mineral resources

Department:
Mineral Resources
REPUBLIC OF SOUTH AFRICA

BASIC ASSESSMENT REPORT
AND
ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT

Draft for Public Review and Comment

Please ensure that comments are submitted on or before the 24th June 2021 to the Environmental Assessment Practitioner listed on Page 1 Section 3(a)(i).

Please note that certain sections of this report can **only** be completed / updated after the 30 day review and commenting period. These sections are highlighted in yellow.

SUBMITTED FOR ENVIRONMENTAL AUTHORIZATIONS IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 AND THE NATIONAL ENVIRONMENTAL MANAGEMENT WASTE ACT, 2008 IN RESPECT OF LISTED ACTIVITIES THAT HAVE BEEN TRIGGERED BY APPLICATIONS IN TERMS OF THE MINERAL AND PETROLEUM RESOURCES DEVELOPMENT ACT, 2002 (MPRDA) (AS AMENDED)

DMR REFERENCE NO:	**EC 10656 MP**
APPLICANT:	Transkei Quarries (Pty) Ltd
PROJECT:	Laman Mining Permit Application
MINERALS:	Aggregate (RM) & Stone Aggregate (St) & Sand (manufactured from hard rock) QH

The format of this report follows the template provided by the competent authority (The Department of Mineral Resources and Energy) obtained from www.dmr.gov.za.

REVIEW RECORD

DRAFTING AND REVIEW OF REPORT

	NAME	DESIGNATION
AUTHOR	Greg Coates	Senior Environmental Consultant (Umhlaba Environmental Consulting CC)
APPLICANT CONTRIBUTION	Johann Pretorius	Compliance Manager (Raumix Aggregates)
	Sturu Pasiya	Assisted with implementation of Public Participation Process
REVIEWER	Andrew Nicholson	Principal Environmental Consultant (Umhlaba Environmental Consulting CC) EAPASA: Registered Environmental Assessment Practitioner: Number 2019/716

ACCEPTANCE OF REPORT FOR FINAL DISTRIBUTION

	NAME	DATE	SIGNATURE
AUTHOR			
APPLICANT			

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CONTACT DETAILS

UMHLABA ENVIRONMENTAL CONSULTING CC

Tel: (011) 791 3389 **E-mail:** info@umhlaba.co.za
Fax: (011) 791 3384 **Web:** www.umhlaba.co.za
P.O. Box 731504 Fairland, 2030

EXECUTIVE SUMMARY

This draft report is being provided in order for the public to have the opportunity to review and provide input into the application process, which will be used when finalising the report for submission to the authorities for a decision. Should you wish to submit comments on the contents of this report please refer to the Background Information Document (BID) accessible online at http://www.umhlaba.co.za/public-participation/ or contact Umhlaba Environmental Consulting CC at the details provided. Please ensure that your comments are submitted on or before the 24th June 2021.

Transkei Quarries (Pty) Ltd (herein after referred to as Transkei Quarries) has applied for a mining permit with the objective being to restart intermittent small scale open cast mining operations at the dormant Laman quarry north of the town of Mthatha in the Eastern Cape. The quarry was previously mined to provide aggregate during the N2 highway upgrade project. The original mining permit has expired therefore Transkei Quarries are applying for a mining permit for 2 years to restart operations. Umhlaba Environmental Consulting CC has been appointed by the applicant to undertake the application process for an environmental authorization in terms of the National Environmental Management Act (NEMA), No. 107 of 1998, as amended and the National Environmental Management Waste Act (NEMWA), No. 59 of 2008, as amended.

Site Location and Proposed Activities

The application area covers 5 ha of a portion of unregistered State land situated just west of the N2 highway and apprixmatey 14km north of the town of Mthatha, in the Magisterial District of Tsolo, Eastern Cape Province. Access to the site will be from the N2 and along existing gravel roads used for previous mining in the area. The proposed mining operation will be for two years and based on conventional quarrying methods of drilling and blasting benches, loading and hauling blasted material to a mobile processing plant, and then stockpiling of product at an existing historical stockpile area adjacent to the mining area. Once mining is completed, the area will be rehabilitated with the topsoil and overburden stockpiles and vegetation cover restored to the same or better state as prior to mining.

Environmental Authorisations Triggered

The following environmental authorisations are required to facilitate all the proposed activities;

- GNR327: Activity 21 – application for a mining permit.
- GNR327: Activity 27 – clearing of indigenous vegetation greater than 1ha but less than 20ha.
- GNR327 Activity 22 – the decommissioning of any activity requiring a closure certificate.
- GNR633: Activity 15 (Category A) - the establishment or reclamation of a residue stockpile or residue deposit resulting from activities which require a mining permit.

These activities require that a Basic Assessment process (BA) contemplated in Regulations 19 and 20 of the EIA regulations to NEMA (as amended) must be followed.

Need and Desirability

The site is located within the OR Tambo District Municipality. The Integrated Development Programme (2020/2021) outlines a New Growth Plan for the District which identifies mining as one of the key contributors to this plan. The District does not currently have much mining, with only a few operations centered on quarry, sand and clay mining. The District Municipality therefore has plans to assist enterprises in this sector to explore and develop deposits available in the District. This project presents an opportunity to contribute towards the New Growth Plan by producing a product that can be made available for key infrastructure developments in the localised region.

It is anticipated that the mine will generate approximately 60 000 m^3 of aggregate per annum mined over two periods during the course of the year. Sales on average are anticipated at an average of 15 000m^3 per quarter (5000 m^3 per month). This is based on a current understanding of the prevailing market from existing mines within the region.

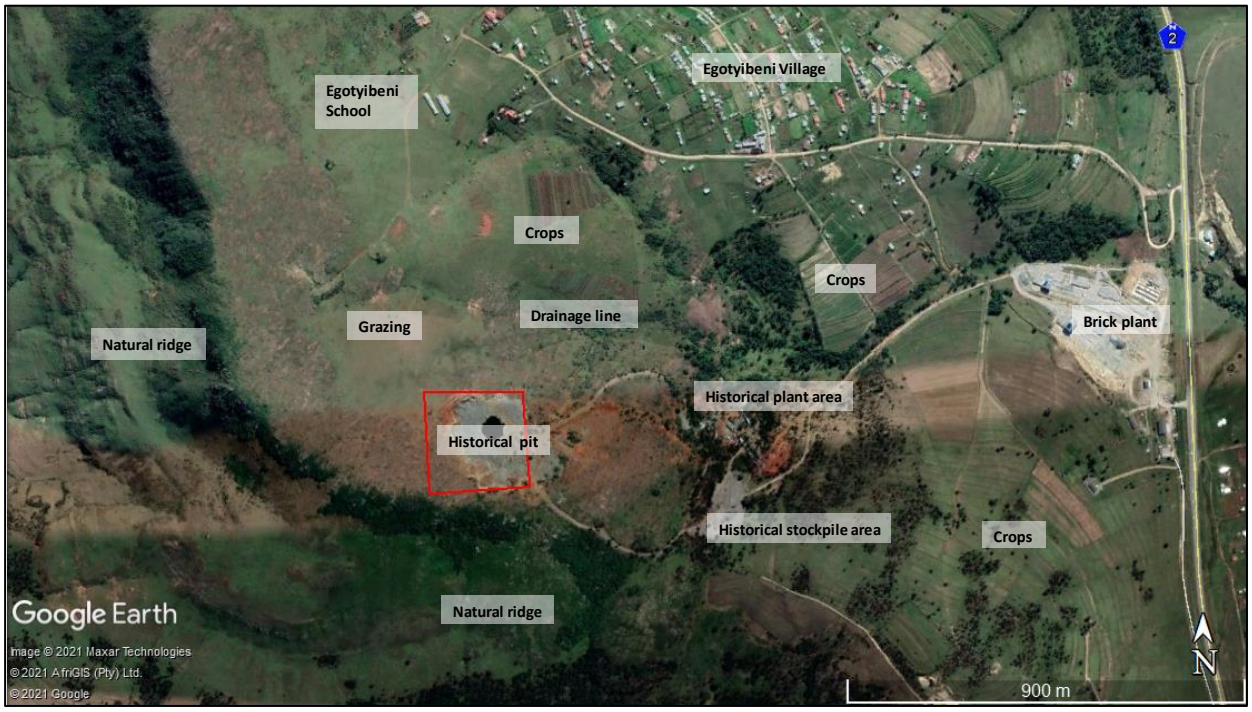
The main anticipated customers whom the aggregate will be sold to are as follows:

1. Local government projects
2. Provincial government projects
3. SANRAL (any new road development or maintenance of the N2 highway)
4. Small construction companies

Current Landuse and Environmental Sensitivity

Surrounding landuses include a natural ridge and valley to the south and west of the site, grazing and subsistence agriculture to the north, and the historical plant and stockpile area to the east. The old Laman Quarry pit lies within the site with the majority of the site being heavily transformed by the historical workings. The only major infrastructure in proximity to the site is the N2 highway which at its closest point is approximately 1.5km to the east.

The closest receptors to the site are the Egotyibeni School and some homesteads forming part of the Egotyibeni Village located approximately 600m north of the site. The village of Lower Gungululu is located approximately 1km over the ridge to the west.



There are no water courses or wetlands within the site boundary. The closest major water courses are the Korana river located 3km to the east, and the Qobotshana river located 2km to the west of the site. There is however a non-perennial drainage line in close proximity to the site (175m to the north) into which any surface runoff from the site would flow. This drainage line then flows eastwards towards the Korana river.

The National Environmental Screening Tool (2017) identified very high sensitivities for terrestrial and aquatic biodiversity due to some of the site falling within a Critical Biodiversity Area according to the Eastern Cape Biodiversity Plan. However, a site sensitivity verification was undertaken by the EAP and the following is noted:

- The site mostly consists of the historical workings and land disturbed by activities associated with these workings
- The majority of the site is transformed from its natural state and does not present any highly environmentally sensitive aspects which is unlikely to have much conservation value
- The majority of the site is devoid of vegetation. Where vegetation exists it is mostly invasive species
- There are no wetlands or water courses within the application area
- The closest water course is the drainage line running west to east approximately 175m north of the site

It is therefore considered that the sensitivity of the site is low for both aquatic and terrestrial biodiversity and therefore it is unlikely that specialist studies will be required. However, should discussions with the

local communities and other I&AP reveal concerns related to aquatic or terrestrial biodiversity over the application area, a specialist may be consulted.

Assessment of Impacts

The **key findings** from the environmental impact assessment can be summarised as follows;

- The most significant positive impacts, ranked as **Medium** of higher;
  - Socio-econimic - Legal / responsible mining that provides building material that could be used in local development including nearby priority projects identified in the IDP.
  - Rehabilitation – The land is vacant and transformed from its natural state through heavy grazing by livestock and is not currently supporting any particular land use. Rehabilitation after mining will support a future land use determined by the landowner.

- The most significant negative impacts, ranked as **Medium** or higher prior to consideration of management measures is;
  - Air quality - Increased dust fallout from mining activities may cause a nuisance to nearby receptors.
  - Noise - Noise generated from vehicle / machinery operations and drilling and blasting may cause a nuisance to nearby receptors.
  - Surface water flow - Altered / impeded flow of water over the site during a rainfall event.
  - Water quality - Hydrocarbon, chemical toilet spillages and sediment could mix with surface water runoff and flow into a water source.

All negative impacts can be reduced with the implementation of mitigation measures including controls such as engineering, procedural, training and monitoring/maintenance (see Impacts Assessment in Appendix A4). After the implementation of mitigation measures all impacts reduce to either low medium or low.

Rehabilitation Plan

After mining has been completed, the below rehabilitation activities will be undertaken. As the whole application area is to be mined, the scale and extent of rehabilitation is relevant to the whole 4.9959 ha.

- All mobile equipment / foreign matter will be removed from the site.
- The entire disturbed area will be inspected for any signs of pollution (as a result of mining activities) and if identified it will be removed and disposed of in a registered landfill site.
- Stockpiled overburden/topsoil will be backfilled into the excavations and any steep walls will be sloped to a safe angle.
- The disturbed area will be reseeded and alien vegetation will be controlled until the site is successfully revegetated.
- Areas compacted as a result of mining activities undertaken will be loosened to promote self-vegetation, and any ruts created by accessing or leaving the site will be filled to ensure that no future erosion shall emanate from the site.
- The landowner will be requested to inspect the success of the rehabilitation.

