 to 73	Negative high impact	The anticipated impact will have significant effects and will require significant mitigation measures to achieve an acceptable level of impact.
51 to 73	Positive high impact	The anticipated impact will have significant positive effects.
74 to 96	Negative very high impact	The anticipated impact will have highly significant effects and are unlikely to be able to be mitigated adequately. These impacts could be considered "fatal flaws".
74 to 96	Positive very high impact	The anticipated impact will have highly significant positive effects.

vii) THE POSITIVE AND NEGATIVE IMPACTS THAT THE PROPOSED ACTIVITY (IN TERMS OF THE INITIAL SITE LAYOUT) AND ALTERNATIVES WILL HAVE ON THE ENVIRONMENT AND THE COMMUNITY THAT MAY BE AFFECTED.

(Provide a discussion in terms of advantages and disadvantages of the initial site layout compared to alternative layout options to accommodate concerns raised by affected parties)

ACTIVITY	PHASE	POTENTIAL NEGATIVE IMPACTS
Site preparation Site Clearance	Construction Operation Decommissioning	Physical destruction and disturbance of: • Biodiversity • Air pollution • Disturbing noise • Visual impacts
Open-pit mining Mining	Construction Operation	• Loss of mineral resources • Loss of soil resources and land capability Physical destruction and disturbance of: • Biodiversity • Air pollution • Disturbing noise • Visual impacts • Pollution of surface water resources • Possible contamination of groundwater

Waste rock management Storage, stockpile or final disposal	Operation Decommissioning Closure (final landform)	• Loss of soil resources and land capabilityDisturbance of biodiversity • Pollution of surface water resources Contamination of groundwater • Air pollution • Disturbing noise • Negative landscape and visual impact
Transport Material systems Use of access points, road transport to and from site.	Construction Operation Decommissioning	• Noise • Traffic impacts
Non-mineralized waste management Transportation off site	Construction Operation Decommissioning Closure (limited)	• Pollution if not managed and stored properly
Rehabilitation Replacing soil, slope stabilization, landscaping, re-vegetation, restoration	Construction Operation Decommissioning Closure	• Disturbance of biodiversity • Alteration of natural drainage patterns • Contamination of groundwater • Air pollution • Visual impacts
ACTIVITY	**PHASE**	**POTENTIAL POSITIVE IMPACTS**
Job creation	Construction Operation	• Temporary employment and other economic benefits
Maintenance and aftercare Inspection and maintenanceof remaining facilities andrehabilitated areas	Closure	• Re-establishment of biodiversity

viii) THE POSSIBLE MITIGATION MEASURES THAT COULD BE APPLIED AND THE LEVEL OF RISK.

(With regard to the issues and concerns raised by affected parties provide a list of the issues raised and an assessment/ discussion of the mitigations or site layout alternatives available to accommodate or address their concerns, together with an assessment of the impacts or risks associated with the mitigation or alternatives considered).

POTENTIAL IMPACT	POSSIBLE MITIGATION MEASURES
Influx of persons (job seekers)	• Establish and maintain site security measures • Control site and facility access
Loss of soil resources and land capability through physical disturbance	• Implementation of a soil management plan • Limit disturbance of soil to what is necessary • Stripping, storing, maintenance and replacement of topsoil in accordancewith soil management procedures

Physical destruction or disturbance ofbiodiversity	• Implement a biodiversity management plan • Restrict project footprint • Provide alternative habitat (where appropriate and necessary) • Implement a monitoring programme • Rehabilitate disturbed areas • Prevention of the killing of animal species and harvesting of plant species • Implementation of dust control measures • Pollution prevention measures (water, soil etc.) • Prevention of the disturbance of ecosystems
Surface waterpollution	• Implementation of a monitoring programme • Implement emergency response • Authorise all water uses as defined in the NWA
Groundwater contamination	• Implementation of a monitoring programme
Air pollution	• Control dust plumes by dust suppression method.
Noise pollution	• Mining activities will result in the generation of noise over a period of 3-5 years. Sources of noise are likely to include employees on site and trucks which will pick up slate, however, mining activities should be limited to Monday - Saturdays (6:00 – 18:00).
Visual impacts	• Limit the clearing of vegetation • Management through care and aftercare
Traffic increases	• Enforce strict speed limits on mine access roads
Heritage andcultural	• Avoid heritage and cultural resources as far as practically possible • Apply for the relevant permits to remove or destroy heritage sites (if applicable) • Exhumation and relocation of graves according to legal requirements (ifapplicable) • Mark remaining heritage sites on plan
Economic impact	• Hire people from closest communities as far as practically possible • Local procurement of goods and services as far as practically possible • Compensation for loss of land use • Closure planning will consider skills, economic consideration and the needs of future farming
Land uses	• Implementation of EMP commitments that focus on environmental and socialimpacts • Take necessary steps to prevent negative impact on surrounding land • Compensation for loss • Closure planning to incorporate measures to achieve future land use plans

ix) MOTIVATION WHERE NO ALTERNATIVE SITES WERE CONSIDERED.

As discussed in the previous section, the possibility to encounter further Mining Permit for the Mining of Slate including associated infrastructure, structure and earthworks on a certain

5ha area of Portion 6 (a Portion of Portion 2) of the farm Bokkraal 344, Registration Division JP, North West Province was identified.

The applicant purchased the property with the aim of mining on it and concurrently continue with farming activities. There is an area on the property which was mined illegally previously. The concern of the applicant is mine dumps which are scattered over a vast area and would like to see an action plan put in place for the restoration of the environment. Slatello Mine is aware of the slate industry and know it started in the early 1930's. It is one of the few economical activities and is well known as the source for stone.

x) STATEMENT MOTIVATING THE ALTERNATIVE DEVELOPMENT LOCATION WITHIN THE OVERALL SITE.
(Provide a statement motivating the final site layout that is proposed)

The site is preferred due to its possibility of having Slate.

The applicant purchased the property with the aim of mining on it and concurrently continue with farming activities. There is an area on the property which was mined illegally previously. The concern of the applicant is mine dumps which are scattered over a vast area and would like to see an action plan put in place for the restoration of the environment. Slatello Mine is aware of the slate industry and know it started in the early 1930's. It is one of the few economical activities and is well known as the source for stone.

I) FULL DESCRIPTION OF THE PROCESS UNDERTAKEN TO IDENTIFY, ASSESS AND RANK THE IMPACTS AND RISKS THE ACTIVITY WILL IMPOSE ON THE PREFERRED SITE (IN RESPECT OF THE FINAL SITE LAYOUT PLAN) THROUGH THE LIFE OF THE ACTIVITY.

i. A description of all environmental issues and risks that are identified during the environmental impact assessment process

Process for the identification of key issues

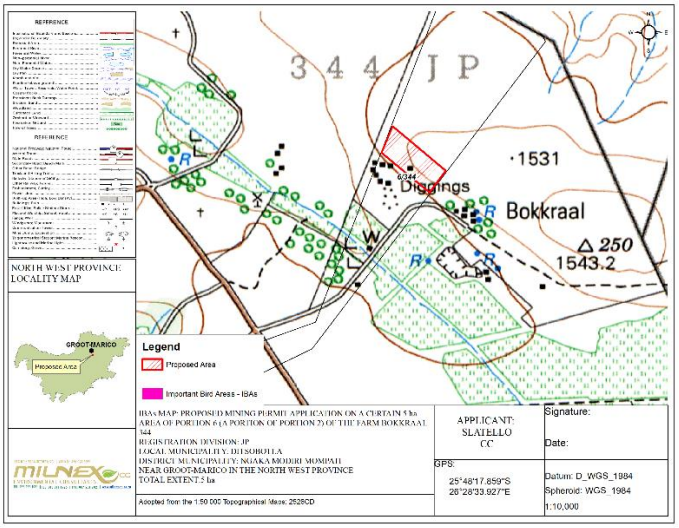
The methodology for the identification of key issues aims, as far as possible, to provide a user-friendly analysis of information to allow for easy interpretation.

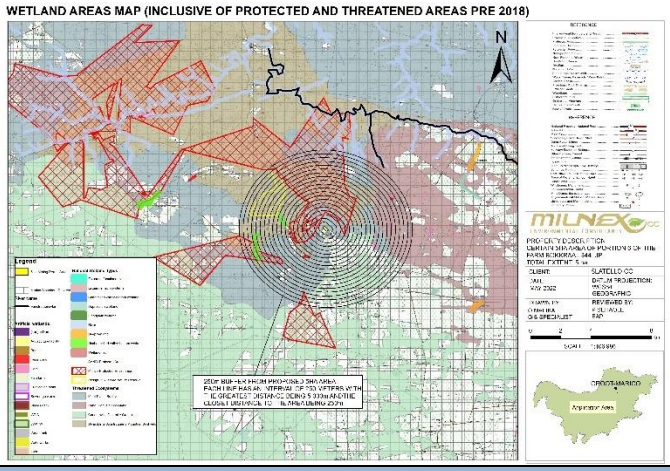
- Checklist: The checklist consists of a list of structured questions related to the environmental parameters and specific human actions. They assist in ordering thinking, data collection, presentation and alert against the omission of possible impacts.
- Matrix: The matrix analysis provides a holistic 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 effect 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, which will be submitted as part of the Environmental Impact Report in order to address the potentially most significant impacts.

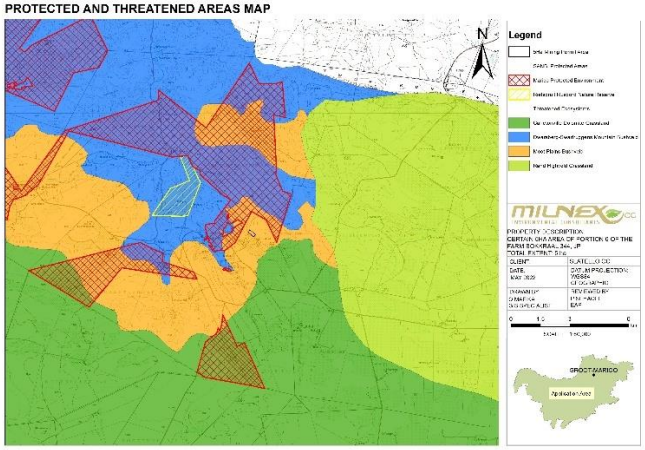
Checklist analysis

The site visit was conducted to ensure a proper analysis of the site specific characteristics of the study area. The table below provides a checklist, which is designed to stimulate thought regarding possible consequences of specific actions and so assist scoping of key issues. It consists of a list of structured questions related to the environmental parameters and specific human actions. They assist in ordering thinking, data collection, presentation and alert against the omission of possible impacts. The table highlights certain issues, which are further analysed in matrix format.

Table: Environmental checklist

QUESTION	YES	NO	Un-sure	Description
1. Are any of the following located on the site earmarked for the development?				
I. A river, stream, dam or wetland		X		
II. A conservation or open space area		X		None.
III. An area that is of cultural importance			X	
IV. Site of geological significance			X	
V. Areas of outstanding natural beauty	X			
VI. Highly productive agricultural land		X		The area is used for crop cultivation and fall within land capability 6.
VII. Floodplain			X	
VIII. Indigenous Forest		X		The area does have trees on it however, it is not Indigenous Forest.
IX. Grass land	X			The area does have trees on it.
X. Bird nesting sites			X	The area does not fall within an Important Bird Area, refer to map below:  However, there are trees on site which can be used for nesting.
XI. Red data species			X	

XII. Tourist resort	×			Marico Biosphere Reserve 
2. Will the project potentially result in potential?				
I. Removal of people		×		None.
II. Visual Impacts	×			The visual impact will be managed
III. Noise pollution		×		The noise impact is unlikely to be significant.
IV. Construction of an access road		×		Access will be obtained from existing gravel roads off the Bokkraal gravel. In the event that the state of the roads deteriorates due to our mining activities, we will implement corrective measures.
V. Risk to human or valuable ecosystems due to explosion/fire/ discharge of waste into water or air.		×		None.
VI. Accumulation of large workforce (>50 manual workers) into the site.		×		Approximately 10 employment opportunities will be created during the construction and operational phase of the project.
VII. Utilisation of significant volumes of local raw materials such as water, wood etc.		×		
VIII. Job creation	×			Approximately 10 employment opportunities will be created during the construction and operational phase of the project.
IX. Traffic generation		×		None.
X. Soil erosion		×		Only areas earmarked for mining will be cleared. Stockpiles are located in areas away from drainage lines or windy areas in order to minimise the risk of soil and wind erosion.
XI. Installation of additional bulk telecommunication transmission lines or facilities		×		None.
3. Is the proposed project located near the following?				
I. A river, stream, dam or wetland	×			Bokkraal Se Loop, the stream that parts ways with Ribbokfontein Se Loop just south of the farm, Marico eye, Marico River

II. A conservation or open space area	×			Marico Biosphere Reserve, Marico Protected Environment, Rietspruit Private Nature Reserve. Refer to the map below 
III. An area that is of cultural			×	
IV. A site of geological significance			×	
V. An area of outstanding natural	×			
VI. Highly productive agricultural land			×	
VII. A tourist resort	×			There are B&B accommodations and lodges in the surrounding area.
VIII. A formal or informal settlement	×			There are farmsteads in the surrounding area.

