



**BLUELEAF**  
ENVIRONMENTAL

# Agricultural Compliance Statement

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Mining permit application for the proposed mining of Aggregate on Portion 15 of the Farm Rietspruit 437, Msukaligwa Local Municipality, Mpumalanga Province (MP30/5/1/3/2/13080MP)

**Prepared for:**

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**Date submitted:** 1 April 2022

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## 1. Declaration of independence

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I, Roy de Kock as duly authorised representative of BlueLeaf Environmental (Pty) Ltd, hereby confirm my independence (as well as that of BlueLeaf) as a specialist and declare that neither I nor BlueLeaf have any interest, be it business, financial, personal or other, in any proposed activity, application or appeal in respect of which Greenmined was appointed as environmental assessment practitioner in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), other than fair remuneration for work performed, specifically in connection with the Environmental Impact Assessment for the proposed mining application on Farm Rietspruit, Mpumalanga. I further declare that I am confident in the results of the studies undertaken and conclusions drawn because of it – as is described in this report.



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Full Name: Roy de Kock

**Title / Position:** Agricultural specialist

**Qualification(s):** BSc (Hons) Geology; MSc Botany; Candidate PhD Botany

**Experience (years/ months):** 15 years

**Registration(s):** SACNASP (400216/16)

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**Email:** roy@blueleafenviro.co.za

## **2. Expertise of specialist**

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Roy has over 15 years' experience in environmental consulting and specialist services in the Eastern Cape. Various projects throughout South Africa as well as Africa at large has also been undertaken. Projects include baseline studies, impact assessments and compliance auditing for various large-scale projects including numerous wind farms, roads (National and Provincial), and infrastructure development projects. Roy has also conducted numerous specialist studies including but not limited to Ecological and Botanical assessments, Biodiversity studies, Plant and Animal Search and Rescue, Fauna and Flora permits, Aquatic Assessments, Agricultural and Soil Assessments and Environmental and Venomous animals training workshops.

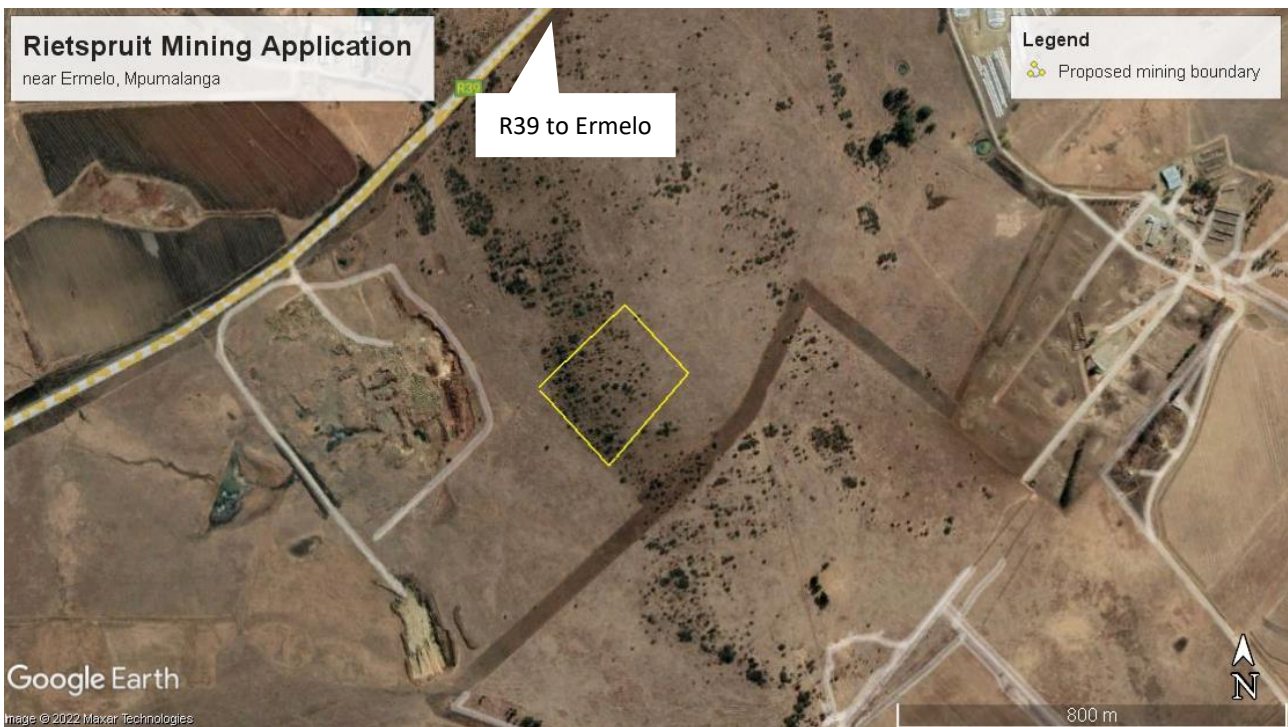
Roy holds a BSc Honours in Geology and an MSc in Botany from the Nelson Mandela University in Port Elizabeth. He is currently busy with his PhD (Doctorate degree) in Botany and Soil Science. He has over 15 years' experience in the environmental consulting focussing on Ecological and Agricultural Assessments, Geological and Geotechnical analysis, Environmental Management Plans, mining applications and various environmental impact studies.