Financial Provision for Rehabilitation

The cost of rehabilitating the site after mining is calculated at R1 700 000 and will be provided in the form of a insurance guarantee.

Assessors Opinion

It is the author's opinion that this application **should** be authorised for the following reasons:

- The proposed activities are limited and temporary in nature.
- The impact assessment has indicated that negative impacts from the proposed activities can be controlled to an acceptable level through approporiate mitigation and management measures.
- The proposed project fits with historical activities having taken place on the property (old Laman quarry).
- The proposed site is itself already transformed from its naural state through historical workings.
- The positive result of the proposed project will secure a building product that will support local development, including IDP projects in nearby communities which are identified as priority areas.

Conditions that must be included in the Authorisation

- It is proposed that as this authorisation is only for two years, that an en environmental audit of the implementation of the EMPr should be undertaken biennially.
- The financial provision calculation must be updated annually in line with prevailing legislation and any shortfall provided to the authority.
- The relevant land owners must agree on the success of rehabilitation and achievement of the closure objectives when the operation is decommissioned.

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ABBREVIATIONS

Abbreviations	Definition
BAR	Basic Assessment Report
CV	Curriculum Vitae
dBA	A-weighted decibel
DMRE	Department of Mineral Resources and Energy
DWS	Department of Water and Sanitation
EAP	Environmental Assessment Practitioner
EIA	Environmental impact assessment
EIA Regulations	EIA Regulations, 2014, as amended
EIR	Environmental Impact Report
EMF	Environmental Management Framework
EMPr	Environmental Management Programme Report
GN	General Notice
Ha	Hectares
I&APs	Interested and/or affected parties
IDP	Integrated Development Plan
MPRDA	Mineral and Petroleum Resources Development Act (MPRDA), No. 28 of 2002 as amended
NEMA	National Environmental Management Act (NEMA), No. 107 of 1998, as amended
NEMWA	National Environmental Management Waste Act (NEMWA), No. 59 of 2008, as amended
SANS	South African National Standards
WULA	Water Use License Application

1. IMPORTANT NOTICE

In terms of the Mineral and Petroleum Resources Development Act (MPRDA), No. 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 (EIA) and an Environmental Management Programme (EMP) report in terms of the National Environmental Management Act (NEMA), No. 107 of 1998, it cannot be concluded that the said activities will not result in unacceptable pollution, ecological degradation or damage to the environment.

In terms of Regulation 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 Reglation 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 a 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.

2. OBJECTIVE OF THE BASIC ASSESSMENT PROCESS

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 focussed on determining the geographical, physical, biological, social, economic, heritage, and cultural sensitivity of the sites and locations within the sites and the risk of impact of the proposed activity and technology alternatives on 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 managed, avoided, or mitigated;
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 manage, avoid or mitigate identified impacts; and
    (iii) identify residual risks that need to be managed and monitored.

PART A:
SCOPE OF ASSESSMENT AND BASIC IMPACT ASSESSMENT REPORT

Transkei Quarries (Pty) Ltd (herein after referred to as Transkei Quarries) has applied for a mining permit with the objective being to restart intermittent small scale open cast mining operations at the dormant Laman quarry north of the town of Mthatha in the Eastern Cape. Umhlaba Environmental Consulting CC has been appointed by the applicant to undertake the application process for an environmental authorization in terms of the National Environmental Management Act (NEMA), No. 107 of 1998, as amended and the National Environmental Management Waste Act (NEMWA), No. 59 of 2008, as amended.

The Laman quarry was previously mined to provide aggregate during the N2 highway upgrade project. The original mining permit has expired therefore Transkei Quarries are applying for a mining permit for 2 years to restart operations.

3. CONTACT PERSON AND CORRESPONDENCE ADDRESS

a) DETAILS OF

(i) Details of the EAP

Lead EAP:	Andrew Nicholson	Assistant EAP:	Greg Coates
Tel No.:	011 791 3389	Tel No.:	011 791 3389
Fax No.:	011 791 3384	Fax No.:	011 791 3384
E-mail:	andrew@umhlaba.co.za	E-mail:	greg@umhlaba.co.za

(ii) Expertise of the EAP

(1) ***The qualifications of the EAP***

Andrew Nicholson: • BSc Hons Biological Sciences • Post Graduate Degree in Natural Resource Management • EAPASA Registration: 2019/716	Greg Coates: • BSc Wildlife Science • MSc Zoology

(2) ***Summary of the EAP's past experience***

(In carrying out the Environmental Impact Assessment Procedure).

- Mr Nicholson and Mr Coates have over 19 years and 7 years of experience respectively in the field of environmental management for the mining industry of South Africa.
- See **Appendix A.1**.

b) LOCATION OF THE OVERALL ACTIVITY

Farm Name:	A portion of unregistered State land.
Application Area (Ha);	5 Ha
Magisterial District:	Tsolo
Distance and Direction from Nearest Town:	Approximately 14 km north of Mthatha town and 1 km west of the N2 highway. See Figure 1.
21 Digit Surveyor General Code for each Farm Portion:	The land is unregistered.

c) LOCALITY MAP

(Show nearest town, scale not smaller than 1:250000).

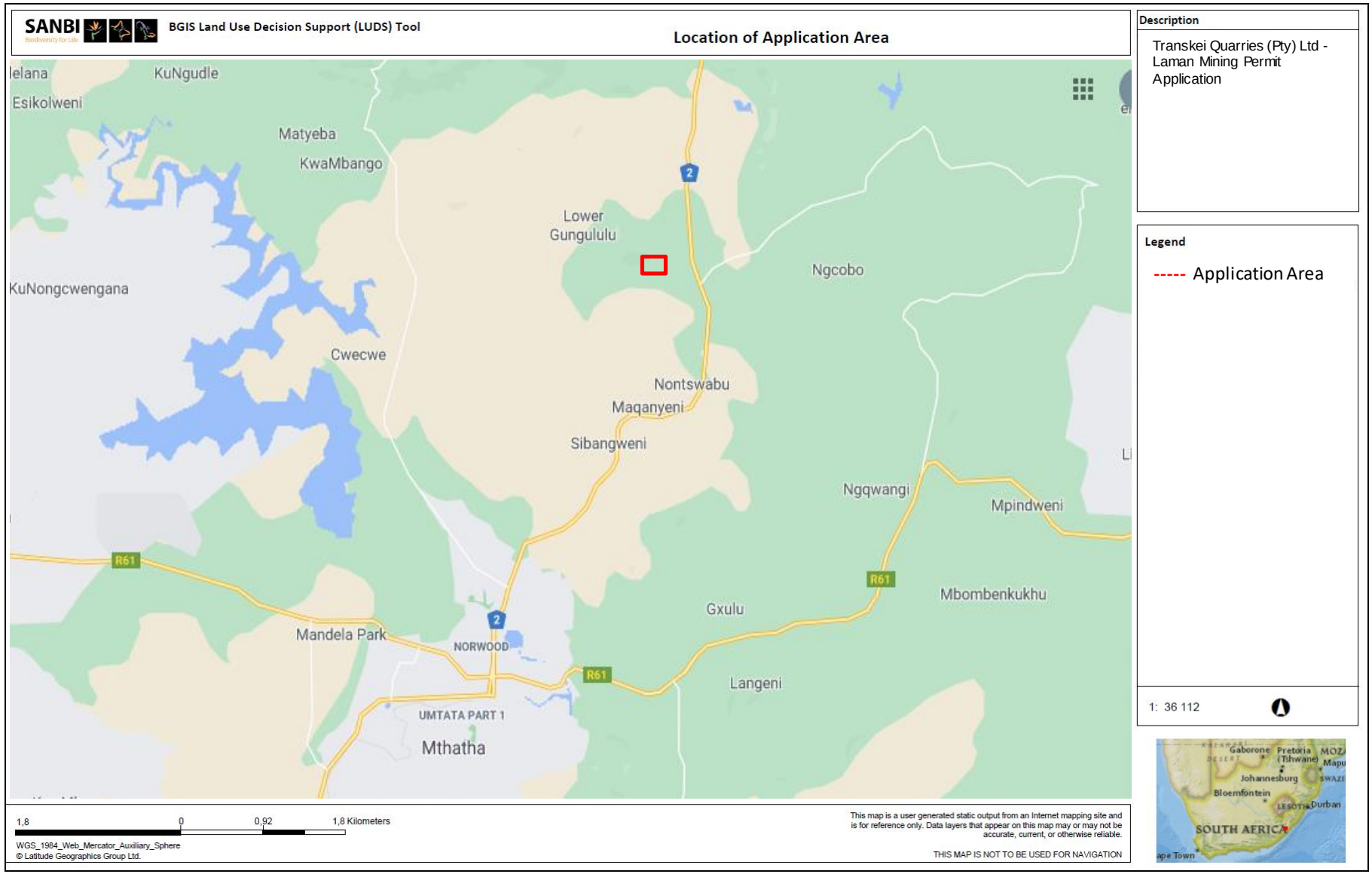

Figure 1: Locality Map.

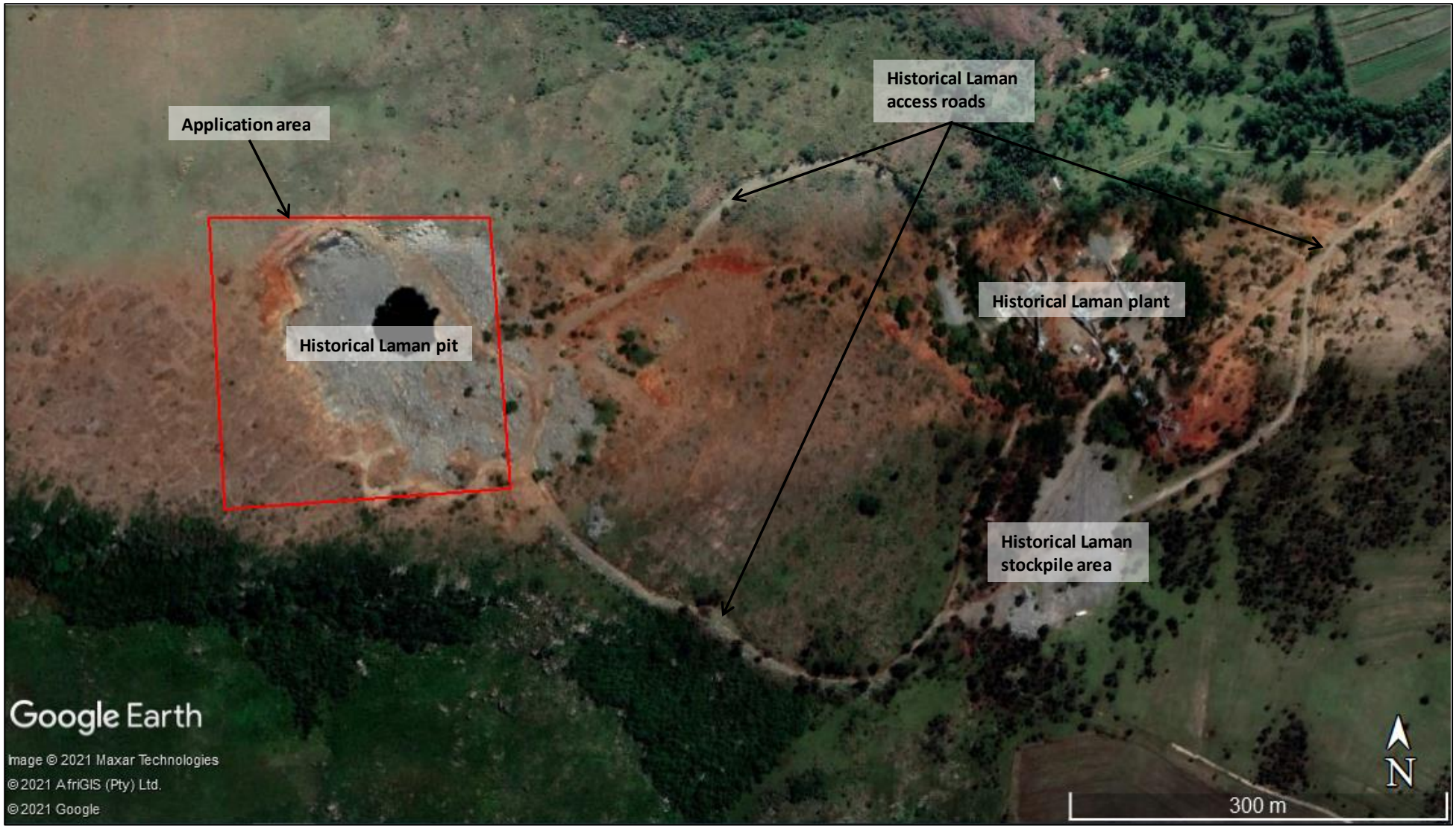

Figure 2: Indication of the mining permit area in relation to the old Laman Quarry.