Matrix analysis

The matrix describes the relevant listed activities, the aspects of the development that will apply to the specific listed activity, a description of the environmental issues and potential impacts, the significance and magnitude of the potential impacts, and the mitigation of the potential impacts. The matrix also highlights areas of particular concern, which requires more in depth assessment. Each cell is evaluated individually in terms of the nature of the impact, duration and its significance – should no mitigation measures be applied. This is important since many impacts would not be considered insignificant if proper mitigation measures were implemented. The matrix also provides an indication if mitigation measures are available.

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.
- **Impacts**: 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.

J) AN ASSESSMENT OF EACH IDENTIFIED POTENTIALLY SIGNIFICANT IMPACT AND RISK

LISTED ACTIVITY (The Stressor)	ASPECTS OF THE DEVELOPMENT /ACTIVITY	POTENTIAL IMPACTS			SIGNIFICANCE AND MAGNITUDE OF POTENTIAL IMPACTS			MITIGATION OF POTENTIAL IMPACTS	SPECIALIST STUDIES / INFORMATION
			Receptors	Impact description	Minor	Major	Duration	Possible Mitigation	
CONSTRUCTION PHASE									
2. Listing Notice 1 (GNR 327), Activity 27: *"The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation."*	<u>Site clearing and preparation.</u> Areas earmarked for mining will need to be cleared, topsoil will be stockpiled separately.	BIOPHYSICAL ENVIRONMENT	Fauna & Flora	• Loss or fragmentation of indigenous natural vegetation. • Loss of sensitive species. • Loss or fragmentation of habitats.	-		M	Yes	-
			Air	• Air and dust pollution due to the increase of traffic of construction vehicles.	-		S	Yes	-
			Soil	• Soil degradation, including erosion. • Loss of topsoil. • Disturbance of soils and existing land use (soil compaction).	-		S	Yes	-
			Geology	• The geology of the area will be affected as the layers of slate will be removed			L	No	-
			Existing services infrastructure	• Generation of waste that need to be stockpiled • Ablusion facilities	-		S	Yes	-
			Surface water	• Increase in storm water run-off. • Pollution of water sources due to soil erosion.	-		S	Yes	-
		SOCIAL/ECONOMIC ENVIRONMENT	Local unemployment rate	• Job creation. • Business opportunities. • Skills development.	+		S	Yes	-
			Visual landscape	• Potential visual impact on residents of farmsteads and motorists in close proximity to proposed facility.	-		S	Yes	-
			Traffic volumes	• Increase in mining vehicles.	-		S	Yes	-
			Health & Safety	• Air/dust pollution. • Road safety. • Increased risk of veld fires.	-		S	Yes	-
			Noise levels	• The generation of noise as a result of people working on the site and trucks used to pick up slate from the mining area.	-		S	Yes	-
			Tourism industry	• There are tourism facilities in close proximity to the site, the mining activities may have an impact on tourism in the area.		-	M		-

			Heritage resources	• Possible destruction of any archaeological and/or paleontological which may have been found on site. • Possible destruction of any buildings, structures, places and equipment of cultural significance which may have been found on site. • Possible destruction of any graves, cemeteries and burial grounds which may have been found on site.	-		S	Yes	-
OPERATIONAL PHASE									
Listing Notice 1 (GNR 327) as amended (GNR 517), Activity 21: *"Any activity including the operation of that activity which requires a mining permit in terms of section 27 of the Mineral and Petroleum Resources Development Act, as well as any other applicable activity as contained in this Listing Notice on in Listing Notice 3 of 2014, required to exercise the mining permit"* **Listing Notice 1 (GNR 327), Activity 27:** *"The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation."* **Listing Notice 3 (GNR 324), Activity 4:** *"The development of a road wider than 4 metres with a reserve less than 13,5 metres.* ***(h): North West:; (iv)*** *Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority;* **Listing Notice 3 (GNR 324), Activity 12:** *The clearance of an area of 300 square metres or more of indigenous vegetation* ***(h) North West: (iv)*** *Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority;* Mining Permit for the mining of **Slate** including associated infrastructure, structure and earthworks. **NEM:WA 59 of 2008: Residue stockpiles or residue deposits, Category A: (15):** The establishment or reclamation of a residue stockpile or residue deposit resulting from	The key components of the proposed project are described below: • <u>Supporting Infrastructure</u> - A control facility with basic services such as water and electricity will be constructed on the site and will have an approximate footprint 50m² or less. Other supporting infrastructure includes a site office and workshop area. • <u>Roads</u> – Access will be obtained from existing gravel roads off the Bokkraal gravel. • <u>Fencing</u> - For health, safety and security reasons, the facility will be required to be fenced off from the surrounding farm.	BIOPHYSICAL ENVIRONMENT	Fauna & Flora	• Fragmentation of habitats. • Establishment and spread of declared weeds and alien invader plants (operations).		-	S	Yes	-
			Air quality	• Air pollution due to the mining activity, transport of the topsoil and stockpiles to the designated areas.	-		M	Yes	-
			Soil	• Soil degradation, including erosion. • Disturbance of soils and existing land use (soil compaction). • Loss of agricultural potential (low significance relative to agricultural potential of the site).	-		M	Yes	-
			Geology	• Seepage (shallow water table). • Active soil (high soil heave). • The presence of undermined ground. • Instability due to soluble rock. • Steep slopes or areas of unstable natural slopes. • Areas subject to seismic activity. • Areas subject to flooding.	-		L	Yes	-
			Existing services infrastructure	• Generation of waste that need to be stockpiled	-		M	Yes	-
			Surface water	• Increase in storm water run-off. • Pollution of water sources due to soil erosion.	-		L	Yes	-
			Local unemployment rate	• Skills development.	+		L	Yes	-
		SOCIAL/ECONOMIC ENVIRONMENT	Visual landscape	• The proposed portions are used for Agriculture and livestock grazing which will still take place simultaneously with the mining activity, however this depends on the location of the activity.	-		L	Yes	-
			Traffic volumes	• Increase in vehicles collecting mined material for distribution.	-		S	Yes	-
			Health & Safety	• Air/dust pollution. • Road safety.	-		S	Yes	-

activities which require a prospecting right or mining permit, in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002).			Noise levels	• The proposed development will result in noise pollution during the operational phase.	-		M	Yes	-
			Tourism industry	• There are tourism facilities in close proximity to the site, the mining activities may have an impact on tourism in the area.	-		M		-
			Heritage resources	• It is not foreseen that the proposed activity will impact on heritage resources or vice versa.	-		S	Yes	-
DECOMMISSIONING PHASE									
-	<u>Mine closure</u> During the mine closure the Mine and its associated infrastructure will be dismantled. <u>Rehabilitation of biophysical environment</u> The biophysical environment will be rehabilitated.	BIOPHYSICAL ENVIRONMENT	Fauna & Flora	• Re-vegetation of exposed soil surfaces as far as possible to ensure no erosion in these areas.	+		L	Yes	-
			Soil	• Benches will be created at closure to create sloped sides. The waste rock and overburden will be backfilled to the open pit area	-		M	N/A	-
			Geology	• It is not foreseen that the decommissioning phase will impact on the geology of the site since the geology will be affected by the mining process	N/A	N/A	N/A	N/A	-
			Existing services infrastructure	• Removal of infrastructure and unused or unwanted equipment. No facilities or equipment should remain on site unless with the written approval of the landowner or relevant authority.	-		S	Yes	-
			Surface water	• Increase in storm water run-off. • Pollution of water sources due to soil erosion.	-		S	Yes	-
		SOCIAL/ECONOMIC ENVIRONMENT	Local unemployment rate	• Loss of employment.	-		L	Yes	-
			Visual landscape	• Potential visual impact on visual receptors in close proximity to proposed facility.	-		S	Yes	-
			Traffic volumes	• Increase in mining vehicles.	-		S	Yes	-
			Health & Safety	To limit the possible health and safety treats due to terrain hazards to humans and animals utilizing the rehabilitated mining site after closure by: • After the quarry pit has been sloped and profiles and the available material has been deposited in the quarry pit, it should be fenced off. • Warning signs and symbols should be placed on the fenced to warn any intruders of the consequences. • Any access gates should always be locked, and no unauthorized entry should be allowed;	-		S	Yes	-

			Noise levels	• The generation of noise as a result of people working on the site and trucks used to pick up slate from the mining area.	-		S	Yes	-
			Tourism industry	• There are tourism facilities in close proximity to the site, the mining activities may have an impact on tourism in the area.	-		S		-
			Heritage resources	• It is not foreseen that the decommissioning phase will impact on any heritage resources.	-		S	Yes	-

(N/A) No impact (+) Positive Impact (-) Negative Impact (S) Short Term (M) Medium Term (L) Long Term

K) WHERE APPLICABLE, A SUMMARY OF THE FINDINGS AND IMPACTS MANAGEMENT MEASURES IDENTIFIED IN AN SPECIALIST REPORT COMPLYING WITH APPENDIX 6 OF THESE REGULATIONS AND AN INDICATION AS TO HOW THESE FINDINGS AND RECOMMENDATIONS HAVE BEEN INCLUDED IN THE FINAL REPORT;

LIST OF STUDIES UNDERTAKEN	RECOMMENDATIONS OF SPECIALIST REPORTS	SPECIALIST RECOMMENDATIONS THAT HAVE BEEN INCLUDED IN THE EIA REPORT (Mark with an X where applicable)	REFERENCE TO APPLICABLE SECTION OF REPORT WHERE SPECIALIST RECOMMENDATIONS HAVE BEEN INCLUDED.

The following section represents the results of the screening for environmental sensitivity of the proposed site for relevant environmental themes associated with the project classification.

Environmental sensitivity of the proposed area

Theme	Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
Agriculture Theme			X	
Animal Species Theme				X
Aquatic Biodiversity Theme	X			
Archaeological and Cultural Heritage Theme	X			
Civil Aviation Theme				X
Defense Theme				X
Paleontology Theme		X		
Plant Species Theme				X
Terrestrial Biodiversity Theme	X			

According to the DEA Screening Report, nine (9) specialist assessments needs to be conducted, please see the table below for the list of these studies and also our response.

