

PROPOSED AGGREGATE MINE ON PORTION OF PORTION 7 OF THE FARM ROODEKRANS 457, ADMINISTRATIVE DISTRICT IS, MPUMALANGA PROVINCE

SITE SENSITIVITY REPORT



APRIL 2025

REFERENCE NUMBER: MP 30/5/1/3/2/15448 MP

PREPARED FOR:

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EXECUTIVE SUMMARY

The Applicant, Inzalo Crushing and Aggregates (Pty) Ltd, applied for environmental authorisation (EA) and a mining permit to mine stone aggregate/ gravel on a portion of Portion 7 of the farm Roodekrans 457, Administrative district IS, Mpumalanga Province.

The proposed mining footprint will be 4.9 ha and will be developed over an undisturbed area of the farm. The mining method will make use of blasting to loosen the hard rock; decking will be employed as part of the blasting technique to minimize fly rock and protect the nearby graves. 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.

Project description

The proposed mining area is approximately 4.9 ha in extent and the applicant, Inzalo Crushing and Aggregates (Pty) Ltd, intends to win material from the area for at least 2 years with a possible extension of another 3 years. The aggregate to be removed from the quarry will be used for local road construction and building projects in the vicinity. The proposed quarry will therefore contribute to the upgrading / maintenance of road infrastructure.

The proposed project triggers listed activities in terms of the National Environmental Management Act, 1998 (Act 107 of 1998) and the Environmental Impact Assessment Regulations 2014 (as amended 2017) and therefore requires an environmental impact assessment (basic assessment process) that assess project specific environmental impacts and alternatives, consider public input, and propose mitigation measures, to ultimately culminate in an environmental management programme that informs the competent authority (Department of Mineral Resources and Energy) when considering the environmental authorisation. This report, the Draft Basic Assessment Report, forms part of the departmental requirements, and presents the first report of the EIA process.

Should the MP be issued and the mining of aggregate be allowed, the proposed project will comprise of activities that can be divided into three key phases namely the:

- (1) *Site establishment/construction phase* which will involve the demarcation of the permitted mining area. Site establishment will also necessitate the clearing of vegetation, the stripping and stockpiling of topsoil, and the introduction of mining machinery and equipment

- (2) *Operational phase* that will entail the mining of aggregate from the approved footprint area via conventional open cast mining methods. The mining method will make use of blasting in order to loosen the hard rock; upon which the loosened material will be transported to the crushing and screening processing plant where it will be screened to various sized stockpiles, before it is sold and transported from site to clients
- (3) *Decommissioning phase* which entails the rehabilitation of the affected environment prior to the submission of a closure application to the Department of Mineral Resources and Energy (DMRE). The permit holder will further be responsible for the seeding of all rehabilitated areas. Once the full mining area is rehabilitated, the mining permit holder will be required to submit a closure application to the DMRE in accordance with section 43(4) of the MPRDA, 2002. The Closure Application will be submitted in terms of Regulation 62 of the MPRDA, 2002, and Government Notice 940 of NEMA, 1998 (as amended).

The mining activities will consist out of the following:

- Stripping and stockpiling of topsoil;
- Blasting;
- Excavating;
- Crushing;
- Stockpiling and transporting;
- Sloping and landscaping upon closure of the site; and
- Replacing the topsoil and vegetation the disturbed area.

The mining site will contain the following:

- Drilling equipment;
- Excavating equipment;
- Earth moving equipment;
- Mobile crushing and screening plants
- Access Roads;
- Site Office (Containers);
- Site vehicles;
- Parking area for visitors and site vehicles;
- Vehicle service area;
- Wash bay;
- Workshop (Containers);
- Salvage Yard;
- Bunded diesel and oil storage facilities;

- Generator on bunded area;
- Ablution Facilities (Chemical Toilets);
- Weigh Bridge; and
- Demarcated general and hazardous waste area.



Figure 1: Satellite view showing the site entrance to the proposed mining area (blue polygon) and the direction towards the nearest town.

This report addresses the findings of the Screening Tool Report (Appendix N), generated from the National Web Based Environmental Screening Tool, and provides motivation for the various specialist studies identified to be conducted. As per the Screening Tool Report, the proposed site is located within a medium sensitivity area from an agricultural perspective, a medium sensitivity area from an animal species perspective, a low sensitivity area from an aquatic biodiversity perspective, a low sensitivity area from a civil aviation perspective, a low sensitivity area from an archaeological and cultural heritage perspective a medium sensitivity area from a plant species perspective, a low sensitivity area from a defense perspective, a very high sensitivity form a paleontology perspective and a very high sensitivity area from a terrestrial biodiversity perspective.

Summary of specialist reports.

(This summary must be completed if any specialist reports informed the impact assessment and final site layout process and must be in the following tabular form):-

Table 1: Summary of specialist reports

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.
<p>■ Agricultural Impact Assessment (AIA):</p> <p>The applicant tends to develop over an undisturbed area of the above-mentioned farm. As per the screening tool the agricultural potential of the farm is of medium sensitivity. Therefore, Greenmined is of the opinion that a specialist AIA is not needed as the application footprint extends into an area previously used for mining purposes. The proposed project will not necessitate the loss of any agricultural field, center pivot or similarly operated agricultural area.</p> <p>■ Archaeological and Cultural Heritage Impact Assessment (HIA) & Paleontology Impact Assessment (PIA):</p> <p>According to the Heritage Impact Assessment (Appendix M1), the Project area is characterised by extensive surface disturbances across large portions which have been previously used as a quarry and processing site. The Project consists of a Mining Permit Area and Stockpile area, both of which Alternative locations have been provided and surveyed in order to assess the heritage significance.</p> <p>During the survey, a burial site (RD001), and three structures along the ridgeline (RD002, RD003, RD004) were identified. Due to mining activities, the burial site should be avoided with a 30m buffer zone but the Applicant has requested for a relaxation on the buffer zone with an outline of potential ways to still ensure the graves be protected.</p>			