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.* *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.)*	AERIAL EXTENT OF THE ACTIVITY *(Ha or m²)*	LISTED ACTIVITY *(Mark with an X where applicable or affected)*	APPLICABLE LISTING NOTICE *(GNR 324, GNR 325 or GNR 327) / Not listed)*
Site Preparation (Construction): • Clearing of vegetation and topsoil • Stockpiling of topsoil • Placement of mobile equipment • Establishment of stormwater and security controls	5 Ha	X	GNR 327: Activity 27 GNR633: Activity 15 (Category A)
Mining: • Drilling and blasting; • Crushing and screening using a mobile plant, • Loading and hauling, • Stockpiling of product and overburden	5 Ha	X	GNR 327: Activity 21 GNR633: Activity 15 (Category A)
Decommissioning and rehabilitation: • Removing all mobile equipment and inspecting for signs of pollution • Sloping high walls and backfilling overburden; • Establishment of indigenous vegetation;	5 Ha	X	GNR 327: Activity 22
Supporting Services: • Waste management • Sanitation; • Water supply and use; and • Diesel	100 m^2		Not listed

(i) Description of the activities to be undertaken

(Describe methodology or technology to be employed, including the type of commodity to be mined and for a linear activity, a description of the route of the activity).

The following would be applicable to the intended mining operations:

- Mining would commence from the high wall left off from the historic activities.
- All mining would be done using mobile equipment and follow the following general sequence;
    - Topsoil would be removed and used for concurrent rehabilitation
    - Any overburden (of which there is very little) would be used to slope finished benches as part of concurrent rehabilitation
    - The hard rock would be loosened by conventional drilling and blasting activities. The mine would result in 2-3 benches each which would be around 5m in height.
- The loosened rock would be crushed through a mobile crusher which would be diesel operated and positioned in the pit adjacent to the mining face.
- Crushed products would be stockpiled at the existing stockpile location from which the products can be sold into the Eastern Cape aggregate market.

Mining activities would be intermittent. Effectively the stockpile area will be filled up and then mobile mining would be implemented once the existing stockpile is depleted. It is anticipated that mining would take place in 2 quarters of each year. Photo 1 provides an indication of the existing highwall and pit floor of the old Laman Quarry from which mining will resume and where the mobile crusher will be placed while

Photo 1: The existing highwall and pit floor of the old Laman Quarry from which mining will resume and where the mobile crusher will be placed.

Figure 3: Site layout for the mining operation.

e) POLICY AND LEGISLATIVE CONTEXT

APPLICABLE LEGISLATION AND GUIDELINES USED TO COMPILE THE REPORT	REFERENCE WHERE APPLIED	HOW DOES THIS DEVELOPMENT COMPLY WITH AND RESPOND TO THE POLICY AND LEGISLATION CONTEXT?
Constitution of South Africa, specifically every one has a right; a. to an environment that is not harmful to their health or well-being; and b. to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that i. prevent pollution and ecological degradation; ii. promote conservation; and iii. secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.	Entire document	The mining permit activities will only proceed after effective consultation. This proposed mining permit operation will create minimal employment opportunities. Positive benefits mainly lie with the landowner and the applicant.
Minerals and Petroleum Development Resources Act, Act 28 of 2002 (MPRDA) and the MPRDA Amendment Act, Act 49 of 2008	Entire document	The conditions and requirements attached to the granting of the mining permit will apply to the mining permit activities.
National Environmental Management Act, Act 107 of 1998 (as amended)(NEMA)	Entire document	The appropriate environmental authorisation will be obtained before proceeding with any mining permit activities. Measures will be implemented to prevent any pollution occurring during the mining permit activities.
Environmental Impact Assessment Regulations: GNR 324, 325, 326 & 327 of 7 April 2017	Entire document	Listed activities as per the NEMA EIA Regulations have been considered and authorisation is thus required with regards to the triggering activities.
National Water Act, Act 36 of 1998 (NWA)	N/A	A water use license is not required for this application. Water requirements for the proposed operation will be sourced legally and brought to site using a water truck or mobile container.
Regulation 704 (GN704) (Government Gazette 20118, 4 June 1999).	Management measures	Mining permit activities will not take place within 32m of a recongised water course or wetland.
National Environmental Management: Air Quality Act, Act 39 of 2004 (NEMAQA)NEM:AQA	Management measures	Appropriate dust suppression measures will be included in the management plan.
National Environmental Management: Waste Act, Act 59 of 2008 (NEMWA)NEM: WA	Management measures environmental	The proposed operation will trigger GNR633: Activity 15 (Category A) - the establishment or reclamation of a residue stockpile or residue deposit resulting from activities which require a mining permit, which will require a

APPLICABLE LEGISLATION AND GUIDELINES USED TO COMPILE THE REPORT	REFERENCE WHERE APPLIED	HOW DOES THIS DEVELOPMENT COMPLY WITH AND RESPOND TO THE POLICY AND LEGISLATION CONTEXT?
	awareness plan	waste license. This has been included as part of this application for an Integrated Environmental Authorisation. In addition, all waste generated as a result of the mining permit activities will be disposed of appropriately. Proof of legal disposal will be maintained on site. In addition, the generation of potential waste will be minimised through ensuring employees are subjected to the appropriate environmental awareness campaign before commencement of mining permit activities.
National Heritage Resources Act, 25 of 1999 ("NHRA")	N/A	Given that this Act has been put into place to protect and conserve heritage resources, the mining activities will be halted and a suitably qualified specialist will be contacted if anything of heritage importance is found on the proposed site.
Occupational Health and Safety Act (No. 85 of 1993)	N/A	The employer needs to manage his/her staff and crew in strict accordance with the Occupational Health and Safety Act in order to prevent injuries to the staff.
SANS 10103:2008 The Measurement and Rating of Environmental Noise with Respect to Land Use, Health, Annoyance and to Speech Communication	Management / monitoring measures	Used to set the standard allowable for noise generation during the mining permit activities.
SANS 1929:2005 Edition 1.1 – Ambient Air Quality Limits for Common Pollutants	Management / monitoring measures	Used to set the standard for dust generation during the mining permit activities.
South African National Biodiversity Institute – BGIS Landuse Decision Support Tool	Baseline Environment	Used to obtain environmental baseline information about the area.
OR Tambo District Municipality – Integrated Development Plan 2020/2021	Needs and desirability	Used to identify socio-economic information and spatial development information within which the area falls under.
Guideline on Need and Desirability in terms of the EIA Regulations. Integrated environmental management guideline series 9.	Needs and desirability	Considered when completing the sections on need and desirability.
OR Tambo District Municipality – Environmental Profile	Application process, needs and desirability.	Considered when completing the sections on need and desirability and baseline.
National Environmental Screening Tool	Baseline Environment	Considered when completing the baseline environmental conditions.

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 site is located within the OR Tambo District Municipality. The Integrated Development Programme (2020/2021) outlines a New Growth Plan for the District which identifies mining as one of the key contributors to this plan. The District does not currently have much mining, with only a few operations centered on quarry, sand and clay mining. The District Municipality therefore has plans to assist enterprises in this sector to explore and develop deposits available in the District. This project presents an opportunity to contribute towards the New Growth Plan by producing a product that can be made available for key infrastructure developments in the region.

It is anticipated that the mine will generate approximately 60 000 m^3 of aggregate per annum mined over 2 periods during the course of the year. Sales on average are anticipated at an average of 15 000m^3 per quarter (5000 m^3 per month). This is based on a current understanding of the prevailing market from existing mines within the region.

The main anticipated customers whom the aggregate will be sold to are as follows:

1. Local government projects
2. Provincial government projects
3. SANRAL (any new road development or maintenance of the N2 highway)
4. Small construction companies

g) MOTIVATION FOR THE PREFERRED SITE, ACTIVITIES AND TECHNOLOGY ALTERNATIVE

Preferred site: The mining permit activities will apply to the entire area covered by the application, i.e. 5ha. The identified site is preferred as it presents an ideal opportunity to continue mining from an already established pit.

Preferred Activities: The preferred manner in which the proposed mining activities can be undertaken is through conventional quarrying methods (using drilling and blasting to loosten the rock and then an excavator, front end loaders and haul trucks to remove material to the temporary plant for processing) as this is the simplest and most cost effective manner of obtaining the resource.

Technology Alternatives: Due to the very simple nature of the proposed operation, there are no comparable technological alternatives to the proposed mining activities.

h) FULL DESCRIPTION OF THE PROCESS FOLLOWED TO REACH THE PREFERRED ALTERNATIVES WITHIN THE 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.

(i) Details of the development footprint alternatives considered

With reference to the site plan provided as Appendix A2:, and the location of the individual activities on site, provide details of the alternatives considered with respect to:

(a) ***The property on which or location where it is proposed to undertake the activity***

Transkei Quarries believe that there is an opportunity to restart intermittent small scale open cast mining operations at the old Laman quarry north of the town of Umthatha. The quarry was previously mined to provide aggregate during the N2 highway upgrade project and is currently dormant. The old mining permit

has now expired therefore Transkei Quarries are applying for a mining permit for 2 years to restart operations. The identified site is preferred as it presents an ideal opportunity to continue mining from an already established pit and therefore no alternative site location was considered.

(b) *The type of activity to be undertaken*

No alternatives to the proposed activities have been considered due to the very simplistic nature of the mining operation required to obtain the resource.

(c) *The design or layout of the activity*

There are no design or layout alterntaives as it is intended that the entire application area will be mined. The only strategic planning would be to position the mobile processing plant in the existing pit to allow for natural suppression of dust and noise, and to use the existing historical stockpile area for storing product so as not to unnecessarily disturb more surface area.

(d) *The technology to be used in the activity*

Due to the very simple nature of the proposed operation, there are no technological alternatives to the proposed mining activities.

(e) *The operational aspects of the activity*

Due to the very simple nature of the proposed operation, there are no operational alternatives to the proposed mining activities.

(f) *The option of not implementing the activity*

Should the project not be implemented, a viable source of building material will not be realised that could have aided the OR Tambo District Municipality in achieving the New Growth Plan in the IDP which plans to address the District's infrastructure and service delivery challenges.

(ii) Details of the public participation process followed

This section describes the proposed process to be implemented to identify and consult with interested and affected parties and will be updated with specific detail of the process that was actually achieved. Details of the documentation provided and evidence of implementation of the consultation process will be presented in the Appendices of the final document.

Where possible electronic communication will be favoured as the primary form of communication as it is a faster means of communication considering the limited time frames that the application process allows. It is also the favoured communication method during the Covid-19 pandemic.

Notification of I&APs:

1. I&APs will be identified and where possible cell phone numbers and e-mail addresses will be obtained.
2. Notification letters will be sent via e-mail (or registered mail if specifically requested) [written notification as per Regulation 41(2)(b)] and a Background Information Document (BID) will be sent by e-mail / via the Umhlaba web site (depending on the size of the document). I&AP will be requested to confirm if they wish to be involved in the process.
3. Land owners of the portions of land which will be impacted will be specifically communicated and if possible consent will be obtained.
4. Land occupiers within 500m of the edge of the mining permit area will be directly communicated with.
5. Community representatives: Egotyibeni community representatives will be identified and directly communicated with. A record of the communication will be maintained.