SPECIALIST ASSESSMENTS NEEDED ACCORDING TO THE DEA SCREENING REPORT:	RESPONSE
Terrestrial Biodiversity Impact Assessment	The site falls within medium and Very High sensitivity area
Aquatic Biodiversity Impact Assessment	
Plant Species Assessment	
Animal Species Assessment	
Agricultural Impact Assessment	
Archaeological and Cultural Heritage Impact Assessment	Cultural Heritage in South Africa (includes all heritage resources) is protected by the **National Heritage Resources Act (Act 25 of 1999) (NHRA).** According to Section 3 of the Act, all Heritage resources include **"all objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects and material, meteorites and rare geological specimens**". If such resources are found during the mining or development activities, they shall not be disturbed without a permit from the relevant heritage resource Authority, which means that before such sites are disturbed by development it is incumbent on the developer to ensure that a heritage impact assessment is done and the Provincial Heritage Resources Authority and SAHRA must be contacted immediately and work must stop. If anything of Archaeological and/or paleontological significance is found during the mining and operational phase of the mine the following applies: • NHRA 38(4)c(i) – If any evidence of archaeological sites or remains (e.g. remnants of stone-made structures, indigenous ceramics, bones, stone artefacts, ostrich eggshell fragments, charcoal and ash concentrations), fossils or other categories of heritage resources are found during the proposed development, SAHRA APM Unit (021 462 5402) must be alerted as per section 35(3) of the NHRA. Non-compliance with section of the NHRA is an offense in terms of section 51(1)e of the NHRA and item 5 of the Schedule; • NHRA 38(4)c(ii) – If unmarked human burials are uncovered, the SAHRA Burial Grounds and Graves (BGG) Unit (012 320 8490), must be alerted immediately as per section 36(6) of the NHRA. Non-compliance with section of the NHRA is an offense in terms of section 51(1)e of the NHRA and item 5 of the Schedule;

	• NHRA 38(4)e – The following conditions apply with regards to the appointment of specialists: i) If heritage resources are uncovered during the course of the development, a professional archaeologist or palaeontologist, depending on the nature of the finds, must be contracted as soon as possible to inspect the heritage resource. If the newly discovered heritage resources prove to be of archaeological or palaeontological significance, a Phase 2 rescue operation may be required subject to permits issued by SAHRA;
Palaeontology Impact Assessment	If anything of Paleontological importance are found on site during the pre-mining and mining phase of the development, then the management actions outlined in the Environmental Management Programme (EMPr) will be followed to mitigate the impact and a specialist will be contacted immediately.
Civil Aviation Theme	This study was not deemed necessary as the DEA Screening Report indicated that the area has low sensitivity
Defense Theme	This study was not deemed necessary as the DEA Screening Report indicated that the area has low sensitivity

L) ENVIRONMENTAL IMPACT STATEMENT

i) SUMMARY OF THE KEY FINDINGS

This section provides a summary of the assessment and conclusions drawn from the proposed mining area. In doing so, it draws on the information gathered as part of the environmental impact assessment process and the knowledge gained by the environmental consultant during the course of the process and presents an informed opinion on the environmental impacts associated with the proposed project. The following conclusions can be drawn for the proposed mining activity:

- Potential impacts on biodiversity: The proposed 5ha areas is covered in natural vegetation.

- Potential impact on Archaeological artifacts and Palaeontological resources:

  Cultural Heritage in South Africa (includes all heritage resources) is protected by the **National Heritage Resources Act (Act 25 of 1999) (NHRA).** According to Section 3 of the Act, all Heritage resources include **"all objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects and material, meteorites and rare geological specimens**".

  If such resources are found during the minng or development activities, they shall not be disturbed without a permit from the relevant heritage resource Authority, which means that before such sites are disturbed by development it is incumbent on the developer to ensure that a heritage impact assessment is done and the Provincial Heritage Resources Authority and SAHRA must be contacted immediately and work must stop.

  If anything of Archaeological and/or paleontological significance is found during the construction and operational phase of the mine the following applies:
  - NHRA 38(4)c(i) – If any evidence of archaeological sites or remains (e.g. remnants of stone-made structures, indigenous ceramics, bones, stone artefacts, ostrich eggshell fragments, charcoal and ash concentrations), fossils or other categories of heritage resources are found during the proposed development, SAHRA APM Unit (021 462 5402) must be alerted as per section 35(3) of the NHRA. Non-compliance with section of the NHRA is an offense in terms of section 51(1)e of the NHRA and item 5 of the Schedule;
  - NHRA 38(4)c(ii) – If unmarked human burials are uncovered, the SAHRA Burial Grounds and Graves (BGG) Unit (012 320 8490), must be alerted immediately as per section 36(6) of the NHRA. Non-compliance with section of the NHRA is an offense in terms of section 51(1)e of the NHRA and item 5 of the Schedule;
  - NHRA 38(4)e – The following conditions apply with regards to the appointment of specialists: i) If heritage resources are uncovered during the course of the development, a professional archaeologist or palaeontologist, depending on the nature of the finds, must be contracted as soon as possible to inspect the heritage resource. If the newly discovered heritage resources prove to be of archaeological or palaeontological significance, a Phase 2 rescue operation may be required subject to permits issued by SAHRA;

- Potential impacts on land use: The proposed 5ha area is covered in natural vegetation.

- Potential social impacts: The presence of miners poses a potential risk to family structures and social networks. While the presence of miners does not in itself constitute a social

impact, the manner in which miners conduct themselves can impact on local communities. The most significant negative impact is associated with the disruption of existing family structures and social networks.

- Potential negative impacts: (noise, dust, soil degradation, storm water, traffic, health and safety) associated with the operation of the facility are expected to be of low - high impact, of medium terms and site specific. These can be mitigated or negated through the implementation of practical and appropriate mitigation measures.

- Positive impacts: The mining of Slate, may result in socio-economic benefit to the area.

All possible negative impacts and risks that have been identified in this report can be effectively mitigated and managed by implementing the migratory measures as set out in the Environmental Management Programme (EMPr) attached in Part B.

ii) FINAL SITE MAP

Provide a map at an appropriate scale which superimposes the proposed overall activity and its associated structures and infrastructure on the environmental sensitivities of the preferred site indicating any areas that should be avoided, including buffers.

Refer to Site layout Map attached in **Appendix 4**.

iii) SUMMARY OF THE POSITIVE AND NEGATIVE IMPLICATIONS AND RISKS OF THE PROPOSED ACTIVITY AND IDENTIFIED ALTERNATIVES

- Increased noise levels
- Potential water and soil pollution impacts.
- Potential loss of fauna and flora.
- Increased vehicle activity.
- Increased dust levels.
- Increase in water consumption and possible depletion of groundwater resources.
- Potential visual impacts.

All possible negative impacts and risks that have been identified in this report can be effectively mitigated and managed by implementing the mitigation measures as set out in the Environmental Management Programme (EMPr) attached in Part B.

M) PROPOSED IMPACT MANAGEMENT OBJECTIVES AND THE IMPACT MANAGEMENT OUTCOMES FOR INCLUSION IN THE EMPR (Based on the assessment and where applicable the recommendations from specialist reports, the recording of proposed impact management objectives, and the impact management outcomes for the development for inclusion in the EMPr as well as for inclusion as conditions of authorisation)

Management objectives include:

- Ensure that the mining activity does not cause pollution to the environment or harm to persons.
- Minimise production of waste.

- All mining activities must be conducted in a manner that minimises noise impact, litter, environmental degradation and health hazards i.e. injuries.
- The mine must be kept neat and tidy during waste handling to prevent unsightliness and accidents.

Expected outcomes include:

- Minimum impacts on the environment as a result of mining.
- Compliance with legislative requirements.
- Mine is neat and tidy and well managed.

FINAL PROPOSED ALTERNATIVES

(Provide an explanation for the final layout of the infrastructure and activities on the overall site as shown on the final site map together with the reasons why they are the final proposed alternatives which respond to the impact management measures, avoidance, and mitigation measures identified through the assessment)

This alternative asks the question, if there is not, from an environmental perspective, a more suitable location for the proposed activity. Due to the expected mineral resources, **Slatello Mine CC** would like to potentially mine Slate including associated infrastructure, structure and earthworks on a certain 5ha area of Portion 6 (a Portion of Portion 2) of the farm Bokkraal 344, Registration Division JP, North West Province, therefore there will be no other alternative (i.e. to facilitate the movement of machinery, equipment, infrastructure).

N) ASPECTS FOR INCLUSION AS CONDITIONS OF AUTHORISATION.

Any aspects which have not formed part of the EMPr that must be made conditions of the Environmental Authorisation

- The operational activities and relevant rehabilitation of disturbed areas should be monitored against the improved EMPr and all other relevant environmental legislation.
- A copy of the EMP should be made available onsite at all times.
- Implementation of the proposed mitigation measures set out in the EMPr.

O) DESCRIPTION OF ANY ASSUMPTIONS, UNCERTAINTIES AND GAPS IN KNOWLEDGE. (Which relate to the assessment and mitigation measures proposed)

The uncertainties in results are mostly related to the availability of information, time available to gather the relevant information as well as the sometimes-subjective nature of the assessment methodology. In terms of addressing the key issues the EAP is satisfied that there is sufficient information to conduct the significance rating and provide the environmental authority with sufficient information to make an informed decision. If the authority feels that specialists' studies need to be conducted, such will be corresponded to the applicant.

P) REASONED OPINION AS TO WHETHER THE PROPOSED ACTIVITY SHOULD OR SHOULD NOT BE AUTHORISED

REASONS WHY THE ACTIVITY SHOULD BE AUTHORIZED OR NOT

Based on the outcomes of the current Mining activities in the area the possibility to encounter further Slate, were identified.

The option of not approving the activities will result in a significant loss of possible valuable minerals being exploited and all economic benefits will be lost.

The below should also be considered while making a decision:

The application area falls within the Marico Biosphere Reserve which was declared as a United Nations, Education, Scientific and Cultural Organization (UNESCO) Biosphere Reserve (Refer to **Figure 11**)

The Marico Biosphere Reserve lies within the watershed area of these three major rivers of South Africa and it is the only place where these three rivers share catchments/drainage regions. The rivers are as follows Limpopo river, Orange river & Vaal river.

It is therefore critical to protect these systems to ensure the sustainable supply of quality water. The upper reaches of the Groot-Marico river was classified as a National Fresh Water Ecosystems Priority Area (NFEPA) in 2010 and was identified as a flagship free-flowing river due to the fact that it is still in an A/B class meaning it is in an unmodified or largely natural condition. It is therefore the only free-flowing NFEPA river in North West and Gauteng Provinces.

Q) CONDITIONS THAT MUST BE INCLUDED IN THE AUTHORISATION

- The operational activities and relevant rehabilitation of disturbed areas should be monitored against the improved EMPr and all other relevant environmental legislation.
- A copy of the EMP should be made available onsite at all times.
- Implementation of the proposed mitigation measures set out in the EMPr.

The EMPr should be binding on all managers and Applicant operating/utilizing the site.

Period for which the Environmental Authorisation is required.

For a minimum of 2 years and maximum of 5 years.

R) UNDERTAKING

Confirm that the undertaking required to meet the requirements of this section is provided at the end of the EMPr and is applicable to both the Basic assessment report and the Environmental Management Programme report.

The undertaking required to meet the requirements of this section is provided at the end of the EMPr and is applicable to both the Environmental Impact Assessment report and the Environmental Management Programme report.

I, **Ms. Percy Sehaole** (EAP) herewith confirms

A. the correctness of the information provided in the reports ☒

B. the inclusion of comments and inputs from stakeholders and I&APs ; ☒

C. the inclusion of inputs and recommendations from the specialist reports where relevant; ☒and

D. the acceptability of the project in relation to the finding of the assessment and level of mitigation proposed; ☒

Mahoole.

Signature of the environmental assessment practitioner:

Milnex CC – Environmental Consultants

Name of company:

07/06/2022

Date:

S) FINANCIAL PROVISION

State the amount that is required to both manage and rehabilitate the environment in respect of rehabilitation.

XXXXXXXXXXXXXXXXX

i) Explain how the aforesaid amount was derived.

The closure cost estimate provided above is aligned with the Guideline Document for the Evaluation of Quantum of Closure related Financial Provision Provided by a Mine, by the DMR (January, 2005). The amount was calculated by Milnex CC.

Financial Guarantee

The financial guarantee for the rehabilitation for land disturbed by **Slatello Mine CC**, will be submitted to the department on request

Rehabilitation Fund

Slatello Mine CC will also make provision for rehabilitation during closure by establishing a rehabilitation trust.

ii) Motivation for the deviation.

Not applicable

T) OTHER INFORMATION REQUIRED BY THE COMPETENT AUTHORITY

COMPLIANCE WITH THE PROVISIONS OF SECTIONS 24(4)(A) AND (B) READ WITH SECTION 24 (3) (A) AND (7) OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT (ACT 107 OF 1998). THE EIA REPORT MUST INCLUDE THE:

i. **Impact on the socio-economic conditions of any directly affected person. (**Provide the results of Investigation, assessment, and evaluation of the impact of the mining, bulk sampling or prospecting on any directly affected person including the landowner, lawful occupier, or, where applicable, potential beneficiaries of any land restitution claim, attach the investigation report as **Appendix 2.19.1** and confirm that the applicable mitigation is reflected in 2.5.3; 2.11.6.and 2.12.herein).