Roy is a registered as a professional natural scientist (Pri.Sci.Nat.) with SACNASP (Registration nr: 400216/16).

This study complies with the requirements as listed in the Gazetted protocols for impacts on agricultural resources (GN. R 320 of 2020) and minimum report content requirements.

### 3. Introduction

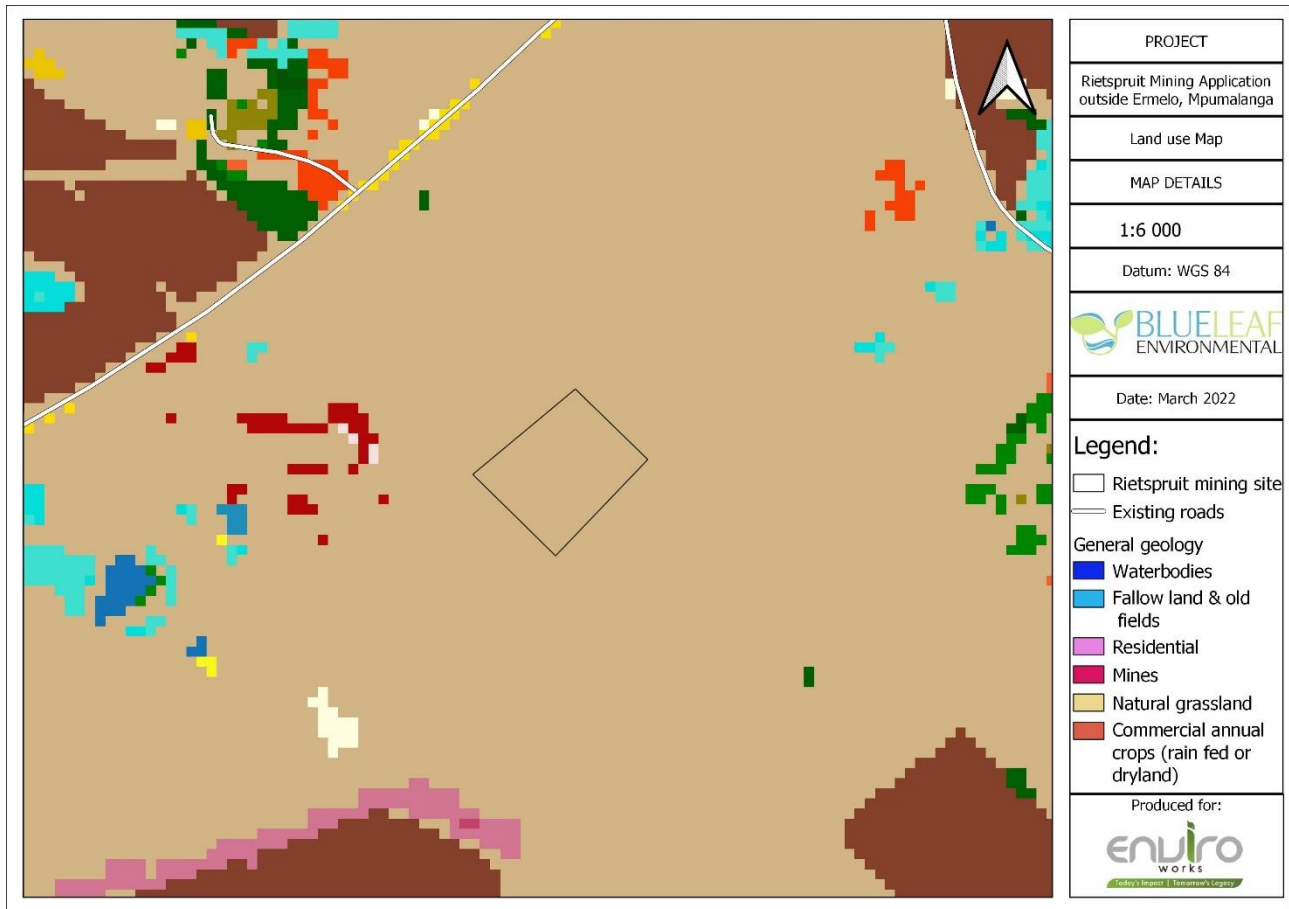
Blue Leaf Environmental (Pty) Ltd has been appointed by Greenmined on behalf of the developer (Inzalo Crushing and Aggregates (Pty) Ltd to provide agricultural input into the proposed development of a new aggregate quarry on Portion 15 of Farm Rietspruit 437, IS, Msukaligwa Local Municipality in the Mpumalanga Province (Figure 3.1).