6. Site notices will be erected at suitable locations close to the proposed mining permit site which will be utilised [as per Regulation 41(2)(a)] and include the details described in Regulation 41(3) and comply with the details described in Regulation 41(4).
7. Newspaper advertisements will be placed in relevant local newspapers [as per Regulation 41(2)(c)].

Consultation with I&APs:

8. An I&AP register will be maintained as per Regulation 42.
9. Public Meeting: If significant interest in the project is shown, a public meeting will be held. If little interest is shown from the notification process, then one on one meetings will be held with interested parties.
10. Request for Comments: All I&APs will be encouraged and/or requested to indicate their feedback in writing and comment forms will be provided for this purpose.

Important: While Umhlaba will manage the consultation process and deal with digital communication, Transkei Quarries will appoint a local representative, who can communicate effectively and understands the local community to undertake aspects such as;

- Erecting the site notice
- Direct liaising with affected landowners, immediate adjacent landowner, residential homes within 500m of the closest edge of the mining permit and community representatives
- Be available to hold any one on one meeting requested
- Facilitate and implement a public meeting (only if specifically requested and necessary). If required it will be done in adherence with the latest lockdown regulations.
- Undertake any verbal communication required
- Document all communication and feedback in English for inclusion into the final BAR

Particulars of Public Participation Process:

1. The draft Basic Assessment Report [report as per Regulation 19(1)] will be made available for I&AP to review for a period of 30 days [as per Regulation 19(1)], electronically via the Umhlaba web site, and I hard copy at a local library. E-mail and sms notification of the availability of the document will be sent to registered I&AP only.
2. Once the final Basic Assessment Report is completed all registered I&AP will be notified and provided access to the submitted report via the Umhlaba web site. E-mail notification of the availability of the document will be sent to registered I&AP.

The following information will be requested from interested and affected parties;

- To provide information on how they consider that the proposed activities will impact on them or their socio-economic conditions
- To provide written responses stating their suggestions to mitigate the anticipated impacts of each activity
- To provide information on current land uses and their location within the area under consideration
- To provide information on the location of environmental features on site to make proposals as to how and to what standard the impacts on site can be remedied.
- To make proposals as to how the potential impacts on their infrastructure can be managed, avoided or remedied.

(iii) Summary of issues raised by I&APs

A summary of the issues raised by interested and affected parties will be provided in the Table below once this is received by the end of the allocated consultation period. All original feedback received (which will be summerised below) will be provided in the Appendices of the final document.

Table 1: Summary of issues raised and the EAP's response. [To be completed after the consultation period has concluded]

I&AP AND MEANS OF CONSULTATION		DATE	ISSUE RAISED	EAP'S RESPONSE (AS MANDATED BY MINING RIGHT HOLDER)	SECTION OF REPORT IN WHICH ISSUE IS ADDRESSED
Person consulted	*Codes in footer*[1]	*Date on which I&AP response was received.*	*Summary provided below, written feedback provided in Appendix A.5., where available*		
Landowner / Lawful Occupiers of Land					
Lawful Occupiers of Adjacent Properties					
Municipality					
Municipal Councillor					
Organs of State & Other Competent Authorities Affected					
Communities					
Other I&AP					

[1] RM=Registered mail, E=Email, M=One on one Meeting, PM=Public Meeting, T=Telephone

(iv) The environmental attributes associated with the development footprint alternatives

(The environmental attributes described must include socio-economic, social, heritage, cultural, geographical, physical and biological aspects).

(1) ***Baseline Environment***

(a) *Type of environment affected by the proposed activity*

(Its current geographical, physical, biological, socio-economic, and cultural character).

Geology and Topography

The underling geology is dominated by mudstone and sandstone of the Adelaide subgroup and Beaufort group of the Karoo Super group, and is intruded by dolerite dykes and sills. The type of mineral that is found in the project area is Dolerite (code 1) sills which exensively intruded the sediments of the Karoo Basin and where thick veins have formed a medium grained melano-gabbro. The product of mining this mineral is referred to as Black Granite in the dimension stone trade and further potential should exist in the area given the exposed rock evident in the existing pit. The deposit occurs as a tubular, elongated dolerite sill which has outcropped in the most part of the area.

The topography of the site is moderately sloping from south to north and west to east, gradually getting steeper as the site approaches the drainage line to the north (Figure 5 and Figure 6).

Soils and Agriculture

SANBI (2018) classifies the soils in the area of the site to be structureless, poorly drained soils with minimal development, usually shallow, on hard or weathering rock, with or without intermittent diverse soils. (Figure 7). Agricultural sensitivity is categorised as mostly medium by the National Screening Tool (Figure 4). A site inspection confirmed that the site is already mostly transformed from its natural state due to historical workings, further suggesting that agricultural potential is limited in its current state.

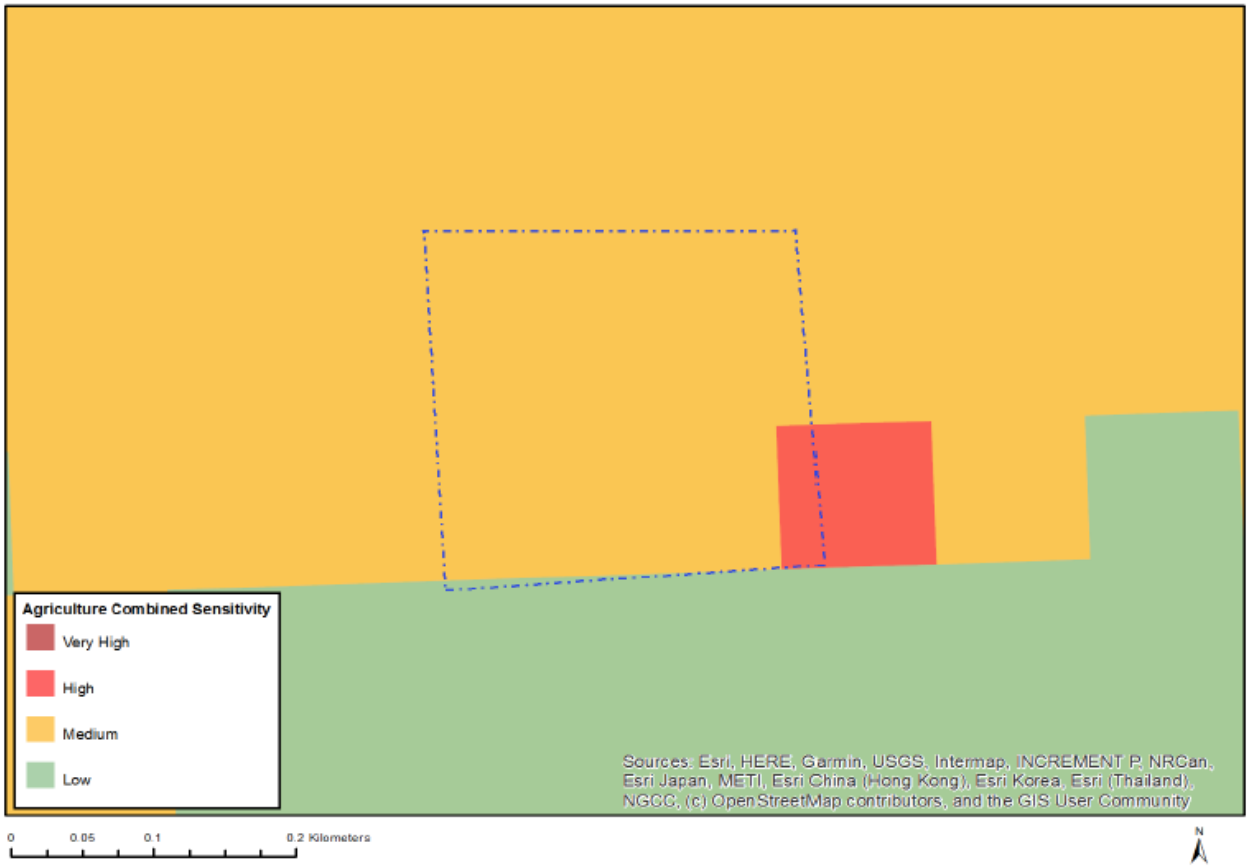

Figure 4: Agriculture sensitivity of the site and surrounding areas (Department of Environment, 2017).

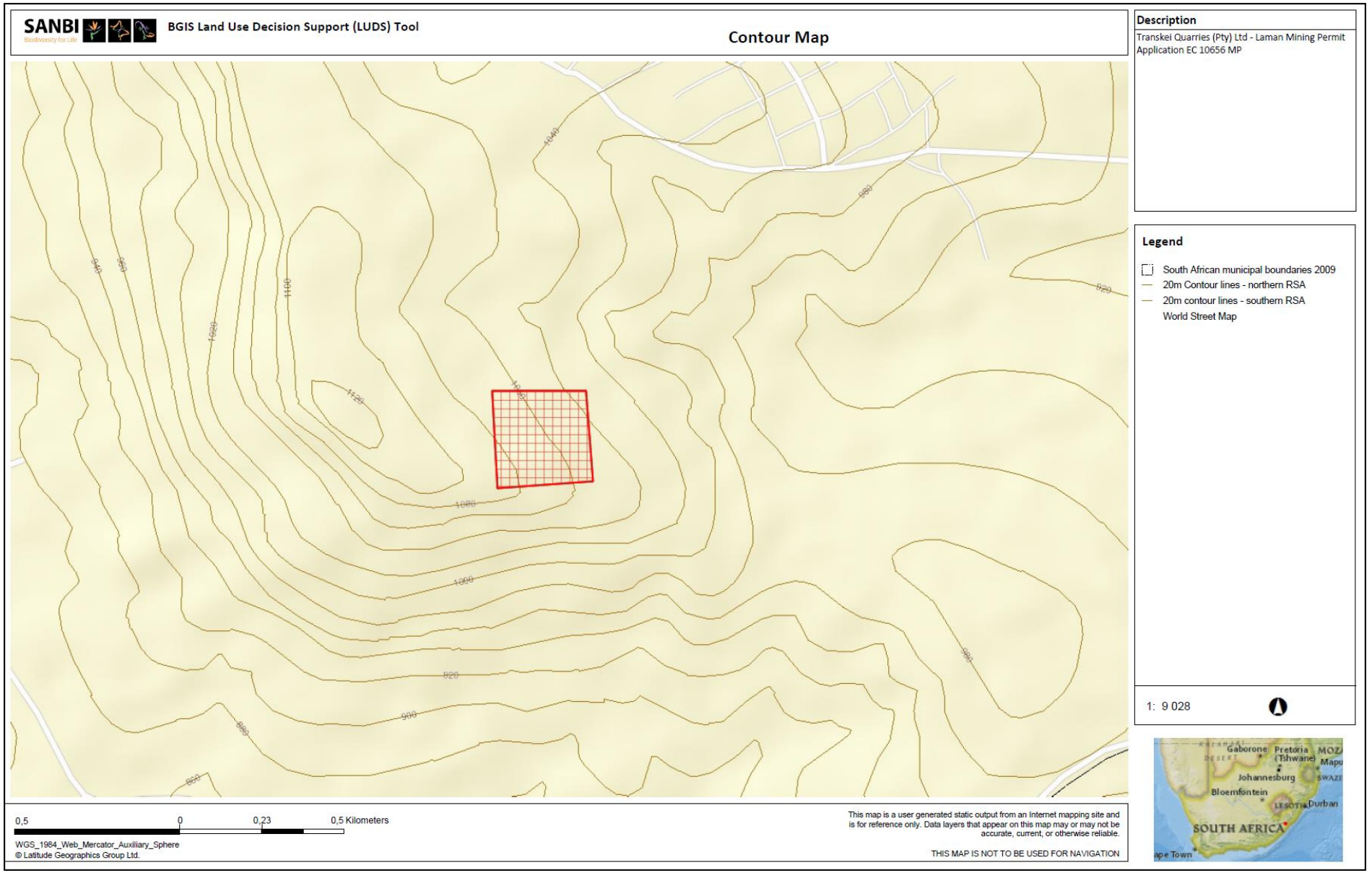

Figure 5: Map showing contour lines indicating the topography of the site and surrounding areas (SANBI, 2018).