The following impacts may be regarded as community impacts:

- Increased noise levels
- Potential water and soil pollution impacts.
- Potential loss of fauna and flora.
- Increased vehicle activity.
- Increased dust levels.
- Increase in water consumption and possible depletion of groundwater resources.
- Potential visual impacts.

Indirect socio-economic benefits are expected to be associated with the creation of employment.

ii. **Impact on any national estate referred to in section 3(2) of the National Heritage Resources Act**. **(**Provide the results of Investigation, assessment, and evaluation of the impact of the mining, bulk sampling or prospecting on any national estate referred to in section 3(2) of the National Heritage Resources Act, 1999 (Act No. 25 of 1999) with the exception of the national estate contemplated in section 3(2)(*i*)(vi) and (vii) of that Act, attach the investigation report as **Appendix 2.19.2** and confirm that the applicable mitigation is reflected in 2.5.3; 2.11.6.and 2.12.herein).

Cultural Heritage in South Africa (includes all heritage resources) is protected by the **National Heritage Resources Act (Act 25 of 1999) (NHRA).** According to Section 3 of the Act, all Heritage resources include **"all objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects and material, meteorites and rare geological specimens**".

If such resources are found during the mining or development activities, they shall not be disturbed without a permit from the relevant heritage resource Authority, which means that before such sites are disturbed by development it is incumbent on the developer to ensure that a heritage impact assessment is done and the Provincial Heritage Resources Authority and SAHRA must be contacted immediately and work must stop.

If anything of Archaeological and/or paleontological significance is found during the construction and operational phase of the mine the following applies:

- NHRA 38(4)c(i) – If any evidence of archaeological sites or remains (e.g. remnants of stone-made structures, indigenous ceramics, bones, stone artefacts, ostrich eggshell fragments, charcoal and ash concentrations), fossils or other categories of heritage resources are found during the proposed development, SAHRA APM Unit (021 462

5402) must be alerted as per section 35(3) of the NHRA. Non-compliance with section of the NHRA is an offense in terms of section 51(1)e of the NHRA and item 5 of the Schedule;

- NHRA 38(4)c(ii) – If unmarked human burials are uncovered, the SAHRA Burial Grounds and Graves (BGG) Unit (012 320 8490), must be alerted immediately as per section 36(6) of the NHRA. Non-compliance with section of the NHRA is an offense in terms of section 51(1)e of the NHRA and item 5 of the Schedule;
- NHRA 38(4)e – The following conditions apply with regards to the appointment of specialists: i) If heritage resources are uncovered during the course of the development, a professional archaeologist or palaeontologist, depending on the nature of the finds, must be contracted as soon as possible to inspect the heritage resource. If the newly discovered heritage resources prove to be of archaeological or palaeontological significance, a Phase 2 rescue operation may be required subject to permits issued by SAHRA;

U) OTHER MATTERS REQUIRED IN TERMS OF SECTIONS 24(4)(A) AND (B) OF THE ACT.

(the EAP managing the application must provide the competent authority with detailed, written proof of an investigation as required by section 24(4)(b)(i) of the Act and motivation if no reasonable or feasible alternatives, as contemplated in sub-regulation 22(2)(h), exist. The EAP must attach such motivation as **Appendix 4)**.

From a local perspective, the mining of Slate including associated infrastructure, structure and earthworks on a certain 5ha area of Portion 6 (a Portion of Portion 2) of the farm Bokkraal 344, Registration Division JP, North West Province is preferred because the geological formation supports the possibility that the minerals applied for could be found on the proposed area.

PART B

ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT

1) Draft environmental management programme.

A) DETAILS OF THE EAP

i) The EAP who prepared the report

ii) Expertise of the EAP

Name of Practitioner	Qualifications	Contact details
Percy Sehaole	Master's Degree in Environmental Science (refer to **Appendix 1**)	Tel No.: (018) 011 1925 Fax No: (053) 963 2009 e-mail address: percy@milnex-sa.co.za

B) DESCRIPTION OF THE ASPECTS OF THE ACTIVITY (Confirm that the requirement to describe the aspects of the activity that are covered by the draft environmental management programme is already included in PART A, section (1)(h) herein as required).

It is hereby confirmed that the requirements to describe the aspects of the activity that are required by the EMP is already included in Part A, section 1(h).

C) COMPOSITE MAP

(Provide a map **(Attached as an Appendix**) at an appropriate scale which superimposes the proposed activity, its associated structures, and infrastructure on the environmental sensitivities of the preferred site, indicating any areas that any areas that should be avoided, including buffers)

Refer to Locality Map, attached as **Appendix 4**.

D) DESCRIPTION OF IMPACT MANAGEMENT OBJECTIVES INCLUDING MANAGEMENT STATEMENTS

i. **Determination of closure objectives.** (ensure that the closure objectives are informed by the type of environment described in 2.4 herein)

PHYSICAL STABILITY

To ensure that mining residue will not compromise post-closure land use and be sustainable long-term landforms.

- Closure, removal and disposal of all surface infrastructure that has no beneficial post-closure use.
- Shaping and vegetating the remaining earth embankments, trenches, etc. to stabilise slopes and integrate with surrounding topography.

Erosion Control:

- Restrict clearing to areas essential for the works
- Windrow vegetation debris along the contour
- Minimize length of time soil is exposed
- Divert run-off from undisturbed areas away from the works

Topsoil Management:

The mine rehabilitation strategy may include the following measures which are designed to minimize the loss of topsoil material respread on rehabilitated areas and promote successful vegetation establishment.

- Minimize the length of time that topsoil material is to be stockpiled.
- Contour rip to encourage rainfall infiltration and minimise run-off.
- Respread topsoil material in even layers at a thickness appropriate for the landform and land capability of the area to be rehabilitated.
- Construct contour banks in accordance with the applicable landform design criteria to limit slope lengths and control run-off.
- stockpiles are located in areas away from drainage lines or windy areas in order to minimise the risk of soil and wind erosion;
- Rehabilitation areas of returned topsoil will be ripped, with care taken not to bring subsurface materials to the surface (e.g. large rocks).

SUBMISSION OF INFORMATION

- All facilities that become redundant during the life of the mine must be rehabilitated concurrently to lighten the rehabilitation process at the end of the mine's life;
- Attention must be paid to the latest developments in the mine rehabilitation
- The mine closure plan must always keep pace with the current best practices so it must bereviewed every five years; and
- All information as required by the various government departments should be captured andbe readily available for submission when required.

MAINTENANCE

The necessary agreements and arrangement will be made by **Slatello Mine CC** to ensure that all natural physical, chemical and biological processes for which a closure condition have been specified are monitored until they reach a steady state or for two years after closure or as long as deemed necessary at the time; and all rehabilitated areas will be monitored and maintained until

such time as required to enable the mine to apply for closure of these different areas.

CLOSURE GOALS AND TARGETS

"That all residual environmental impacts associated with the mining method employed, including possible final voids, infrastructure, and stockpile will be neutralized or minimised such that the post-mining environment is able to function in a manner which conforms to the concept of sustainable development." Implement operational control measures as indicated and required by the EMP:

- Ensure post mining provision (financial) is documented and available;
- Initiate first stage rehabilitation with the aim of establishing low yield graze land, simultaneous acknowledgement of structural and service-related factors for the later residential development objective
- Address post mining objectives as stipulated in the section below

PERFORMANCE ASSESSMENTS

The proposed mining activities are only temporary on the land, so it is vital that rehabilitation of land takes place once mining operations have stopped. However, concurrent rehabilitation should take place where applicable. Mine reclamation activities are undertaken gradually;

- with the shaping and contouring of excavated areas,
- removal of infrastructure,
- replacement of topsoil,
- seeding with grasses and planting of trees taking place on the mined-out areas,

The above is largely achieved through bulldozers and scrapers which is used to reshape the disturbed area.

INFRASTRUCTURE AREA

The removal, decommissioning and disposal of all mining infrastructure, will comply with all conditions contained in the MPRDA, 2002 (Act No. 28 of 2002). To this end, decommissioning and rehabilitation of all infrastructure areas will follow the following principles:

- Removal of infrastructure and unused or unwanted equipment. No facilities or equipment should remain on site unless with the written approval of the landowner or relevant authority.
- Removal of rubbish for disposal at approved sites.

PLANNING FOR REHABILITATION

Each quarry will have characteristics that will influence the procedures adopted in the rehabilitation program. These characteristics may be obvious but critical differences are often only identified by careful investigation. The proposed post mining land-use will also influence the procedure and the plant species used for rehabilitation (Allan, 1998).

MINE RESIDUE

Topsoil deposit will be capped where necessary and vegetated with the seed mix:

- Prepare a rehabilitation plan prior to the commencement of mining;
- Agree on the long-term post - mining land use objective for the area with the relevant government departments, local government councils and nearby community members.
- The land use must be compatible with the climate, soil, topography of the final landform and the degree of the management available after rehabilitation;
- Progressively rehabilitate the site, where possible, so that the rate of rehabilitation is similar to the rate of mining;
- Prevent the introduction of noxious weeds and pests;
- Minimise the area cleared for mining and associated facilities to that absolutely necessary for the safe operation of the mine;

SITE REHABILITATION

Proponent should keep the disturbed areas to a minimum; trees and other plants should not be removed unless necessary; selective quarrying should be adopted so that the entire site is not cleared and affected at once.

Benches will be created at closure to create sloped sides. The waste rock and overburden will be backfilled to the open pit area

SAFETY

After planning for rehabilitation, the first step is to clean up and make the area to be rehabilitated, safe. This involves the following:

- Removal of infrastructure and unused or unwanted equipment. No facilities or equipment should remain on site unless with the written approval of the landowner or relevant authority.
- Removal of rubbish for disposal at approved sites.

PHYSICAL STABILITY

To ensure that mining residue will not compromise post-closure land use and be sustainable long-term landforms.

- Closure, removal and disposal of all surface infrastructure that has no beneficial post-closure use.
- Shaping and vegetating the remaining earth embankments, trenches, etc. to stabilise slopes and integrate with surrounding topography.

Erosion Control:

- Restrict clearing to areas essential for the works
- Windrow vegetation debris along the contour
- Minimize length of time soil is exposed
- Divert run-off from undisturbed areas away from the works

Topsoil Management:

The mine rehabilitation strategy may include the following measures which are designed to minimize the loss of topsoil material respread on rehabilitated areas and promote successful vegetation establishment.

- Minimize the length of time that topsoil material is to be stockpiled.
- Contour rip to encourage rainfall infiltration and minimise run-off.
- Respread topsoil material in even layers at a thickness appropriate for the landform and land capability of the area to be rehabilitated.
- Construct contour banks in accordance with the applicable landform design criteria to limit slope lengths and control run-off.
- stockpiles are located in areas away from drainage lines or windy areas in order to minimise the risk of soil and wind erosion;
- Rehabilitation areas of returned topsoil will be ripped, with care taken not to bring subsurface materials to the surface (e.g. large rocks).

LEADING CLOSURE OBJECTIVES

SOCIO ECONOMIC

Closure Management Objectives

The retrenchment processes will be followed as per requirements of the applicable legalprocess.

Specific Performance Criteria

- The rehabilitated mining environment shall be made safe and deemed safe;
- The soils and land capability will be rehabilitated.
- Other fences erected around the mine will be dismantled and either disposed of at a permitted disposal site or sold as scrap (provided these structures will no longer be required by the post-mining landowner).
- Fences erected to cordon-off dangerous excavations will remain in place and will be maintained as required.

TRAFFIC AND SAFETY

Closure Management Objective

- Ensure that all roads within the mining area are rehabilitated and or left behind is safe in good working condition,ensuring public safety and access to site and monitoring points.

Monitoring and reporting

- The site manager will inspect the roads for degradation and spillages.
- Speed limits will be enforced on site where appropriate and feasible.
- All incidences and issues will be recorded, as will the actions taken to address issues andrecords of such actions kept on site.

TOPOGRAPHY AND EROSION CONTROL

Closure Management Objectives

- The area will have contours constructed to prevent soil erosion.