**Figure 3.1: Satellite view of the proposed mining permit area for Inzalo Crushing and Aggregates (Pty) Ltd (Source: Greenmined)**

The proposed mining site will be developed over 4.9 ha of an undisturbed area of the farm. The mining method will make use of blasting to loosen the hard rock; the material will then be loaded and hauled to the crushing plant where it will be screened to various sized stockpiles. The aggregate will be stockpiled until it is transported from site using tipper trucks. All mining related activities will be contained within the approved mining permit boundaries. The site is further situated adjacent to the R39 tarred road which will be used to access the site. The site does contain some disturbances but is, for the most part, still largely natural, consisting of a rocky ridge with a well-developed but scattered tree and grass layers.

Current land use has been determined and the map in Figure 3.2 shows that the entire study area is covered by natural grassland vegetation. The site can be accessed via the R39 road to the north of the site. Agricultural properties surround the study site and the site itself may have been used historically as rangeland. No irrigation or dryland crops have been historically planted on the site.



**Figure 3.2: Land cover of the study site**

## 2.1 Methodology

This report has been drafted in accordance with the Procedures for the Assessment and Minimum Criteria for Reporting on Identified Environmental Themes in Terms of Sections 24(5)(a) and (h) and 44 of NEMA (G.NR. 1150 of 2020) – Protocol for the specialist assessment and minimum report content requirements for environmental impacts on agricultural resources.

A site sensitivity verification was conducted (see Chapter 5 of this report) to confirm/dispute the current use of the land and agricultural sensitivity as identified by the Screening Tool. Motivation, with photographic evidence, will be provided as part of the site sensitivity verification.

Current literature that was used to describe the site includes:

- SANBI National Vegetation Map (updated 2018).
- Soil Classification Working Group, (2018), Soil Classification: A Natural and Anthropogenic System for South Africa, ARC-Institute for Soil, Climate and Water, Pretoria.
- Wetland assessment report (Darius van Rensburg; February 2022).
- DFFE Screening Report.

## 4. Desktop analysis

This section was completed prior to the site visit and consist of a desktop analysis of the site based on available literature, plans and legislation.

### 4.1 Vegetation

The South African National Biodiversity Institute (SANBI) vegetation map (called the VegMap; 2018) lists the proposed activity mostly within **Amersfoort Highveld Clay Grassland** with a small portion located in **Soweto Highveld Grassland** (Figure 4.1).

Both grassland types are typical mesic highveld grassland types of the Grassland Biome of South Africa

Amersfoort Highveld Clay Grassland comprises of undulating grassland plains, with small, scattered patches of dolerite outcrops in places. The vegetation comprises of a short, closed grassland cover, largely dominated by dense *Themeda triandra* sward, often severely grazed to form a short lawn. This vegetation type is considered as vulnerable by SANBI with 25% already transformed, predominantly by cultivation. Alien vegetation dominates in drainages.