Figure 6: 3D Google Earth© image showing the topography of the site and surrounding areas (viewed from the east).

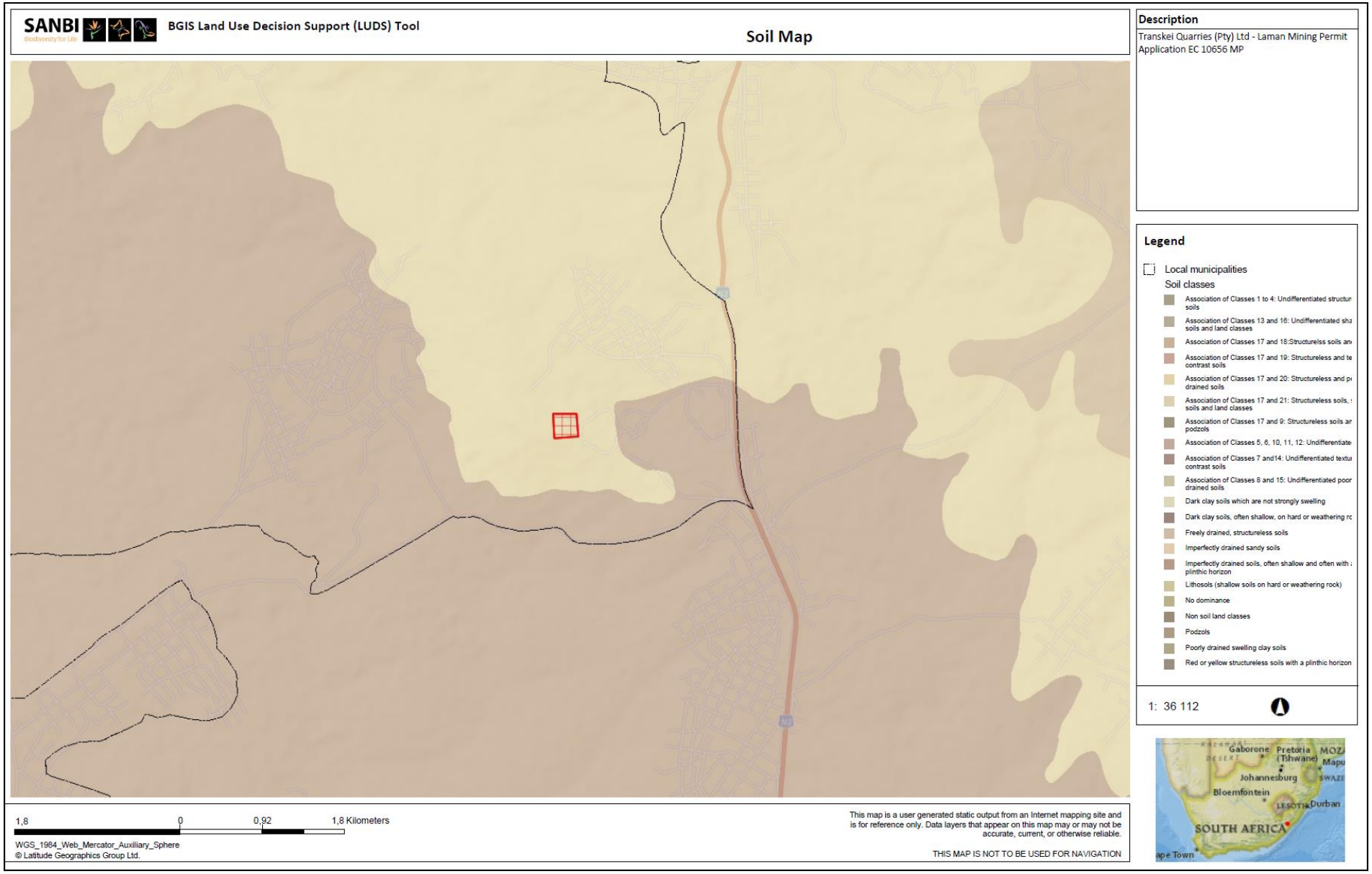

Figure 7: Soil map of the site and surrounding areas (SANBI, 2018).

Surface Water

There are no water courses or wetlands within the site boundary. The closest major water courses are the Korana river located 3km to the east, and the Qobotshana river located 2km to the west of the site (Figure 8). There is however a drainage line in close proximity to the site (175m to the north) into which any surface runoff from the site would flow (Figure 13). This drainage line then flows eastwards towards the Korana river.

Flora

According to available literature, the site occurs within the Grassland Biome and specifically the Mthatha Moist Grassland vegetation type (Mucina and Rutherford, 2006). Mthatha Moist Grassland typically comprises species-poor, sour, wiry grassland with *Sporobolus africanus* prevalent, although when in good condition it is dominated by *Themeda triandra*. This vegetation type is a listed ecosystem classified as Vulnerable (VU) according to NEMBA (GNR 1002 of 9 December 2011) with a target to be conserved of 23%. Photo 2 gives an indication of typical Mthatha Moist Grassland while Photo 3 gives an indication of the current state of the site. From Photo 3 it is evident that the majority of the site is heavily transformed by historical workings and that very little of the typical Mthatha Moist Grassland is present within the application area.

Photo 2: Indication of typical Mthatha Moist Grassland vegetation.

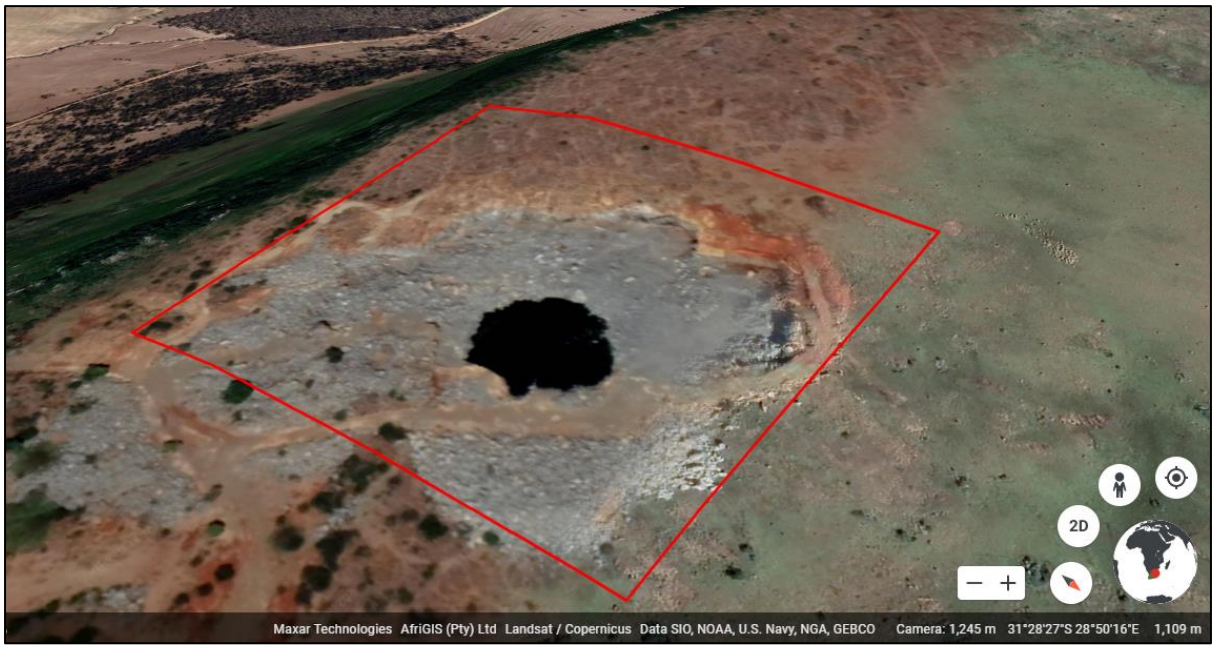

Photo 3: Indication of the general state of the site.

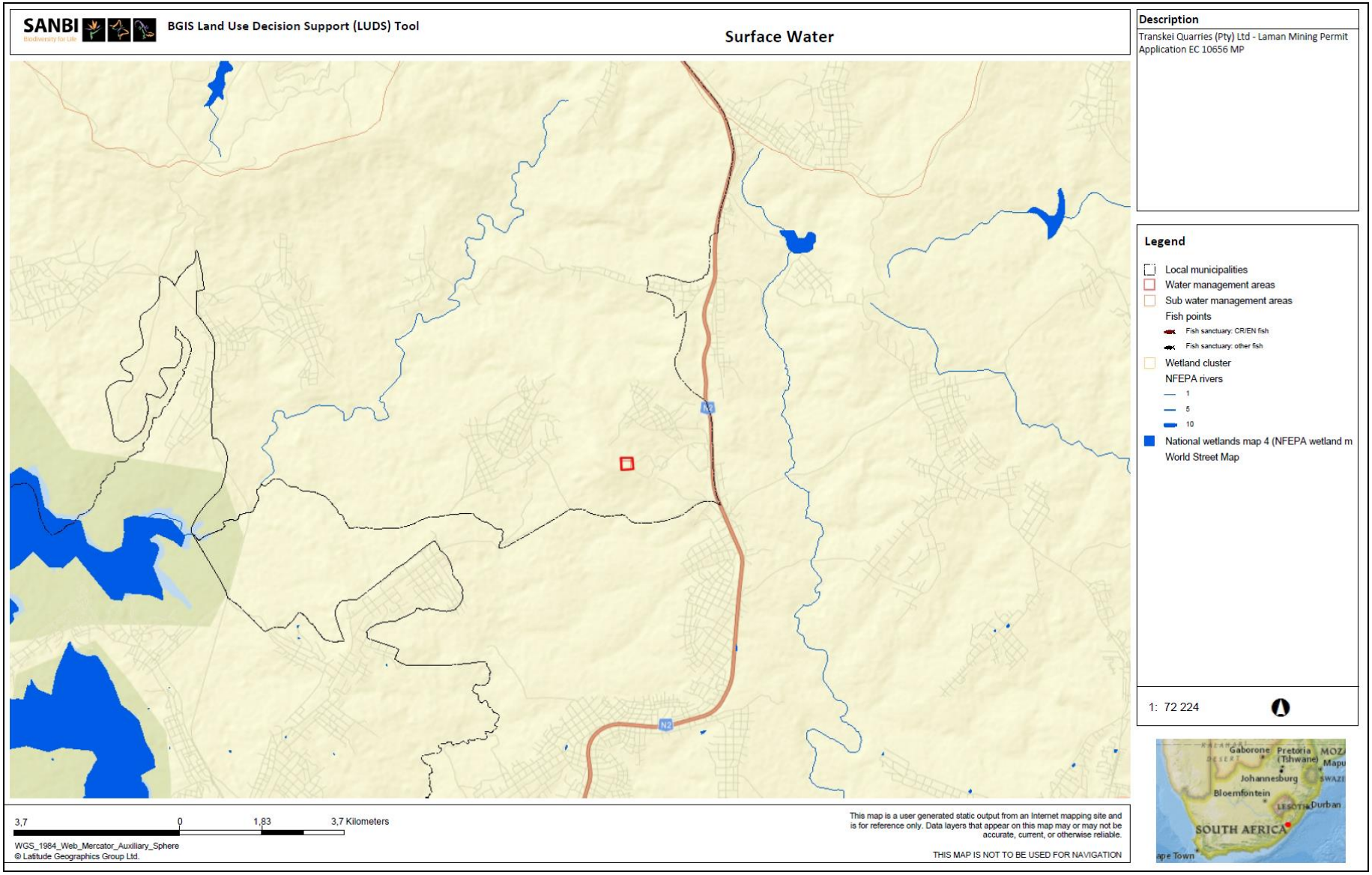

Figure 8: Map indicating the location of the site in relation to surface water sources (SANBI, 2018).