Specific Performance Criteria

- Surface water bodies shall not be left in any mining voids unless the operations manager demonstrates there will be no significant environmental impact (such as salinization, reduction in water availability, toxicity, algal problems, attraction to pest species or a local safety hazard).
- All slopes which may incur erosion will be profiled in such a way that a preferential.
- Rehabilitated profiles must ensure free drainage of water and should be contoured to fit in with the catchment dynamics.

- Erosion control measures such as contour banks and cut off berms should be constructed and soil vegetated in rehabilitated areas.
- On gentle slopes, water will be encouraged to flow off the rehabilitated surface as surface flow, as quickly as possible without causing erosion.

CONSULTING SPECIALISTS

- Should soil depth be inadequate in the rehabilitated areas, then more soil will be brought in and deposited on the site.
- The area will also be inspected for erosion to determine the reason for soil loss. This will be addressed immediately.
- All recommendations made by the specialists will be implemented where deemed appropriate.
- Manual seeding or planting should vegetative cover be inadequate.
- An alien invasive management program will be implemented for the control and eradication of alien invasive species on site. This plan will give preference to mechanical control methods.

SURFACE WATER CONTROL

Closure Management Objectives

- All water that falls on the rehabilitated area will be managed in such a way that no erosion will occur through the use of contour drains.
- The filled and rehabilitated area will be shaped to facilitate run-off towards the catchment area.
- There shall be no long term reduction in the availability of water to meet local environmental values.

ECOLOGY

Closure Management Objectives

- Areas will be fenced off once seeded to prevent surface disturbance to the site and allow for vegetation to establish and stabilise.

Specific Performance criteria

- Vegetation in rehabilitated areas will have equivalent values as surrounding natural ecosystems.

- The rehabilitated ecosystem will have equivalent functions and resilience as the target ecosystem.
- Soil properties will be appropriate to support the target ecosystem.
- The rehabilitated areas will provide appropriate habitat for fauna
- Fauna utilisation, abundance and diversity appropriate to specified post mining landuse.
- Berms will be maintained. This will be undertaken by vegetating all berms to ensure thatthey are stable. The berms will also be inspected to ensure that there are no cracks, which could cause leakage. The berms will only be demolished should the area prove to be free draining with no pollution potential after rehabilitation.

Monitoring and Proposed Actions

- Services of a qualified person will be used to monitor the re-vegetation of the rehabilitated areas.
- Records of the monitoring will be kept on site.
- The environmental site manager will ensure that an alien invasive monitoring, eradication and control programme is established during closure and the area will be inspected at least every 3 months and more frequently in areas where alien species were observed.
- The environmental site manager will be responsible for inspecting and managing any protected flora that may be identified by specialists. Specialists will be consulted regarding relocation of these species if necessary during rehabilitation or closure.
- All incidences and issues during closure will be recorded, as will the actions taken to address issues. These will be filed and kept at the mine offices.
- Rehabilitation will be visually inspected at least monthly with regards to vegetation cover abundance.
- The rehabilitated area will be inspected monthly for general erosion and vegetative cover.
- Rehabilitated areas will be monitored for soil quality and depth annually.

Action Required

- Should it be noted that designs are not being followed, rehabilitation activities will be amended to ensure corrective measures will be taken to ensure design specifications are achieved. Specialists will be consulted if necessary.
- The specialist's recommendations from bio-monitoring and from annual floral surveys ofrehabilitated areas will be implemented as soon as possible.
- Should any erosion be observed on site, it will be reported to the site manager and

environmental site manager. The issue will be addressed and consideration given to:

- ✓ Increasing vegetative cover in problem areas through manual seeding/planting.
- ✓ Implementing erosion control measures such as contour berms or gabion baskets.
- ✓ Consulting specialists.
- ✓ Should soil depth be inadequate in the rehabilitated areas, more soil will bebrought in and deposited on the site.
- ✓ The area will also be inspected for erosion to determine the reason for soil loss.
- ✓ All recommendations made by the specialists will be followed.
- ✓ Manual seeding or planting should vegetative cover be inadequate.
- ✓ An alien invasive management programme will be implemented for the control and eradication of alien invasive species on site. This plan will give preference to mechanical control methods. Any chemicals utilised must be used responsibly.

LAND USE

Closure Management objectives

- To ensure that rehabilitation (physical and chemical) is done to such an extent that land use potential is regained.

Specific Performance Criteria

- Soil samples will be taken from rehabilitated areas annually over the full period of closure to determine soil fertility, depth compaction, acidity and mine related pollution. This should be conducted by qualified specialist who will also recommend actions and remedial measures to correct any issues observed on site.
- Once the topsoil has been replaced, vehicle movement will be restricted to prevent compaction of the topsoil.
- Rehabilitated areas will be vegetated within the same growing season (before or during the rainy season). A suitable seed bed will be prepared to enhance the penetration and absorption of water, thereby giving the seed the best possible chance to germinate. The seeding depth should be very shallow to provide better germination. For most grass species seeding depth is approximately 5- 15mm.
- Rehabilitated areas will be re-vegetated with local indigenous flora as far as possible.
- Once the seed mixture has been sown the land must be rolled using to ensure consolidation around the seeds and effective moisture retention. Access to seededareas will be restricted to protect the newly established pasture.

Monitoring and Measurement

- A detailed monitoring and reporting programme will be established and followed.
- Rehabilitated areas will be monitored for vegetation cover and alien invasive encroachment at least monthly by visual means.
- Areas of failed growth will be fertilised if necessary and re-seeded or planted withseedling plugs. All exotic and invasive vegetation should be removed.

AIR QUALITY AND NOISE

Closure Management Objectives

- Dust suppression should be undertaken at site especially during the dry season and during windy conditions.

Monitoring and proposed actions

- Dust suppression techniques and/or frequency will be altered as necessary should dust levels become excessive and exceed target values during rehabilitation.
- Air quality monitoring and reporting will be conducted
- The environmental site manager will be responsible for managing noise level database and implement actions should acceptable noise levels be exceeded.
- The site manager will be responsible for ensuring that all vehicles, including those of Applicant, are maintained as per their maintenance plan.
- All incidences and issues will be recorded, as will the actions taken to address issues. These will be kept at the mine offices.

Action required

- Should ambient dust levels exceed recommended standards and frequencies as per the Air Quality Act, then the management plan for dust will be re-evaluated and assessed to improve dust control on site. Actions could include:
- More frequent spraying.
- Should ambient noise levels exceed target levels:
- Additional noise measurements will be taken at all sensitive receptors beyond the mine boundary in question, initially those nearest to the mine and working further away until levels are within acceptable levels.
- Should levels at sensitive receptors still exceed target levels, and it is due to mining activities, then the noise management plan will be re-evaluated to reduce noise at these sensitive receptors to within acceptable limits.

Provide a rehabilitation plan that describes and shows the scale and aerial extent of the main mining activities, including the anticipated mining area at the time of closure.

The Rehabilitation & Closure Plan is attached as **Appendix 9.**

Calculate and state the quantum of the financial provision required to manage and rehabilitate the environment in accordance with the applicable guideline.

XXXXXXXXXXXXXXXXXXXXXXXXx

(a) Confirm that the financial provision will be provided as determined.

Financial Guarantee

The financial guarantee for the rehabilitation for land disturbed **Slatello Mine CC** will be submitted

Rehabilitation Fund

Slatello Mine CC will also make provision for rehabilitation during closure by establishing a rehabilitation trust.

E) IMPACTS TO BE MITIGATED IN THEIR RESPECTIVE PHASES

Measures to rehabilitate the environment affected by the undertaking of any listed activity

ACTIVITIES **(E.g. For prospecting -** drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office, access route **etc…etc…etc** **E.g. For mining**,- excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc…etc…etc.)	**PHASE** (of operation in which activity will take place. State; Planning and design, Pre-Construction' Construction, Operational, Rehabilitation, Closure, Post closure).	**SIZE AND SCALE of disturbance** (volumes, tonnages and hectares or m²)	**MITIGATION MEASURES** (describe how each of the recommendations in herein will remedy the cause of pollution or degradation and migration of pollutants)	**COMPLIANCE WITH STANDARDS** (A description of how each of the recommendations herein will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities)	**TIME PERIOD FOR IMPLEMENTATION** Describe the time period when the measures in the environmental management programme must be implemented Measures must be implemented when required. With regard to Rehabilitation specifically this must take place at the earliest opportunity. .With regard to Rehabilitation, therefore state either:-.. Upon cessation of the individual activity Or. Upon the cessation of mining, bulk sampling or prospecting as the case may be.
Clearance of vegetation	Quarrying	5ha	1. Site clearing must take place in a phased manner, as and when required. 2. Areas which are not to be mined within two months must not be cleared to reduce erosion risks. 3. The area to be cleared must be clearly demarcated and this footprint strictly maintained. 4. Spoil that is removed from the site must be removed to an approved spoil site or a licensed landfill site.	Compliance with Duty of Care as detailed within NEMA	Duration of operations on the mining activities.

			5. The necessary silt fences and erosion control measures must be implemented in areas where these risks are more prevalent.		
Construction of roads	Quarrying		1. Planning of access routes to the site for construction/mining purposes shall be done in conjunction with the Applicant and the Landowner. All agreements reached should be documented and no verbal agreements should be made. The Applicant shall clearly mark all access roads. Roads not to be used shall be marked with a "NO ENTRY for mining vehicles" sign. 2. Mining routes and required access roads must be clearly defined. 3. Damping down of the un-surfaced roads must be implemented to reduce dust and nuisance. 4. Soils compacted by construction/mining activities shall be deep ripped to loosen compacted layers and re-graded to even running levels. 5. In the event that the state of the roads deteriorates due to our mining activities, we will implement corrective measures. 6. Dust suppression measures must be implemented for heavy vehicles such as wetting of gravel roads on a regular basis and ensuring that vehicles used to transport the	Compliance with Duty of Care as detailed within NEMA	Duration of operations on the mining activities.

			gravel are fitted with tarpaulins or covers; 7. All vehicles must be road-worthy and drivers must be qualified and made aware of the potential road safety issues and need for strict speed limits.		
Mining Slate – Soils and geology	Quarrying	5ha	1. The Applicant should, prior to the commencement of earthworks determine the average depth of topsoil (If topsoil exists), and agree on this with the ECO. 2. The full depth of topsoil should be stripped from areas affected by mining and related activities prior to the commencement of major earthworks. This should include the building footprints, working areas and storage areas. Topsoil must be reused where possible to rehabilitate disturbed areas. 3. Care must be taken not to mix topsoil and subsoil or any other material, during stripping. 4. Benches will be created at closure to create sloped sides. The waste rock and overburden will be backfilled to the open pit area 5. If stockpiles are exposed to windy conditions or heavy rain, they should be covered either by vegetation or geofabric, depending on the duration of the project. Stockpiles may further be	Compliance with Duty of Care as detailed within NEMA	Duration of operations on the mine

			protected by the construction of berms. 6. Stockpiles should be kept clear of weeds and alien vegetation growth by regular weeding. 7. Where contamination of soil is expected, analysis must be done prior to disposal of soil to determine the appropriate disposal route. 8. The impact on the geology will be permanent. There is no mitigation measure.		
Mining Slate – excavations	Quarrying	5ha	1. The generation of noise will be as a result of people working on the site and trucks used to pick up slate from the mining area. 2. Truck traffic should be routed away from noise sensitive areas, where possible. 3. Noise levels must be kept within acceptable limits. 4. The mining activities must aim to adhere to the relevant noise regulations and limit noise to within standard working hours in order to reduce disturbance of dwellings in close proximity to the development.	Compliance with Duty of Care as detailed within NEMA	Duration of operations on the mining area

IMPACT MANAGEMENT OUTCOMES

(A description of impact management outcomes, identifying the standard of impact management required for the aspects contemplated in paragraph ();

ACTIVITY (whether listed or not listed). **(E.g. Excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc…etc…etc.)**.	**POTENTIAL IMPACT** **(e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc….etc…)**	**ASPECTS AFFECTED**	**PHASE** In which impact is anticipated **(e.g. Construction, commissioning, operational Decommissioning, closure, post-closure)**	**MITIGATION TYPE** **(modify, remedy, control, or stop) through (e.g. noise control measures, storm-water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation, alternative activity etc. etc)** **E.g.** • **Modify through alternative method.** • **Control through noise control** • **Control through management and monitoring** • **Remedy through rehabilitation..**	**STANDARD TO BE ACHIEVED** **(Impact avoided, noise levels, dust levels, rehabilitation standards, end use objectives) etc.**
Clearance of vegetation	Loss or fragmentation of habitats	Fauna & flora	(construction and operation phase)	**Existing vegetation** 1. Vegetation removal must be limited to the mining area. 2. Vegetation to be removed as it becomes necessary rather than removal of all vegetation throughout the site in one step. 3. No vegetation to be used for firewood. 4. Exotic and invasive plant species should not be allowed to establish, if the development is approved. 5. There should be a preconstruction walk-through of the development	Minimisation of impacts to acceptable limits

				footprint/project site in order to locate individuals of plant species of conservation concern. A search and rescue exercise must be done to locate and relocate any protected species to a suitable and similar habitat where these plants can grow without any disturbance; 6. In case Camel Thorn or Shepherd's trees are found permits must be obtained from DAFF to remove these individuals. The Applicant must apply for these permits in a phased manner as mining proceeds. **Rehabilitation** 7. All damaged areas shall be rehabilitated upon completion of the contract. 8. Re-vegetation of the disturbed site is aimed at approximating as near as possible the natural vegetative conditions prevailing prior to mining. 9. All natural areas impacted during construction/mining must be rehabilitated with locally indigenous grasses typical of the representative botanical unit. 10. Rehabilitation must take place in a phased approach as soon as possible. 11. Rehabilitation process must make use of species indigenous to the area. Seeds from surrounding seed banks can be used for re-seeding.	