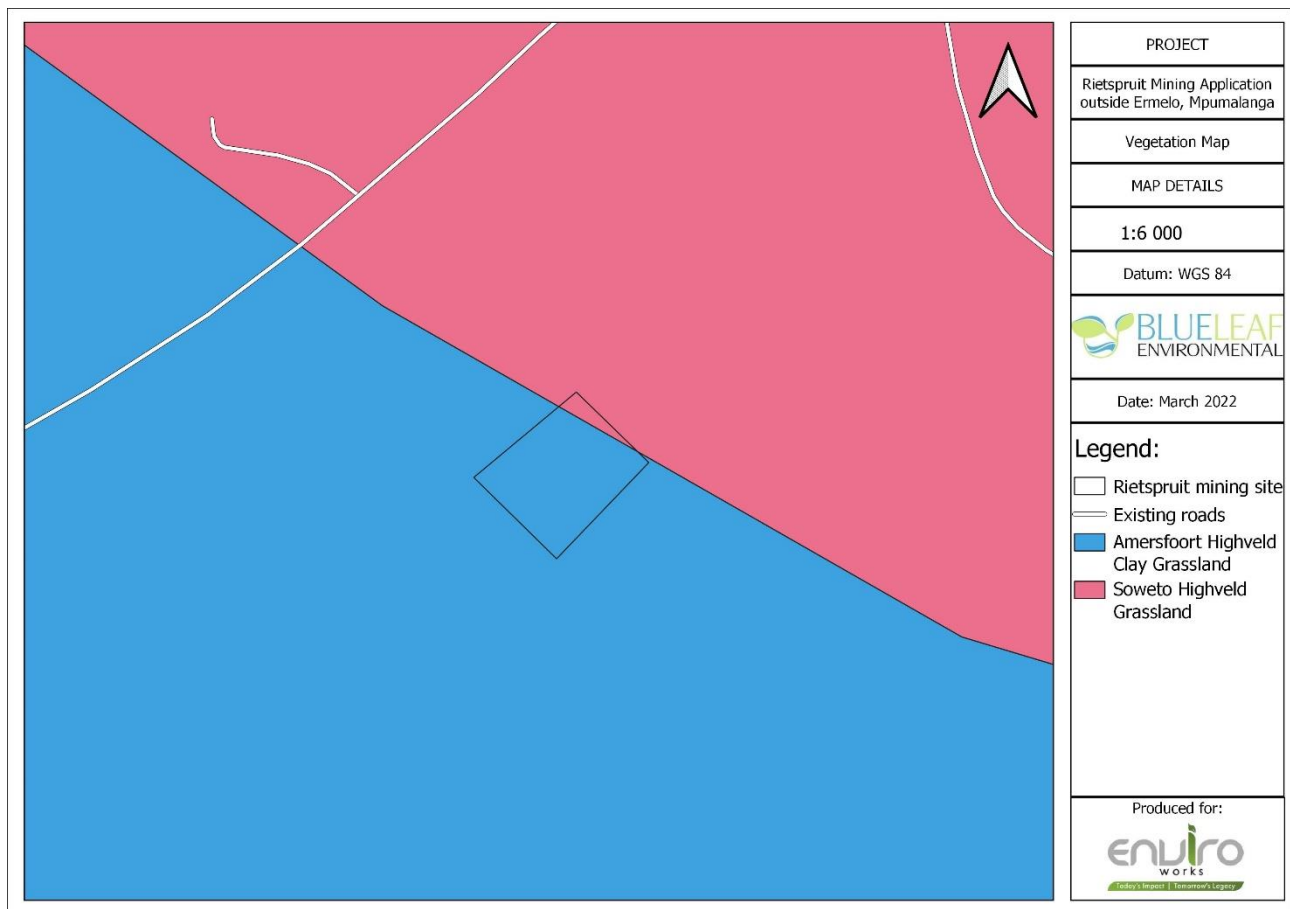
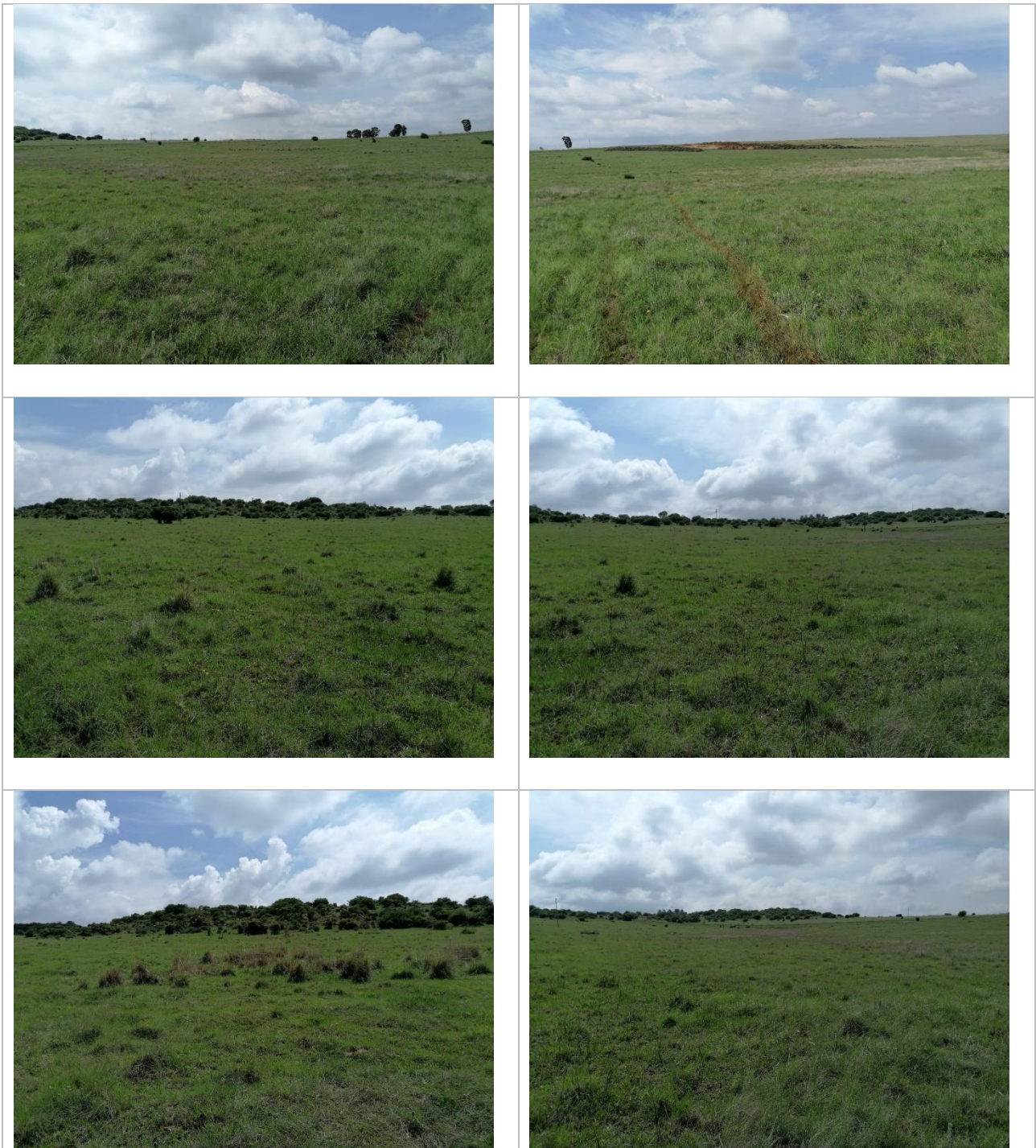