Climate

The closest reference in terms of climatic conditions is Mthatha Central which is located 14km south of the site. There are no prominent physical barriers such as mountains between the site and Mthatha therefore the conditions experienced at Umata are considered to be representative of coditions that would be experienced at the site.

Mthatha Central is 683m above sea level. The climate here is mild, and generally warm and temperate. The rainfall in Mthatha Central is significant, with precipitation even during the driest month. The climate here is classified as Cfb, or Temperate Oceanic, by the Köppen-Geiger system. The average annual temperature in Mthatha Central is 16.6 °C | 61.8 °F. The rainfall here is around 1044 mm | 41.1 inch per year.

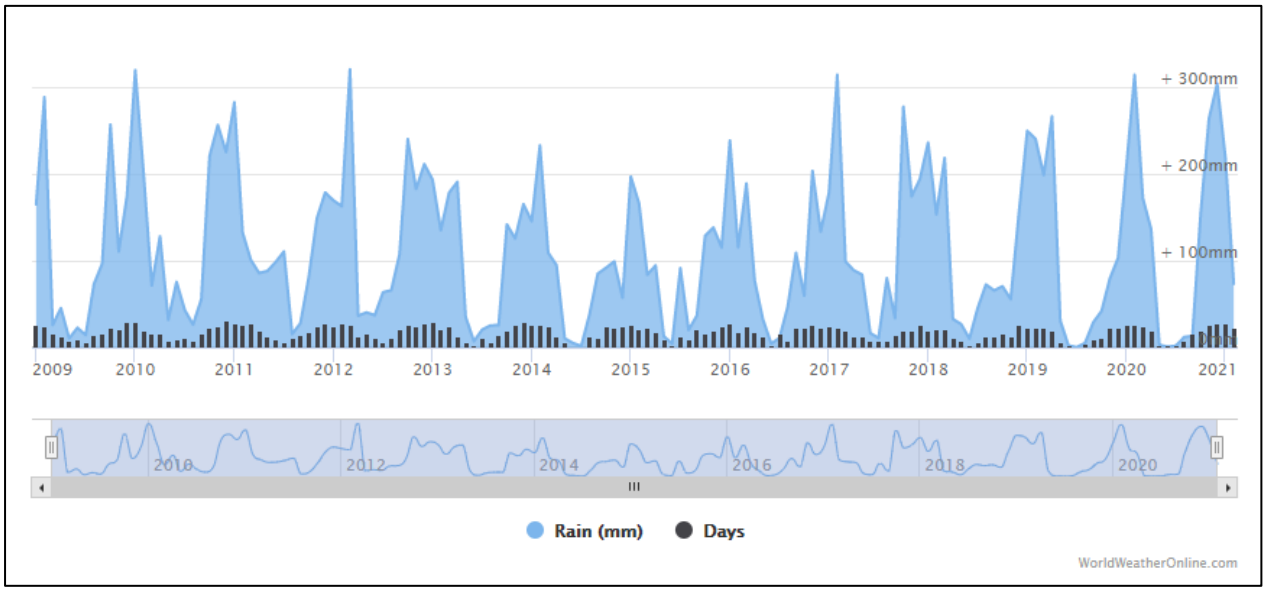

Figure 9: Long term trend for rainfall and number of rain days for the Mthatha area.

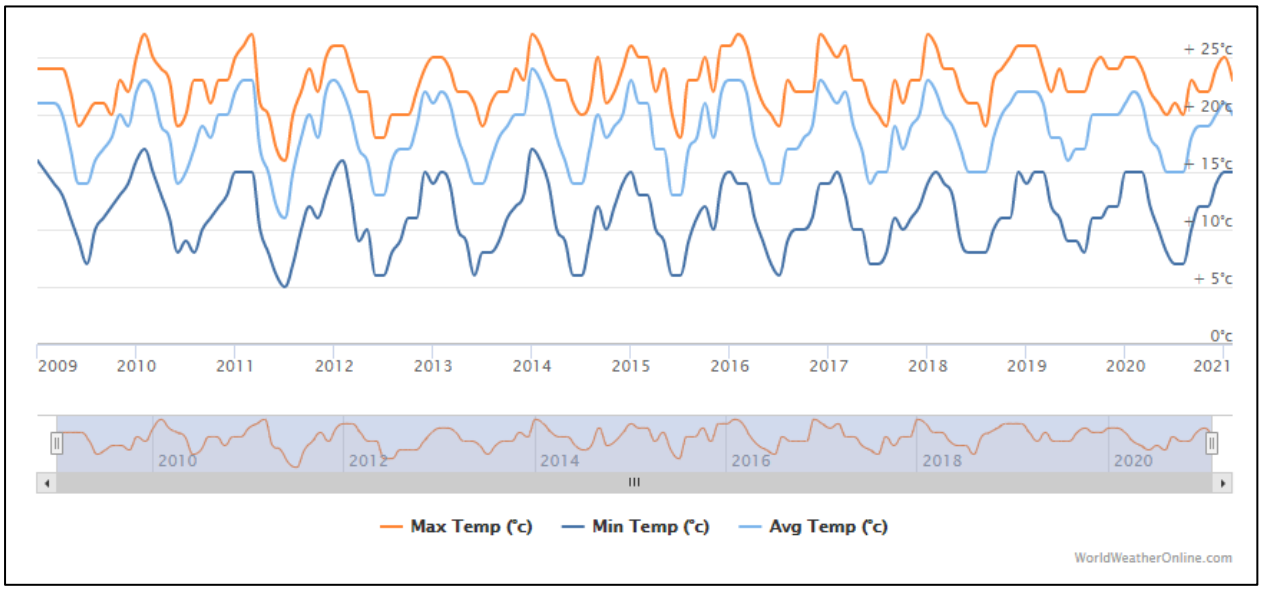

Figure 10: Long term trend for maximum, minimum and mean temperature for the Mthatha area.

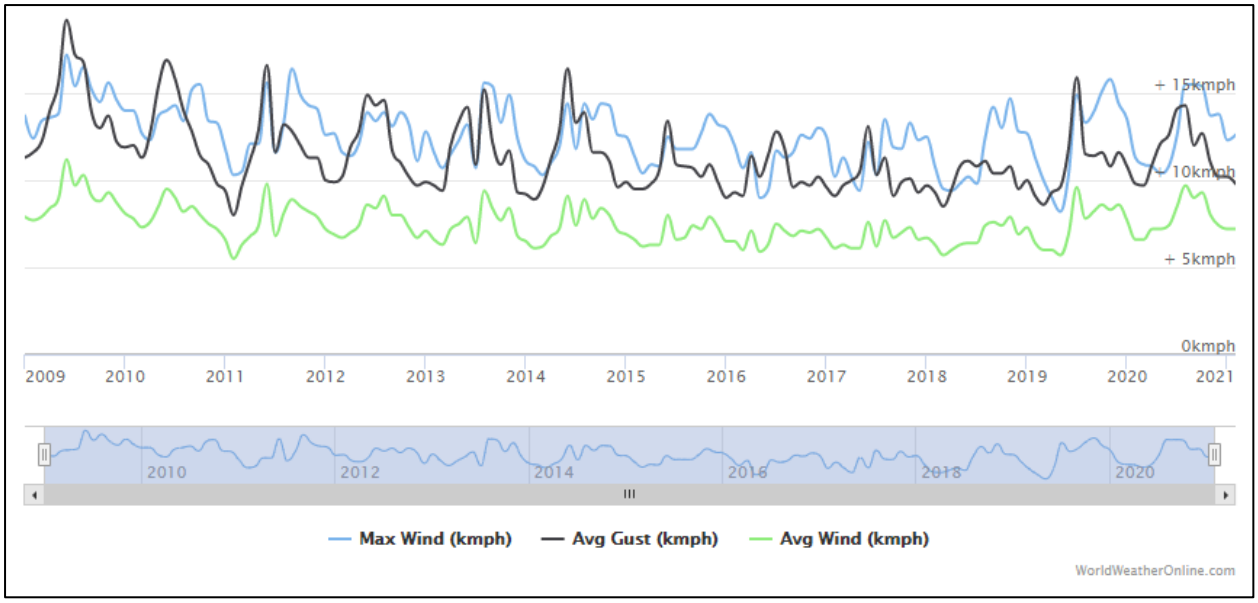

Figure 11: Long term trend for maximum and average wind speeds for the Mthatha area.

Socio-economic structure

The site is located within the Mhlontlo Local Municipality (MLM) which in turn forms part of the OR Tambo District Municipality, one of the six District Municipalities of the Eastern Cape province. The O R Tambo District Municipality incorporates large portions of the former Transkei homeland area of the Eastern Cape Province and is one of the poorest district municipality of the Eastern Cape Province (ECSECC, 2017).

MLM comprises two magisterial areas, viz. Qumbu and Tsolo and their surrounding rural areas. The municipality is largely rural in character with the urban areas concentrated around the towns. The surface area of the municipality is 2 826km^2, with the major economic activities being forestry and agriculture, although agriculture is of more of a subsistence nature. Mining currently contributes less than 1% to the MLM economy with the Municipality actively looking to advance this sector (MLM IDP, 2017). The application area falls within Ward 4 of MLM however the available demographic statistics are applicable to whole of the MLM (Stats SA, 2011).

Total population	190 751	Matric aged 20+	12.3%
Young (0-14)	38.3%	Number of households	44 080
Working Age (15-64)	54.4%	Average household size	4.1
Elderly (65+)	7.2%	Female headed households	56.9%
Dependency ratio	83.7	Formal dwellings	34.3%
Sex ratio	86.7	Housing owned/paying off	54.3%
Population density	73.3 persons/km^2	Flush toilet	2.9%
Unemployment rate	38,3%	Weekly refuse removal	4.7%
Youth unemployment rate	48,3%	Piped water inside dwelling	4.0%
No schooling aged 20+	14.6%	Electricity for lighting	72.4%
Higher education aged 20+	4.7%		

Sites of cultural heritage importance

To the knowledge of the landowners and the applicant, there are no archaeological, cultural heritage and paleontological sites of interest within the application area. Figure 12 shows the site as located in an area of high senstivity according to the National Screening Tool (Department of Environment, 2017).

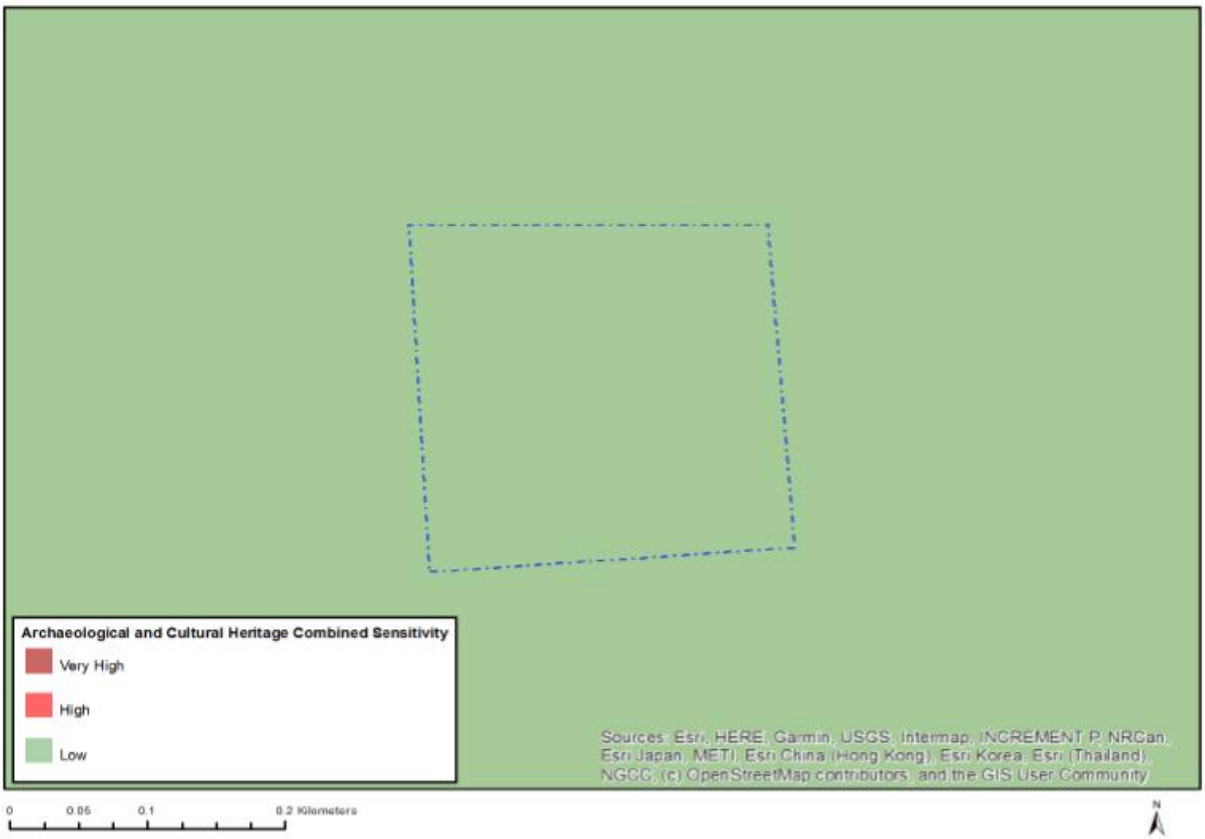

Figure 12: Archaeological and Cultural Heritage sensitivity (Department of Environment, 2017).