				12. Rehabilitation must be executed in such a manner that surface run-off will not cause erosion of disturbed areas. 13. Planting of indigenous tree species in areas not to be cultivated or built on must be encouraged. **Demarcation of** mining **area** 14. All plants not interfering with mining operations shall be left undisturbed clearly marked and indicated on the site plan. 15. The mining area must be well demarcated and no construction/mining activities must be allowed outside of this demarcated footprint. 16. Vegetation removal must be phased in order to reduce impact of construction/mining. 17. Site office and laydown areas must be clearly demarcated and no encroachment must occur beyond demarcated areas. 18. Strict and regular auditing of the mining process to ensure containment of the mining and laydown areas. **19.** Soils must be kept free of petrochemical solutions that may be kept on site during construction/mining. **Utilisation of resources** 20. Gathering of firewood, fruit, muti plants, or any other natural material onsite or in areas adjacent to the site is	

				prohibited unless with prior approval of the ECO. **Exotic vegetation** 21. Alien vegetation on the site will need to be controlled. 22. The Applicant should be responsible for implementing a programme of weed control (particularly in areas where soil has been disturbed); and grassing of any remaining stockpiles to prevent weed invasion. 23. The spread of exotic species occurring throughout the site should be controlled. 24. Weed control measures must be applied to eradicate any noxious weeds (category 1a &1b species) on disturbed areas. **Herbicides** 25. Herbicide use shall only be allowed according to contract specifications. The application shall be according to set specifications and under supervision of a qualified technician. The possibility of leaching into the surrounding environment shall be properly investigated and only environmentally friendly herbicides shall be used. 26. The use of pesticides and herbicides on the site must be discouraged as these impact on important pollinator species of indigenous vegetation.	

				Fauna 27. Rehabilitation to be undertaken as soon as possible after the mining activities have been completed. 28. No trapping or snaring to fauna on the construction/mining site should be allowed. 29. No faunal species must be disturbed, trapped, hunted or killed by maintenance staff during any routine maintenance at the development. 30. Any fauna threatened by the mining and operation activities should be removed to safety by the ECO or appropriately qualified environmental officer. 31. All mining vehicles should adhere to a low-speed limit (<30km/h) to avoid collisions with susceptible species such as snakes and tortoises. 32. If trenches need to be dug for electrical cabling or other purposes, these should not be left open for extended periods of time as fauna may fall in and become trapped in them. Trenches which are exposed should contain soil ramps allowing fauna to escape the trench.	
Mining Slate – excavations	Loss of topsoil	Soil	(construction and operation phase)	1. The Applicant should, prior to the commencement of earthworks determine the average depth of topsoil, and agree on this with the ECO. The full depth of topsoil should be stripped from areas affected by mining and related activities prior to the commencement of	Minimisation of impacts to acceptable limits

				major earthworks. This should include the building footprints, working areas and storage areas. Topsoil must be reused where possible to rehabilitate disturbed areas. 2. Care must be taken not to mix topsoil and subsoil or any other material, during stripping. 3. benches will be created at closure to create sloped sides. The waste rock and overburden will be backfilled to the open pit area 4. If stockpiles are exposed to windy conditions or heavy rain, they should be covered either by vegetation or geofabric, depending on the duration of the project. 5. Stockpiles should be kept clear of weeds and alien vegetation growth by regular weeding. Establish an effective record keeping system for each area where soil is disturbed for mining purposes. These records should be included in environmental performance reports, and should include all the records below. • Record the GPS coordinates of each area. • Record the date of topsoil stripping. • Record the GPS coordinates of where the topsoil is stockpiled. • Record the date of cessation mining activities at the particular site.	

				• Photograph the area on cessation of mining activities. • Record date and depth of re-spreading of topsoil. • Photograph the area on completion of rehabilitation and on an annual basis thereafter to show vegetation establishment and evaluate progress of restoration over time.	
	Erosion	Soil Air Water	(construction and operation phase)	1. An effective system of run-off control should be implemented, where it is required, that collects and safely disseminates run-off water from all hardened surfaces and prevents potential down slope erosion. 2. Periodical site inspection should be included in environmental performance reporting that inspects the effectiveness of the run-off control system and specifically records the occurrence of any erosion on site or downstream. 3. Implement an effective system of run-off control, where it is required, that collects and safely disseminates run-off water from all hardened surfaces and prevents potential down slope erosion. 4. Monitor the area regularly after larger rainfall events to determine where erosion may be initiated and then mitigate by modifying the soil micro-topography and revegetation or soil erosion control efforts accordingly 5. The use of silt fences and sand bags must be implemented in areas that are susceptible to erosion.	Minimisation of impacts to acceptable limits

				6. Other erosion control measures that can be implemented are as follows: ○ Brush packing with cleared vegetation ○ Mulch or chip packing ○ Planting of vegetation ○ Hydroseeding/hand sowing 7. Sensitive areas need to be identified prior to construction/ mining so that the necessary precautions can be implemented. 8. All erosion control mechanisms need to be regularly maintained. 9. Seeding of topsoil and subsoil stockpiles to prevent wind and water erosion of soil surfaces. 10. Retention of vegetation where possible to avoid soil erosion. 11. Vegetation clearance should be phased to ensure that the minimum area of soil is exposed to potential erosion at any one time. 12. Re-vegetation of disturbed surfaces should occur immediately after construction/mining activities are completed. This should be done through seeding with indigenous grasses. 13. No impediment to the natural water flow other than approved erosion control works is permitted. 14. To prevent stormwater damage, the increase in stormwater run-off resulting from construction/mining	

				activities must be estimated and the drainage system assessed accordingly. 15. benches will be created at closure to create sloped sides. The waste rock and overburden will be backfilled to the open pit area	
	Air Pollution	Air	(construction and operation phase)	**Dust control** 1. Wheel washing and damping down of un-surfaced and un-vegetated areas. 2. Retention of vegetation where possible will reduce dust travel. 3. Clearing activities must only be done during agreed working times and permitting weather conditions to avoid drifting of sand and dust into neighbouring areas. 4. Damping down of all exposed soil surfaces with a water bowser or sprinklers when necessary to reduce dust. 5. The Applicant shall be responsible for dust control on site to ensure no nuisance is caused to the neighbouring communities. 6. A speed limit of 30km/h must not be exceeded on site. 7. Any complaints or claims emanating from the lack of dust control shall be attended to immediately by the Applicant. 8. Any dirt roads that are utilised by the workers must be regularly maintained to ensure that dust levels are controlled.	Minimisation of impacts to acceptable limits

				Odour control 9. Regular servicing of vehicles in order to limit gaseous emissions. 10. Regular servicing of onsite toilets to avoid potential odours. **Rehabilitation** 11. The Applicant should commence rehabilitation of exposed soil surfaces as soon as practical after completion of earthworks. **Fire prevention** 12. No open fires shall be allowed on site under any circumstance. All cooking shall be done in demarcated areas that are safe and cannot cause runaway fires. 13. The Applicant shall have operational fire-fighting equipment available on site at all times. The level of firefighting equipment must be assessed and evaluated through a typical risk assessment process.	
	Noise		(construction and operation phase)	1. The generation of noise will be as a result of people working on the site and trucks used to pick up slate from the mining area. 2. Truck traffic should be routed away from noise sensitive areas, where possible. 3. Noise levels must be kept within acceptable limits. 4. The mining activities must aim to adhere to the relevant noise regulations	Minimisation of impacts to acceptable limits

				and limit noise to within standard working hours in order to reduce disturbance of dwellings in close proximity to the development.	
	Impact on potential cultural, heritage artefacts and fossils.	Heritage and Palaeontology	(construction and operation phase)	1. Any finds must be reported to the nearest National Monuments office to comply with the National Heritage Resources Act (Act No 25 of 1999) and to DEA. 2. Local museums as well as the South African Heritage Resource Agency (SAHRA) should be informed if any artefacts/ fossils are uncovered in the affected area. 3. The Applicant must ensure that his workforce is aware of the necessity of reporting any possible historical, archaeological or palaeontological finds to the ECO so that appropriate action can be taken. 4. Known sites should be clearly marked in order that they can be avoided. The work force should also be informed that fenced-off areas are no-go areas. 5. The ECO must also survey for heritage and palaeontological artefacts during ground breaking and digging or drilling. He/she should familiarise themselves with formations and its fossils or a palaeontologist should be appointed during the digging and excavation phase of the development. 6. All digging, excavating, drilling or blasting activities must be stopped if heritage and/or palaeontological	Minimisation of impacts to acceptable limits

				artefacts are uncovered and a specialist should be called in to determine proper management, mitigation, excavation and/or collecting measures. 7. Any discovered artefacts or fossils shall not be removed under any circumstances. Any destruction of a site can only be allowed once a permit is obtained and the site has been mapped and noted. Permits shall be obtained from SAHRA should the proposed site affect any world heritage/palaeontology sites or if any heritage/palaeontology sites are to be destroyed or altered. 8. Under no circumstances shall any artefacts be removed, destroyed or interfered with by anyone on the site; and Applicant and workers shall be advised of the penalties associated with the unlawful removal of cultural, historical, archaeological or palaeontological artefacts, as set out in the NHRA (Act No. 25 of 1999), Section 51. (1). 9. If anything of Archaeological and/or paleontological significance is found during the construction and operational phase of the mine the following applies: • NHRA 38(4)c(i) – If any evidence of archaeological sites or remains (e.g. remnants of stone-made structures, indigenous ceramics, bones, stone artefacts, ostrich	

				eggshell fragments, charcoal and ash concentrations), fossils or other categories of heritage resources are found during the proposed development, SAHRA APM Unit (021 462 5402) must be alerted as per section 35(3) of the NHRA. Non-compliance with section of the NHRA is an offense in terms of section 51(1)e of the NHRA and item 5 of the Schedule; • NHRA 38(4)c(ii) – If unmarked human burials are uncovered, the SAHRA Burial Grounds and Graves (BGG) Unit (012 320 8490), must be alerted immediately as per section 36(6) of the NHRA. Non-compliance with section of the NHRA is an offense in terms of section 51(1)e of the NHRA and item 5 of the Schedule; • NHRA 38(4)e – The following conditions apply with regards to the appointment of specialists: i) If heritage resources are uncovered during the course of the development, a professional archaeologist or palaeontologist, depending on the nature of the finds, must be contracted as soon as possible to inspect the heritage resource. If the newly discovered heritage resources prove to be of archaeological or palaeontological significance, a Phase 2 rescue	

				operation may be required subject to permits issued by SAHRA;	
Waste management		Pollution	(construction and operation phase)	**Litter management** 1. Refuse bins must be placed at strategic positions to ensure that litter does not accumulate within the mining site. 2. The Applicant shall supply waste collection bins where such is not available and all solid waste collected shall be disposed of at registered/licensed landfill. 3. Good housekeeping practices should be implemented to regularly maintain the litter and rubble situation on the mining site. 4. If possible and feasible, all waste generated on site must be separated into glass, plastic, paper, metal and wood and recycled. An independent Applicant can be appointed to conduct this recycling. 5. Littering by the employees of the Applicant shall not be allowed under any circumstances. The ECO shall monitor the neatness of the work sites as well as the Applicant campsite. 6. Skip waste containers should be maintained on site. These should be kept covered and arrangements made for them to be collected regularly. 7. All waste must be removed from the site and transported to a landfill site promptly to ensure that it does not attract vermin or produce odours.	Minimisation of impacts to acceptable limits

				8. Where a registered waste site is not available close to the mining site, the Applicant shall provide a method statement with regard to waste management. 9. A certificate of disposal shall be obtained by the Applicant and kept on file, if relevant. 10. Under no circumstances may solid waste be burnt on site. 11. All waste must be removed promptly to ensure that it does not attract vermin or produce odours. **Hazardous waste** 12. All necessary precaution measures shall be taken to prevent soil or surface water pollution and any spills shall immediately be cleaned up and all affected areas rehabilitated. **Sanitation** 13. The Applicant shall install mobile chemical toilets on the site. 14. Staff shall be sensitised to the fact that they should use these facilities at all times. No indiscriminate sanitary activities on site shall be allowed. 15. Toilets shall be serviced regularly and the ECO shall inspect toilets regularly. 16. Toilets should be no closer than 50m or above the 1:100 year flood line from any natural or manmade water bodies or drainage lines or alternatively located in a place approved of by the Engineer.	