Figure 4.1: SANBI VegMap of the study site

Soweto Highland Grassland occurs on gently to moderately undulating landscapes on the Highveld plateau supporting short to medium-high, tufted grassland dominated almost entirely by *Themeda triandra* and accompanied by a variety of other grasses such as *Elionorus muticus*, *Eragrostis racemose*, *Heteropogon contortus* and *Tristachya leucothrix*. This vegetation type is considered as Endangered by SANBI with minimal areas conserved and almost half of the area transformed by cultivation, urban sprawl, mining, and road building.

Below is a photo sequence of typical vegetation found on site:





## 4.2 Topography

The site is relatively flat with a low undulating slope to the south creating a low ridge covered by trees. This can be clearly seen in the aerial photograph below:



**Figure 4.2: Aerial photograph showing a N-S orientation of the proposed new mining site**

## 4.3 Geology

The site is located on a 2,5km wide subsurface intrusive dolerite dyke which outcrops in places. The surrounding geology consist of fine- to coarse-grained sandstone, shales and coal seams of the Vryheid Formation of rocks (Ecca Group) witch forms part of the large Karoo Supergroup of rocks in South Africa.

## 4.4 Soils

Soils are restricted to vertic clay soils derived from the dolerite intrusives from the Madzaringwe Formation of rocks. Dominant land types include Ca, while Ea land types is of subordinate importance.

#### **4.5 Surface water**

Surface water on site is limited with no water occurring. The nearest water source is an unnamed perennial stream approx. 2km to the south of the site. No wetlands occur.

#### **4.6 Land capability**

Land capability is considered between high and moderate-high to moderate and low-moderate in places. The surrounding landscapes contains annual crop cultivation and rotational planted pastures, but none is practised on site.

#### **4.7 Screening report**

The screening report classifies the study site as **high sensitive** based on the following features:

- High to moderate land capability.
- Agricultural practices in surrounding places.

After a site visit the site was classified as low land capability with no agricultural activities taking place.