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<p>The structures RD002, RD003, RD004 along the ridgeline are extremely overgrown and it was not possible to determine the full extent and purpose of the structures nor if an archaeological deposit is present at these sites. If Stockpile 1 is selected, these sites will be impacted and should be avoided with a 30m buffer zone. If avoidance is not possible, vegetation clearance will first be required in order to determine the extent of required recording process in a Phase 2 archaeological mitigation of the sites. Only after a Phase 2 mitigation is complete can a destruction permit be applied for.</p> <p>From a heritage perspective, both MP areas will require a buffer zone in order to preserve the graves at RD001. The Stockpile 2 would be preferable as no sites are present here, if however Stockpile 1 is selected, avoidance or mitigation will be required for structure RD002, RD003, RD004.</p> <p>According to the South African Heritage Resource Authority (SAHRA) Paleontological sensitivity map the study area of insignificant/zero palaeontological sensitivity, and no further studies are required for this aspect.</p> <p><u>Ways of reducing the buffer zone around the grave site as proposed by the Applicant:</u></p> <p>The following measures were provided by the Applicant to ensure the graves are protected with a relaxed buffer zone of 40m, that was subjected to SAHRA's approval for which the decision was approved to establish a 60-meter buffer zone:</p> <ol style="list-style-type: none"> 1) Obtaining a report from a blast expert on the effects of fly rock and Blast vibrations and possible impacts to the grave site (kindly refer to the report by Sefara, Letoka and Phiri (2025) (Appendix M2)); 2) The Blast design can be modified as mining gets closer to the grave site to minimize any blast vibrations (Sefara, Letoka and Phiri (2025) (Appendix M2)); 3) The Applicant/ ECO can measure and monitor the blast vibrations on every blast and record results and submit regular reports to SAHRA; 			

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<p>4) The site will be monitored and photographs taken after each blast to see that no damage has occurred;</p> <p>5) The grave area will be fenced, maintained and kept clean of excess vegetation.</p> <p>Please refer to Appendix M2 – Blast Proposal Report.</p> <p>The impact to heritage resources can be mitigated to an acceptable level provided that the recommendations in this report are adhered to. Based on the Blasting Report, SAHRA approved the reduction of the 100m buffer zone around site RD001 to 60m with decking due to the number of graves and unknown SDOB of all graves, and to mitigate the impacts of Fly rock. Please refer to Appendix M3.</p> <p>■ Terrestrial Biodiversity Impact Assessment (TBIA) & Plant Species Assessment (PSA) & Animal Species Assessment (ASA):</p> <p>As mentioned earlier, the proposed mining footprint extends close to an area that has previously been used for mining. However, as per the screening report, the terrestrial biodiversity theme has a very high sensitivity. According to the Terrestrial Compliance Statement (Appendix M), the proposed area exists in a predominantly modified state, having been subjected to various anthropogenic impacts such as mining, infrastructure development, pollution, unregulated livestock grazing, agriculture and edge effects associated with the nearby activities. This habitat is unlikely to fully recover without human intervention and will continue to degrade without further active rehabilitation. It is the opinion of the specialist stipulated herein that the proposed development is favourable only if all mitigation measures provided in this and other specialist reports are implemented.</p>			

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<p>■ Aquatic Biodiversity Impact Assessment (ABIA) & Hydrology Assessment (HA):</p> <p>The proposed activities are not expected to have a negative impact on any surface and ground water of the area. There are no springs or boreholes present on the mining site. The proposed mining area is outside the 32m boundary of the surface water body. The Knopkieriespruit is located 60 m east of the preferred site. The mining activities will be out of the 1:00 flood line. The entire quarry will be rehabilitated on closure.</p> <p>■ Noise Impact Assessment (NIA):</p> <p>The potential impact on the noise ambiance of the receiving environment is expected to be of low significance and representative of the machinery already operational on the property. Due to the small scale of the operation a NIA is not deemed applicable.</p> <p>■ Radioactivity Impact Assessment</p> <p>A radioactivity impact assessment is not deemed necessary for the proposed mining operation that will not store any chemicals on site, perform activities of radioactive nature or generate hazardous waste of radioactive nature.</p> <p>■ Traffic Impact Assessment (TIA):</p> <p>The Applicant will use the existing road to access the mining area and transport material from the mine. The existing road has a formal entrance and was also used by the previous permit holder to transport material. No upgrading of the road is needed prior to commencement. In light of the small scale of the proposed operation a TIA is not deemed necessary, should the Applicant implement the mitigation measures to be proposed in the EMPR.</p> <p>■ Geotechnical Assessment:</p>			

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<p>No reason for a geotechnical assessment could be identified as no permanent infrastructure will be established at the proposed mining area, and mining will not create a deep void with high faces.</p> <p>■ Socio-economic Assessment (SEA):</p> <p>The material to be sourced from the mining area will be used for the upgrading of the road infrastructure in the vicinity of the site. The proposed mine will be operated on an area previously used for mining. Should any additional workers to be required on this mining activity they will be sourced from the local community. Workers will daily be transported to the site. The establishment of the mining area on the farm will also assist the property owner in the diversification of their income. In light of this a SEA is not deemed applicable to this project.</p>			