				17. Under no circumstances may open areas, neighbours fences or the surrounding bush be used as a toilet facility. 18. The construction of "Long Drop" toilets is forbidden, but rather toilets connected to the sewage treatment plant. 19. Potable water must be provided for all mining staff. **Remedial actions** 20. Depending on the nature and extent of the spill, contaminated soil must be either excavated or treated on-site. 21. Contaminated remediation materials must be carefully removed from the area of the spill so as to prevent further release of petrochemicals to the environment, and stored in adequate containers until appropriate disposal.	
Water Use and Quality	Water pollution	Water	(construction and operation phase)	**Water Use** 1. Develop a sustainable water supply management plan to minimise the impact to natural systems by managing water use, avoiding depletion of aquifers and minimising impacts to water users. 2. Water must be reused, recycled or treated where possible. **Water Quality** 3. Discharge to surface water should not result in contaminant concentrations in excess of local ambient water quality	

				criteria outside a scientifically established mixing zone. **Stormwater** 1. The site must be managed in order to prevent pollution of drains, downstream watercourses or groundwater, due to suspended solids and silt 2. Temporary cut off drains and berms may be required to capture stormwater and promote infiltration. 3. If any Hazardous substances must be stored at least 20m from any water bodies on site to avoid pollution. 4. Earth, stone and rubble is to be properly disposed of, or utilized on site so as not to obstruct natural water path ways over the site. i.e. these materials must not be placed in stormwater channels, drainage lines or rivers. **Sanitation** 4. Adequate sanitary facilities and ablutions must be provided for miners (1 toilet per every 15 workers). 5. The facilities must be regularly serviced to reduce the risk of surface or groundwater pollution. **Concrete mixing** 6. Concrete contaminated water must not enter soil or any natural drainage system as this disturbs the natural	

				acidity of the soil and affects plant growth. **Public areas** 7. Food preparation areas should be provided with adequate washing facilities and food refuse should be stored in sealed refuse bins which should be removed from site on a regular basis. 8. The Applicant should take steps to ensure that littering by construction/mining workers does not occur and persons should be employed on site to collect litter from the site and immediate surroundings, including litter accumulating at fence lines. 9. No washing or servicing of vehicles on site.	

F) IMPACT MANAGEMENT ACTIONS

(A description of impact management actions, identifying the manner in which the impact management objectives and outcomes contemplated in paragraphs (c) and (d) will be achieved).

ACTIVITY Whether listed or not listed. **(E.g. Excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc...etc.)**.	**POTENTIAL IMPACT** **(e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc....etc...)**	**MITIGATION TYPE** **(modify, remedy, control, or stop) through (e.g. noise control measures, storm-water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation, alternative activity etc. etc)** **E.g.** • **Modify through alternative method.** • **Control through noise control** • **Control through management and monitoring** **Remedy through rehabilitation..**	**TIME PERIOD FOR IMPLEMENTATION** Describe the time period when the measures in the environmental management programme must be implemented Measures must be implemented when required. With regard to Rehabilitation specifically this must take place at the earliest opportunity. .With regard to Rehabilitation, therefore state either:-.. Upon cessation of the individual activity or. Upon the cessation of mining, bulk sampling or prospecting as the case may be.	**COMPLIANCE WITH STANDARDS** (A description of how each of the recommendations in 2.11.6 read with 2.12 and 2.15.2 herein will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities)
Clearance of vegetation	Loss or fragmentation of habitats	**Existing vegetation** 1. Vegetation removal must be limited to the mining site. 2. Vegetation to be removed as it becomes necessary rather than removal of all vegetation throughout the site in one step. 3. No vegetation to be used for firewood.	Duration of operation	The implementation of the recommended mitigation measures will result in the minimisation of impacts to acceptable standards, thereby ensuring compliance with NEMA and Duty of Care as prescribed by NEMA.

		4. Exotic and invasive plant species should not be allowed to establish, if the development is approved. 5. There should be a preconstruction walk-through of the development footprint/project site in order to locate individuals of plant species of conservation concern. A search and rescue exercise must be done to locate and relocate any protected species to a suitable and similar habitat where these plants can grow without any disturbance; 6. In case Camel Thorn or Shepherd's trees are found permits must be obtained from DAFF to remove these individuals. The Applicant must apply for these permits in a phased manner as mining proceeds. **Rehabilitation** 7. All damaged areas shall be rehabilitated upon completion. 8. Re-vegetation of the disturbed site 9. All natural areas impacted during construction/mining must be rehabilitated with locally indigenous grasses typical of the representative botanical unit. 10. Rehabilitation must take place in a phased approach as soon as possible. 11. Rehabilitation process must make use of species indigenous to the area. Seeds from surrounding seed banks can be used for re-seeding. 12. Rehabilitation must be executed in such a manner that surface run-off will not cause erosion of disturbed areas. 13. Planting of indigenous tree species in areas not to be cultivated or built on must be encouraged.		

		Demarcation of mining area 14. All plants not interfering with mining operations shall be left undisturbed clearly marked and indicated on the site plan. 15. The mining area must be well demarcated and no mining activities must be allowed outside of this demarcated footprint. 16. Vegetation removal must be phased in order to reduce impact of mining. 17. Site office and laydown areas must be clearly demarcated and no encroachment must occur beyond demarcated areas. 18. Strict and regular auditing of the mining process to ensure containment of the mining and laydown areas. 19. Soils must be kept free of petrochemical solutions that may be kept on site during construction/ mining. **Utilisation of resources** 20. Gathering of firewood, fruit, muti plants, or any other natural material onsite or in areas adjacent to the site is prohibited unless with prior approval of the ECO. **Exotic vegetation** 21. Alien vegetation on the site will need to be controlled. 22. The Applicant should be responsible for implementing a programme of weed control (particularly in areas where soil has been disturbed); and grassing of any remaining stockpiles to prevent weed invasion.		

		23. The spread of exotic species occurring throughout the site should be controlled. 24. Weed control measures must be applied to eradicate any noxious weeds (category 1a &1b species) on disturbed areas. **Herbicides** 25. Herbicide use shall only be allowed according to contract specifications. The application shall be according to set specifications and under supervision of a qualified technician. The possibility of leaching into the surrounding environment shall be properly investigated and only environmentally friendly herbicides shall be used. 26. The use of pesticides and herbicides on the site must be discouraged as these impact on important pollinator species of indigenous vegetation. **Fauna** 27. Rehabilitation to be undertaken as soon as possible after mining has been completed. 28. No trapping or snaring to fauna on the construction/mining site should be allowed. 29. No faunal species must be disturbed, trapped, hunted or killed by maintenance staff during any routine maintenance at the development. 30. Any fauna threatened by the mining and operation activities should be removed to safety by the ECO or appropriately qualified environmental officer. 31. All mining vehicles should adhere to a low-speed limit (<30km/h) to avoid collisions with		

		susceptible species such as snakes and tortoises. 32. If trenches need to be dug for electrical cabling or other purposes, these should not be left open for extended periods of time as fauna may fall in and become trapped in them. Trenches which are exposed should contain soil ramps allowing fauna to escape the trench.		
Mining Slate – excavations	Loss of topsoil	1. The Applicant should, prior to the commencement of earthworks determine the average depth of topsoil, and agree on this with the ECO. The full depth of topsoil should be stripped from areas affected by construction/mining and related activities prior to the commencement of major earthworks. This should include the building footprints, working areas and storage areas. Topsoil must be reused where possible to rehabilitate disturbed areas. 2. Care must be taken not to mix topsoil and subsoil or any other material, during stripping. 3. benches will be created at closure to create sloped sides. The waste rock and overburden will be backfilled to the open pit area. 4. If stockpiles are exposed to windy conditions or heavy rain, they should be covered either by vegetation or geofabric, depending on the duration of the project. 5. Stockpiles should be kept clear of weeds and alien vegetation growth by regular weeding. 6. Where contamination of soil is expected, analysis must be done prior to disposal of soil to determine the appropriate disposal route. Establish an effective record keeping system for each area where soil is disturbed for mining purposes. These records should be included in	Duration of operation	The implementation of the recommended mitigation measures will result in the minimisation of impacts to acceptable standards, thereby ensuring compliance with NEMA and Duty of Care as prescribed by NEMA.

		environmental performance reports, and should include all the records below. • Record the GPS coordinates of each area. • Record the date of topsoil stripping. • Record the GPS coordinates of where the topsoil is stockpiled. • Record the date of cessation mining activities at the particular site. • Photograph the area on cessation of mining activities. • Record date and depth of re-spreading of topsoil. • Photograph the area on completion of rehabilitation and on an annual basis thereafter to show vegetation establishment and evaluate progress of restoration over time.		
	Erosion	1. An effective system of run-off control should be implemented, where it is required, that collects and safely disseminates run-off water from all hardened surfaces and prevents potential down slope erosion. 2. Periodical site inspection should be included in environmental performance reporting that inspects the effectiveness of the run-off control system and specifically records the occurrence of any erosion on site or downstream. 3. Implement an effective system of run-off control, where it is required, that collects and safely disseminates run-off water from all hardened surfaces and prevents potential down slope erosion. 4. Monitor the area regularly after larger rainfall events to determine where erosion may be initiated and then mitigate by modifying the soil micro-topography and revegetation or soil erosion control efforts accordingly	Duration of operation	The implementation of the recommended mitigation measures will result in the minimisation of impacts to acceptable standards, thereby ensuring compliance with NEMA and Duty of Care as prescribed by NEMA.