## 5. Site sensitivity verification

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A site visit was conducted, and the entire site as shown in Figure 3.1 was assessed. The following was found:

- Up to 90% of the site is covered by natural grassland vegetation dominated by *Themeda triandra*. Small trees occur on the low ridge running through the centre of the study site.
- No agricultural activities were observed within the study site, literature also confirmed that other than grazing, no other agricultural activities were practised within the study site.
- Water is a limiting factor and the nearest surface water occur over 2km away from the site.

Based on the above, it is the opinion of the specialist that the land contained within the proposed mining study site is considered as low sensitivity for agriculture. A full Agricultural Assessment is therefore NOT required.

## 6. Conclusion

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Inzalo Crushing and Aggregates (Pty) Ltd is proposing the development of a new aggregate quarry on Portion 15 of Farm Rietspruit 437, IS, Msukaligwa Local Municipality in the Mpumalanga Province. The proposed mining site will be developed over 4.9 ha of an undisturbed area of the farm. The mining method will make use of blasting to loosen the hard rock; the material will then be loaded and hauled to the crushing plant where it will be screened to various sized stockpiles. The aggregate will be stockpiled until it is transported from site using tipper trucks. All mining related activities will be contained within the approved mining permit boundaries. The site is further situated adjacent to the R39 tarred road which will be used to access the site. The site does contain some disturbances but is, for the most part, still largely natural, consisting of a rocky ridge with a well-developed but scattered tree and grass layers.

Current land use shows that the entire study area is covered by natural grassland vegetation. Agricultural properties surround the study site and the site itself may have been used historically as rangeland. No irrigation or dryland crops have been historically planted on the site.

Two vegetation units are found onsite. Amersfoort Highveld Clay Grassland covers 90% of the site and comprises of undulating grassland plains, with small, scattered patches of dolerite outcrops in places. The vegetation comprises of a short, closed grassland cover, largely dominated by dense *Themeda triandra* sward, often severely grazed to form a short lawn. This vegetation type is considered as vulnerable by SANBI with 25% already transformed, predominantly by cultivation. Alien vegetation dominates in drainages.

Soweto Highland Grassland occurs on gently to moderately undulating landscapes on the Highveld plateau supporting short to medium-high, tufted grassland dominated almost entirely by *Themeda triandra* and accompanied by a variety of other grasses such as *Elionorus muticus*, *Eragrostis racemose*, *Heteropogon contortus* and *Tristachya leucothrix*. This vegetation type is considered as Endangered by SANBI with minimal areas conserved and almost half of the area transformed by cultivation, urban sprawl, mining, and road building.

No agricultural activities occur on site and no agricultural infrastructure were observed.

### 7.1. Site sensitivity

The entire site is considered as **LOW SENSITIVE** for the agricultural resources theme. A full Agricultural Impact Assessment will therefore NOT be required. Construction and mining impacts must be managed as per the mitigations proposed below. All areas outside the demarcated construction footprint are considered as No-Go area and no mining, temporary or permanent may occur.

### 7.2. Alternatives

No site alternatives or layout alternatives are proposed. The proposed development is NOT considered as fatally flawed provided that all mitigation measures provided in this report are implemented.

### 7.3. Mitigations

The following mitigations must be included into the final EMPr:

#### Loss of arable land

- Land must be rehabilitated to its original state after mining.
- Develop and implement a Mine Rehabilitation Plan to guide the process.
- All impacted areas must be rehabilitated with endemic grassland vegetation as soon as mining in the area or phase of work is complete.
- The site will be considered as rehabilitated when the entire site is covered by primary growth grasses.

#### Changes to soil drainage regime

- The Rehabilitation Management Plan must mitigate rehabilitation of soils within the site for all phases of mining (construction, mining, and decommissioning).
- Only topsoil from the development site, which has been appropriately stored, must be used for rehabilitation.
- No borehole water will be abstracted without a Water Use License.

#### Increase in erosion potential

- Weekly monitoring of site and surrounding areas for erosion. Maintain a monitoring register.
- Any erosion must be addressed immediately.
- Revegetate all mined areas with a pre-approved grass mix after landscaping. Revegetation areas must be monitored until the entire site is revegetated by primary grasses.

#### Degradation of land

- Implement all abovementioned mitigation measures throughout mining and rehabilitation.
- Draft all proposed Management Plans prior to commencement of mining for approval by the EAP/Environmental Officer.
- Avoid any risk of veldfires on site. No fires will be allowed on site.

## 7. Reference

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