(b) *Description of the current land uses*

And

(c) *Description of specific environmental features and infrastructure on the site*

Surrounding landuses include a natural ridge and valley to the south and west of the site, grazing and subsistence agriculture to the north, and the historical plant and stockpile area to the east (Figure 13). The old Laman Quarry pit lies within the site with the majority of the site being heavily transformed by the historical workings. The only major infrastructure in proximity to the site is the N2 highway which at its closest point is approximately 1.5km to the east.

The closest receptors to the site are the Egotyibeni School and some homesteads forming part of the Egotyibeni Village located approximately 600m north of the site. The village of Lower Gungululu is located approximately 1km over the ridge to the west.

The proposed mining operation would occur on land that is heavily impacted by historical workings. The proposed site is therefore transformed from its natural state, does not present any highly environmentally sensitive aspects and is unlikely to have much conservation value. There are no water courses or wetlands within the site boundary. The closest major water courses are the Korana river located 3km to the east, and the Qobotshana river located 2km to the west of the site. There is however a drainage line in close proximity to the site (175m to the north) into which any surface runoff from the site would flow. This drainage line then flows eastwards towards the Korana river.

(d) *Environmental and current land use maps*

(Show all environmental, and current land use features).

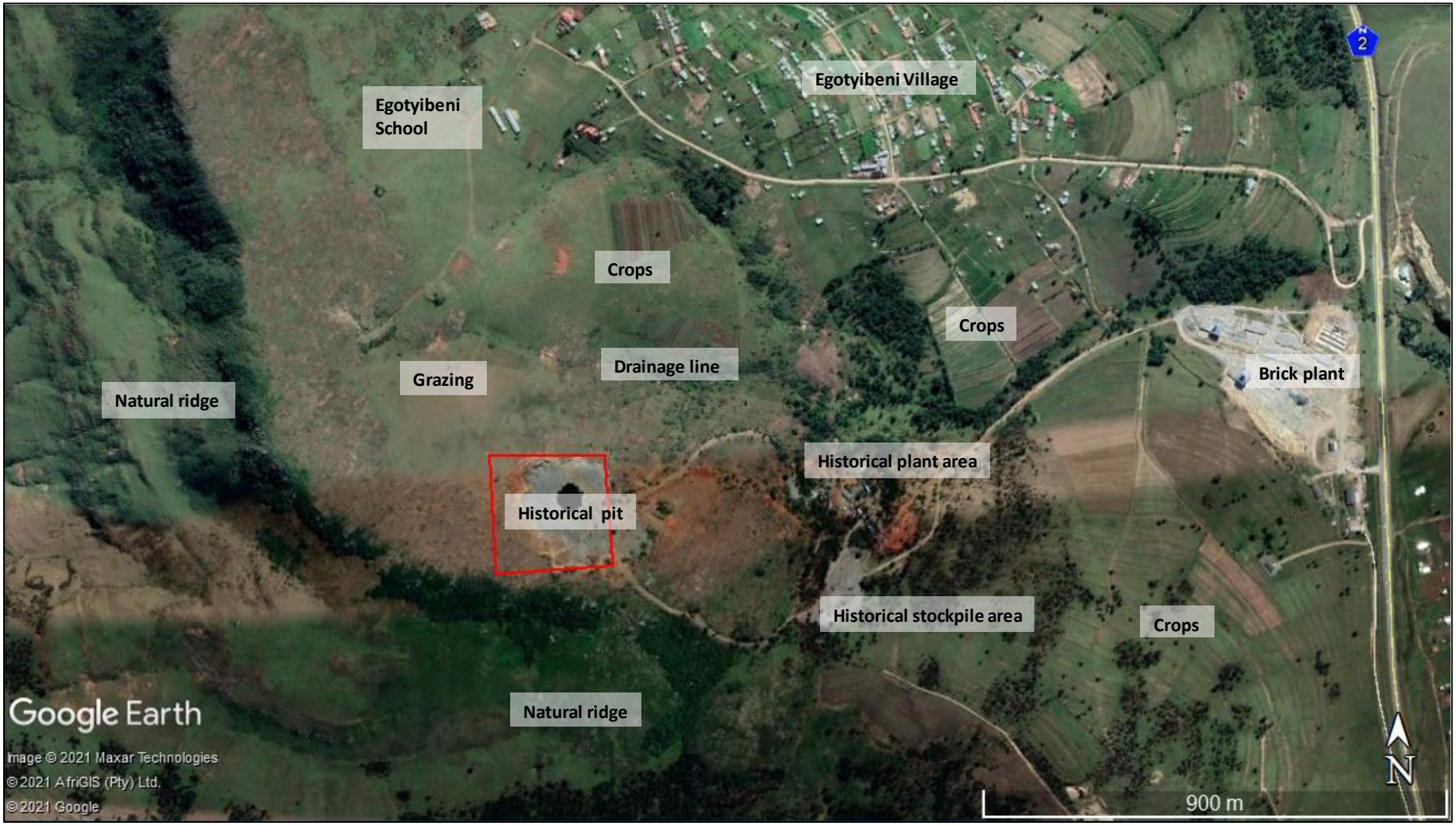

Figure 13: Aerial image indicating the current land uses within and surrounding the proposed mining permit area.

(v) Impacts and risks identified including the nature, significance, consequence, extent, duration and probability of the impacts, including the degree to which these impacts can be reversed

(Provide a list of the potential impacts identified of the activities described in the initial site layout that will be undertaken, as informed by both the typical known impacts of such activities, and as informed by the consultations with affected parties together with the significance, probability, and duration of the impacts. Please indicate the extent to which they can be reversed, the extent to which they may cause irreplaceable loss of resources, and can be avoided, managed or mitigated).

The table below will be updated based on the feedback received from Interested and Affected Parties during the consultation process.

Activity		Aspect	Potential Source / Cause	Impact		Consequence					External Factors		Ranking	Reverability of impact	NEMA Hierarchy
Phase	*Description of the physical activities that will cause the impacts*		*Description as to how the activity may cause the impact*	*A description of the impact that may result from the activity*		Nature	Extent	Duration	Frequency	Probability	I&AP	Cumulative	**Significance** (WITHOUT controls)		Avoid / Manage / Mitigate *(Definitions on page 6.1)*
1. Application for Authorisations	Basic Assessment: - GNR 327 Activity 21, 22 and 27 - GNR633: Activity 15 (Category A)	Socio-economic	Application in terms of EIA regulations to NEMA	Legal and responsible mining	Pos	Medium	Neighbouring	Medium	Weekly	High	No	No	Medium	Yes - impact ceases if process is not completed.	Manage
			Securing a mineral to become available to local markets through mining	Available building material that could be used in local development including nearby priority projects identified in the IDP.	Pos	Medium	Neighbouring	Medium	Weekly	High	No	No	Medium	Yes - impact ceases if process is not completed.	Manage
2. Preparation, Operational and Supporting Activities	Site Preparation: • Clearing of vegetation and topsoil • Stockpiling of topsoil • Placement of mobile equipment • Establishment of stormwater and security controls Mining: • Drilling and blasting; • Crushing and screening using a mobile plant, • Loading and hauling, • Stockpiling of product and overburden Supporting Services: • Waste management • Sanitation; • Water supply and use; and • Diesel	Air quality	Dust entrainment and exhaust emmission from vehicles and machinery Windblown dust from exposed surfaces Dust emissions from drilling and blasting	Increased dust fallout that may cause a nuisance to nearby receptors.	Neg	Low-Med	Neighbouring	Medium	Weekly	Medium	No	No	Medium	Yes - impact reverses when mining stops	Manage
		Noise	Noise generated from vehicle / machinery operations and drilling and blasting	Increased ambiant noise levels that may cause a nuisance to nearby receptors	Neg	Low-Med	Neighbouring	Medium	Weekly	Medium	No	No	Medium	Yes - impact reverses when mining stops	Manage & Mitigate
		Visual	The existng vegatation will be removed during clearing / preparation of the site for mining and the existing pit will be expanded. Mining equipment and supporting services will be visible against the landscape.	Landscape that differs in appearance to the surrounding area with regards to vegetation cover and topography.	Neg	Medium	Neighbouring	Medium	Daily	Low	No	Yes	Low-Medium	Yes - impact reverses when mining stops and site is rehabilitated.	Manage
		Flyrock	Explosives will be used to blast the rock material.	Rocks expelled from the blast area present a safety risk to humans and animals in close proximity as well as potentially causing damage to houses / dwellings / infrastructure.	Neg	High	Neighbouring	Medium	Monthly	Low	No	No	Low-Medium	Yes - impact ceases when blasting stops	Manage
		Air blast and ground vibrations	Explosives will be used to blast the rock material.	The blast shockwave and ground vibrations experienced off-site may result in structural damage to houses / dwellings and infrastructure.	Neg	Med-High	Neighbouring	Medium	Monthly	Low	No	No	Low-Medium	Yes - impact ceases when blasting stops	Manage
		Surface water flow	The mining area will be devoid of vegetation and the existing topography onsite will be altered.	Altered / impeded flow of water over the site during a rainfall event.	Neg	Medium	Neighbouring	Short	Monthly	Medium	No	Yes	Medium	Yes - impact reverses when mining stops and site is rehabilitated.	Manage
		Water quality	Hydrocarbons such as fuels and greases will be used to operate machinery during mining. Spills from operational / standing machinery or spillages during refuelling of machinery could occur. Spillage could also occur from the chemical toilets.	Hydrocarbon, chemical toilet spillages and sediment could mix with surface water runoff and flow into a water source resulting in pollution of the surface water quality. Spills could also infiltrate the soil and filter down to the groundwater level causing pollution of ground water quality.	Neg	Low-Med	Neighbouring	Long	Monthly	Medium	No	No	Medium	Yes - impact reverses when pollution source is removed after mining stops.	Avoid, Manage & Mitigate
		Soil	Topsoil will be stripped and stockpiled for use during rehabilitation. The target material will be excavated and removed from the site.	Altered chemical state and physical structure of the topsoil which may reduce its effectiveness during rehabilitation.	Neg	Medium	On-site	Medium	6 Monthly	Low	No	No	Low-Medium	Yes - impact reverses when mining stops and site is rehabilitated.	Manage
		Fauna / flora (Ecology)	Flora and subsequently habitats for fauna will be removed when clearing the site in preparation for mining.	Existing flora will be lost and fauna will not be able to inhabit the site during mining.	Neg	Low-Med	On-site	Medium	6 Monthly	Low	No	Yes	Low-Medium	Yes - impact reverses when mining stops and site is rehabilitated.	Avoid & Manage
		Heritage	All objects on the surface of the mining site as well as within the ground to be mined will be removed.	Any heritage artefacts discovered onsite will either need to be disturbed (moved) or risk being destroyed.	Neg	High	On-site	Long	6 Monthly	Low	No	No	Low-Medium	No - if an artefact is disturbed or destroyed it cannot be repaired or replaced	Avoid
		Social	Unauthorised access to land. Lack of consideration of landowners requests. Not rehabilitating land suffciently.	Unhappy landowners / land occupiers. Reduced land capability after mining.	Neg	Med-High	Neighbouring	Medium	Daily	Low	No	No	Low-Medium	Yes - impact reverses when mining stops and site is rehabilitated.	Avoid & Manage
3. Decommissioning & Rehabilitation	• Removing all mobile equipment and inspecting for signs of pollution • Sloping high walls and backfilling overburden; • Establishment of indigenous vegetation;	All aspects identified above.	Implementation of sucessful concurrent rehabiliation activities	Reverse the temporary negative impacts associated with the mining activities.	Pos	Medium	On-site	Medium	Monthly	High	No	No	Medium	N/A	Manage

(vi) Methodology used in determining and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks

(Describe how the significance, probability, and duration of the aforesaid identified impacts that were identified through the consultation process was determined in order to decide the extent to which the initial site layout needs revision).