		5. The use of silt fences and sand bags must be implemented in areas that are susceptible to erosion. 6. Other erosion control measures that can be implemented are as follows: o Brush packing with cleared vegetation o Mulch or chip packing o Planting of vegetation o Hydroseeding/hand sowing 7. Sensitive areas need to be identified prior to construction/mining so that the necessary precautions can be implemented. 8. All erosion control mechanisms need to be regularly maintained. 9. Seeding of topsoil and subsoil stockpiles to prevent wind and water erosion of soil surfaces. 10. Retention of vegetation where possible to avoid soil erosion. 11. Vegetation clearance should be phased to ensure that the minimum area of soil is exposed to potential erosion at any one time. 12. Re-vegetation of disturbed surfaces should occur immediately after construction/mining activities are completed. This should be done through seeding with indigenous grasses. 13. No impediment to the natural water flow other than approved erosion control works is permitted. 14. benches will be created at closure to create sloped sides. The waste rock and overburden will be backfilled to the open pit area		
.	Air Pollution	**Dust control** 1. Wheel washing and damping down of un-surfaced and un-vegetated areas.	Duration of operation	The implementation of the recommended mitigation measures will result in the minimisation of impacts to

		2. Retention of vegetation where possible will reduce dust travel. 3. Clearing activities must only be done during agreed working times and permitting weather conditions to avoid drifting of sand and dust into neighbouring areas. 4. Damping down of all exposed soil surfaces with a water bowser or sprinklers when necessary to reduce dust. 5. The Applicant shall be responsible for dust control on site to ensure no nuisance is caused to the neighbouring communities. 6. A speed limit of 30km/h must not be exceeded on site. 7. Any complaints or claims emanating from the lack of dust control shall be attended to immediately by the Applicant. 8. Any dirt roads that are utilised by the workers must be regularly maintained to ensure that dust levels are controlled. **Odour control** 9. Regular servicing of vehicles in order to limit gaseous emissions. 10. Regular servicing of onsite toilets to avoid potential odours. **Rehabilitation** 11. The Applicant should commence rehabilitation of exposed soil surfaces as soon as practical after completion of earthworks. **Fire prevention** 12. No open fires shall be allowed on site under any circumstance. All cooking shall be done in		acceptable standards, thereby ensuring compliance with NEMA and Duty of Care as prescribed by NEMA.

		demarcated areas that are safe and cannot cause runaway fires. 13. The Applicant shall have operational fire-fighting equipment available on site at all times. The level of firefighting equipment must be assessed and evaluated through a typical risk assessment process.		
	Noise	1. The generation of noise will be as a result of people working on the site and trucks used to pick up slate from the mining area. 2. Truck traffic should be routed away from noise sensitive areas, where possible. 3. Noise levels must be kept within acceptable limits. 4. The mining activities must aim to adhere to the relevant noise regulations and limit noise to within standard working hours in order to reduce disturbance of dwellings in close proximity to the development.	Duration of operation	The implementation of the recommended mitigation measures will result in the minimisation of impacts to acceptable standards, thereby ensuring compliance with NEMA and Duty of Care as prescribed by NEMA.
	Impact on potential cultural, heritage artefacts and fossils.	1. Any finds must be reported to the nearest National Monuments office to comply with the National Heritage Resources Act (Act No 25 of 1999) and to DEA. 5. Local museums as well as the South African Heritage Resource Agency (SAHRA) should be informed if any artefacts/ fossils are uncovered in the affected area. 6. The Applicant must ensure that his workforce is aware of the necessity of reporting any possible historical, archaeological or palaeontological finds to the ECO so that appropriate action can be taken. 7. Known sites should be clearly marked in order that they can be avoided. The workeforce should	Duration of operation	The implementation of the recommended mitigation measures will result in the minimisation of impacts to acceptable standards, thereby ensuring compliance with NEMA and Duty of Care as prescribed by NEMA.

		also be informed that fenced-off areas are no-go areas. 8. The ECO must also survey for heritage and palaeontological artefacts during ground breaking and digging or drilling. He/she should familiarise themselves with formations and its fossils or a palaeontologist should be appointed during the digging and excavation phase of the development. 9. All digging, excavating, drilling or blasting activities must be stopped if heritage and/or palaeontological artefacts are uncovered and a specialist should be called in to determine proper management, mitigation, excavation and/or collecting measures. 10. Any discovered artefacts or fossils shall not be removed under any circumstances. Any destruction of a site can only be allowed once a permit is obtained and the site has been mapped and noted. Permits shall be obtained from SAHRA should the proposed site affect any world heritage/palaeontology sites or if any heritage/palaeontology sites are to be destroyed or altered. 11. Under no circumstances shall any artefacts be removed, destroyed or interfered with by anyone on the site; and Applicant and workers shall be advised of the penalties associated with the unlawful removal of cultural, historical, archaeological or palaeontological artefacts, as set out in the NHRA (Act No. 25 of 1999), Section 51. (1). 12. If anything of Archaeological and/or paleontological significance is found during the		

		construction and operational phase of the mine the following applies: • NHRA 38(4)c(i) – If any evidence of archaeological sites or remains (e.g. remnants of stone-made structures, indigenous ceramics, bones, stone artefacts, ostrich eggshell fragments, charcoal and ash concentrations), fossils or other categories of heritage resources are found during the proposed development, SAHRA APM Unit (021 462 5402) must be alerted as per section 35(3) of the NHRA. Non-compliance with section of the NHRA is an offense in terms of section 51(1)e of the NHRA and item 5 of the Schedule; • NHRA 38(4)c(ii) – If unmarked human burials are uncovered, the SAHRA Burial Grounds and Graves (BGG) Unit (012 320 8490), must be alerted immediately as per section 36(6) of the NHRA. Non-compliance with section of the NHRA is an offense in terms of section 51(1)e of the NHRA and item 5 of the Schedule; • NHRA 38(4)e – The following conditions apply with regards to the appointment of specialists: i) If heritage resources are uncovered during the course of the development, a professional archaeologist or palaeontologist, depending on the nature of the finds, must be contracted as soon as possible to inspect the heritage resource. If the newly discovered heritage resources prove to be of archaeological or palaeontological significance, a Phase 2		

		rescue operation may be required subject to permits issued by SAHRA;		
Waste Management		**Litter management** 1. Refuse bins must be placed at strategic positions to ensure that litter does not accumulate within the construction/mining site. 2. The Applicant shall supply waste collection bins where such is not available and all solid waste collected shall be disposed of at registered/licensed landfill. 3. Good housekeeping practices should be implemented to regularly maintain the litter and rubble situation on the construction/mining site. 4. If possible and feasible, all waste generated on site must be separated into glass, plastic, paper, metal and wood and recycled. An independent Applicant can be appointed to conduct this recycling. 5. Littering by the employees of the Applicant shall not be allowed under any circumstances. The ECO shall monitor the neatness of the work sites as well as the Applicant campsite. 6. Skip waste containers should be maintained on site. These should be kept covered and arrangements made for them to be collected regularly. 7. All waste must be removed from the site and transported to a landfill site promptly to ensure that it does not attract vermin or produce odours. 8. Where a registered waste site is not available close to the construction/mining site, the	Duration of operation	The implementation of the recommended mitigation measures will result in the minimisation of impacts to acceptable standards, thereby ensuring compliance with NEMA and Duty of Care as prescribed by NEMA.

		Applicant shall provide a method statement with regard to waste management. 9. A certificate of disposal shall be obtained by the Applicant and kept on file, if relevant. 10. Under no circumstances may solid waste be burnt on site. 11. All waste must be removed promptly to ensure that it does not attract vermin or produce odours. **Hazardous waste** 12. All necessary precaution measures shall be taken to prevent soil or surface water pollution any spills shall immediately be cleaned up and all affected areas rehabilitated. **Sanitation** 13. The Applicant shall install mobile chemical toilets on the site. 14. Staff shall be sensitised to the fact that they should use these facilities at all times. No indiscriminate sanitary activities on site shall be allowed. 15. Toilets shall be serviced regularly and the ECO shall inspect toilets regularly. 16. Toilets should be no closer than 50m or above the 1:100 year flood line from any natural or manmade water bodies or drainage lines or alternatively located in a place approved of by the Engineer. 17. Under no circumstances may open areas, neighbours fences or the surrounding bush be used as a toilet facility.		

		18. The construction of "Long Drop" toilets is forbidden, but rather toilets connected to the sewage treatment plant. 19. Potable water must be provided for all mining staff. **Remedial actions** 20. Depending on the nature and extent of the spill, contaminated soil must be either excavated or treated on-site. 21. Contaminated remediation materials must be carefully removed from the area of the spill so as to prevent further release of petrochemicals to the environment, and stored in adequate containers until appropriate disposal.		
Water Use and Quality	Water pollution	**Water Use** 5. Develop a sustainable water supply management plan to minimise the impact to natural systems by managing water use, avoiding depletion of aquifers and minimising impacts to water users. 6. Water must be reused, recycled or treated where possible. **Water Quality** 7. Discharge to surface water should not result in contaminant concentrations in excess of local ambient water quality criteria outside a scientifically established mixing zone. **Stormwater** 8. The site must be managed in order to prevent pollution of drains, downstream watercourses or groundwater, due to suspended solids and silt		

		9. Temporary cut off drains and berms may be required to capture stormwater and promote infiltration. 10. If any Hazardous substances must be stored at least 20m from any water bodies on site to avoid pollution. 11. Earth, stone and rubble is to be properly disposed of, or utilized on site so as not to obstruct natural water path ways over the site. i.e. these materials must not be placed in stormwater channels, drainage lines or rivers. **Sanitation** 12. Adequate sanitary facilities and ablutions must be provided for miners (1 toilet per every 15 workers). 13. The facilities must be regularly serviced to reduce the risk of surface or groundwater pollution. **Concrete mixing** 14. Concrete contaminated water must not enter soil or any natural drainage system as this disturbs the natural acidity of the soil and affects plant growth. **Public areas** 15. Food preparation areas should be provided with adequate washing facilities and food refuse should be stored in sealed refuse bins which should be removed from site on a regular basis. 16. The Applicant should take steps to ensure that littering by miners does not occur and persons should be employed on site to collect litter from		

		the site and immediate surroundings, including litter accumulating at fence lines. 17. No washing or servicing of vehicles on site.		

Mechanisms for monitoring compliance with and performance assessment against the environmental management programme and reporting thereon, including

G) MONITORING OF IMPACT MANAGEMENT ACTIONS

H) MONITORING AND REPORTING FREQUENCY

I) RESPONSIBLE PERSONS

J) TIME PERIOD FOR IMPLEMENTING IMPACT MANAGEMENT ACTIONS

K) MECHANISM FOR MONITORING COMPLIANCE

SOURCE ACTIVITY	IMPACTS REQUIRING MONITORING PROGRAMMES	FUNCTIONAL REQUIREMENTS FOR MONITORING	ROLES AND RESPONSIBILITIES (FOR THE EXECUTION OF THE MONITORING PROGRAMMES)	MONITORING AND REPORTING FREQUENCY and TIME PERIODS FOR IMPLEMENTING IMPACT MANAGEMENT ACTIONS
Clearance of vegetation	Loss or fragmentation of habitats	• Conduct regular internal audits • Conduct regular external audits	• Environmental Manager • Suitable qualified environmental auditor	Monitoring should be undertaken for duration of operations. Internal audits should be undertaken at least every 6 months. External audits should be undertaken by a suitably qualified auditor on an annual basis. Reports should be made available to the competent authority if required.
Mining of the applied for minerals	Loss of topsoil Erosion Air Pollution Noise Impact on potential cultural, heritage artefacts and fossils	• Conduct regular internal audits • Conduct regular external audits	• Environmental Manager • Suitable qualified environmental auditor	Monitoring should be undertaken for duration of operations. Internal audits should be undertaken at least every 6 months. External audits should be undertaken by a suitably qualified auditor on an annual basis. Reports should be made available to the competent authority if required.

Waste management	Pollution	• Conduct regular internal audits • Conduct regular external audits	• Environmental Manager • Suitable qualified environmental auditor	Monitoring should be undertaken for duration of operations. Internal audits should be undertaken at least every 6 months. External audits should be undertaken by a suitably qualified auditor on an annual basis. Reports should be made available to the competent authority if required.

L) CATE THE FREQUENCY OF THE SUBMISSION OF THE PERFORMANCE ASSESSMENT REPORT.

External audits should be undertaken by a suitably qualified auditor on an annual basis. Reports should be made available to the Competent Authority if required.

M) ENVIRONMENTAL AWARENESS PLAN

1. Manner in which the applicant intends to inform his or her employees of any environmental risk which may result from their work.

Slatello Mine CC will implement an Environmental Awareness Plan which will include various mechanisms for informing employees of environmental risks resulting from their work, including:

- Induction training for full –time staff and Applicant.
- In-house training sessions to be held with relevant employees;
- On the job training regarding environmental issues
- Training and skills development

The above measures will be implemented through an Environmental Communication Strategy to be implemented.

See the attached **Appendix 8** for the Awareness plan

i. Manner in which risks will be dealt with in order to avoid pollution or the degradation of the environment.

Slatello Mine CC will implement an incident reporting and reporting procedure in order to identify risks timeously and implement actions to avoid or minimise environmental impacts.

N) SPECIFIC INFORMATION REQUIRED BY THE COMPETENT AUTHORITY

(Among others, Confirm that the financial provision will be reviewed annually).

No specific information requirements have been detailed by the Competent Authority.

-END OF THE REPORT-