The Umhlaba Impact Ranking Tool is a quantitative manner of investigating, assessing and evaluating the potential impacts / risks resulting from the activities associated with the proposed activity on the receiving environment; i.e. the biophysical, socio-economic and cultural heritage environment.

Legal Requirements:
The Umhlaba Impact Ranking Tool has been developed taking cognisance of the requirements of the MPRDA, The 2014 EIA regulations of the NEMA and the requirements of ISO 14001.
Regulation 50(c) of GNR 527 to the MPRDA, stipulates that the Environmental Impact Assessment (EIA) must include "an assessment of the **nature**, **extent**, **duration**, **probability** and **significance** of the identified potential environmental, social and cultural impacts of the mining operation, including the **cumulative** environmental impacts".
Appendix 3, (3)(j) of GNR 982 of NEMA stipulates that the "assessment of each identified potentially significant impact and risk, including – (i) **cumulative** impacts, (ii) the **nature**, significance and consequence of the impact and risk, (iii) the **extent** and **duration** of the impact and risk, (iv) the **probability** of the impact and risk occurring, (v) the **degree** to which the impact and risk can be **reversed**, (vi) the **degree** to which the impact and risk may cause **irreplaceable loss of resources**; and (vii) the **degree** to which the impact and risk can be **mitigated**".
ISO 14001, Section 4.3.1 Environmental Aspects stipulates that "the organisation shall establish, implement and maintain a procedure

a) to identify the environmental aspects of its activities, products and services within a defined scope of the environmental management system that it can control and those that it can influence taking into account planned or new developments, or new or modified activities, products and services, and
b) to determine those aspects that have or can have significant impacts on the environment"

When considering the above requirements and the purpose of this report, the significance of impacts / risks will be determined through the implementation of the Umhlaba Impact Ranking Tool as described below.

Definitions: The terms "environment", "activity", "aspect" and "impact" will be used technically throughout this document, and so it is important to explain what is meant by each term in the context of the Impact Assessment.

- *Environment* **(as defined in NEMA):** The **surroundings within which humans exist and that are made up of;**
  - the land, water and atmosphere of the earth;
  - micro-organisms, plant and animal life;
  - any part or combination of the above, and the interrelationships among and between them; and
  - the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and wellbeing;
- *Activity*: A specific deed, action or function, that takes place at the Operation, such as;
  - Clearing of vegetation
  - Excavation of sand
  - Loading, hauling and stockpiling
- *Aspect*: Considered to be a direct effect of an *activity*, which has an influence on the *environment* (and is neither categorised as positive or negative), such as;
  - Mining will results in noise, the noise being the *aspect* of the *activity.*
- *Impact*: The end-result of an *aspect* that occurred due to an *activity*, resulting in an influence on the *environment*, which is either categorised as positive or negative (a subjective categorisation), such as;
  - Mining will results in noise (*aspect*) which can be a nuisance to surrounding I&AP (the *impact*).

Criteria to Consider when Determining Significance: The ranking of impacts / risks (also known as determination of significance) is estimated using two criteria, namely *Consequence* and *Probability*. These consider the contributing factors / criteria listed in the legislation. The definitions of each are provided below.
The **Consequence** of an impact resulting from an aspect is expressed as a combination of:

Nature of impact: An indication of the extent of the damage (negative impacts) or benefit (positive impacts) the impact inflicts on natural, cultural, and/or social functions (environment).

Extent of impact: A spatial indication of the area impacted (i.e. how far from activity the impact is realised).

Duration of impact: A temporal indication of the how long the effects of the impact will persist, assuming the activity creating the impact ceases. For example, the impact of noise is short lived (impact ceases when activity ceases) whereas the impact of removing topsoil exists for a much longer period of time.
Frequency of the aspect occurring: An indication of how often an aspect, as a result of a particular activity, is likely to occur. Note that this does not assess how often the impact occurs. It applies only to the aspect. For example blasting takes place monthly and haulage daily while the resultant frequency of the impacts occurring will vary based on a number of factors.

The **Probability** of an impact resulting from an aspect is expressed as:

- **Probability** of impact occurring: An estimated indication of the potential for an impact to occur.

The **Significance** of an impact: Considering Consequence and Probability (defined above), Significance is an indication of how serious a negative impact is anticipated to be and how beneficial a positive impact may be. Significance is considered to be High, Medium-High, Medium, Low-Medium or Low. A description of the ranking process is provided below.

It must also be noted that the final significance ranking of an impact will take cognisance of other aspects specified in the legislation, such as:

- Cumulative impacts
- Impacts / Issues raised by interested and affected parties (I&AP).

How these are incorporated in the ranking is explained below.

Significance Ranking of Impact / Risk:

Consequence and Probability

Using the criteria listed in the legislation, scores are assigned to each the criteria, as outlined in the table below. The scoring range in the table has been selected to represent the scale in which varying impacts can occur. The combination of scores is then used to determine the **Consequence** and **Probability**, as described below.

- Consequence is expressed as the sum of all criteria in order to get a score out of 100.
- Probability of the impact occurring is expressed as a score out of 100.

Scoring for environment impact assessment criteria.

CONSEQUENCE	**NATURE OF IMPACT:**		
	Low	Impacts affect the environment in such a way that natural, cultural and / or social functions and processes are not affected.	**1**
	Low-Medium	Impacts affect the environment in such a way that natural, cultural and / or social functions and processes are affected insignificantly.	**5**
	Medium	Impacts affect the environment in such a way that natural, cultural and / or social functions and processes are altered.	**10**
	Medium-High	Impacts affect the environment in such a way that natural, cultural and / or social functions and processes are severely altered.	**15**
	High	Impacts affect the environment in such a way that natural, cultural and / or social functions and processes will temporarily or permanently cease.	**25**
	EXTENT OF IMPACT:		
	On-site	Impact occurs on-site (within the boundary of the application area).	**1**
	Neighbouring	Impact occurs within a 5km radius of the site.	**5**
	Local	Impact occurs within a 20km radius of the site.	**10**
	Regional	Impact occurs within a 100km radius of the site.	**15**
	National	Impact occurs within South Africa.	**25**
	DURATION OF IMPACT:		
	Very Short-term	The impact will cease within 1 week if the activity is stopped.	**1**
	Short-term	The impact will cease within 6 months if the activity is stopped.	**5**
	Medium-term	The impact will cease within 1 years if the activity is stopped.	**10**
	Long-term	After the operational life of the operation.	**15**
	Permanent	Where mitigation either by natural process or by human intervention will not occur in such a way or in such a time span that the impact can be considered transient.	**25**
	FREQUENCY OF OCCURRENCE OF THE ACTIVITY:		
	Annually or less	Activity occurs at least once in a year or less frequently.	**1**
	6 months	Activity occurs at least once in 6 months.	**5**
	Monthly	Activity occurs at least once a month.	**10**
	Weekly	Activity occurs at least once a week.	**15**
	Daily	Activity occurs daily.	**25**
PROBABILITY	**PROBABILITY OF POTENTIAL OCCURRENCE OF THE IMPACT:**		
	Improbable	The possibility of the impact materialising is very low either because of design or historic experience.	**10**
	Low	The possibility of the impact materialising is low either because of design or historic experience.	**30**
	Medium	There is a possibility that the impact will occur.	**60**
	High	There is a distinct possibility that the impact will occur.	**80**
	Definite	The impact will occur regardless of any prevention measures.	**100**

The **final significance** ranking of an impact will also take cognizance of;

- Impacts / Issues raised by **Interested and Affected Parties**: For new and existing operations, I&AP will be consulted, either during the compilation of the impact assessment (for new operations) or part of an existing / on-going consultation process (for existing operations). During this consultation process, I&AP will identify concerns relating to impacts resulting from activities associated with the operation. Impacts identified by I&AP's will be assigned additional scoring.
- **Cumulative Impacts**: Cumulative Impacts will be considered where an off-site activities (not related to the operation being evaluated) will result in the same impact at the receptors being considered.

Below is a summary of the influence of external factors on final significance scoring:

EXTERNAL FACTOR	DESCRIPTION	POINTS TO ADDED
Concern raised by I&AP	Unresolved Impact rasied as a concern by an I&AP	100
Cumulative impact	Impact can be considered cumulatively with off site impacts	50

The final significant ranking takes cognisance of the initial scoring plus any additional score associated with allocating an external factor. At no time can the sum total of all the scores exceed 1000.

The significance of an impact is considered to be classified into one of the following; High, Medium-High, Medium, Low-Medium or Low. Each of the classified impact has a scoring band into which it falls. The band has been determined by a combination of 25 years of experience of Umhlaba employees.
The definition of each classification is provided below and focuses on the need for mitigation or management.

Low (4 – 60)	Management measures may not be necessary, but in some instances are encouraged to ensure that the impact remains of Low significance.
Low-Medium (61-200)	Management measures are usually encouraged to ensure that the impacts remain of Low-Medium significance.
Medium (201-400)	Management measures are required to ensure, at minimum, the significance of the impact does not increase.
Medium-High (401-650)	Management measures are required to reduce the significance of the impact to, at least, Medium significance.
High (>651)	Impact should be avoided, or if not possible, managed to reduce the significance of the impact to, at least, Medium significance (where possible).

Additional Factors that do not contribute to the Significance of an Impact

After completing the determination of significance of an impact, there are additional factors, which in terms of NEMA which need to be considered. NEMA stipulates that the impact assessment must consider the following for "each identified potentially ***significant impact***"; namely;

- "the degree to which the impact can be reversed",
- "the degree to which the impact may cause irreplaceable loss of resources", and
- "the degree to which the impact can be mitigated.

The Umhlaba tool regards a "significant impact" as one with an initial ranking of medium or higher.

Although these factors are important in the evaluation of the impacts (particularly for new developments), they will not be applicable to all impacts and hence, may not influence the significance rating of an impact (explained below).

- **Degree to** which **the Impact can be Reversed**: An indication to the degree to which the impact can be reversed will be provided. Three categories have been allocated:
    - **Not possible**: Once the impact has occurred it will be permanent and cannot be reversed.
    - **Potentially**: With appropriate management and mitigation measures there is a potential the impact can be reduced / reversed.
    - **Likely**: With appropriate management and mitigation measures there is a good likelihood that the impact can be reduced / reversed.
- **Degree to which the Impact can be Mitigated**: This requirement is essentially achieved by determining significance before consideration of controls and then the significance after the consideration of management controls. The difference between the before and after controls is an indication of the "degree to which the impact can be mitigated".
- **Degree to which the Impact may cause Irreplaceable Loss of Resources**: Aspects that need to be considered in terms of irreplaceable loss of resources should be discussed at the beginning of the impact assessment. An example is the removal of geological material.

(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).

No alternatives have been considered. The impacts identified with this application have been presented in Section v above.

(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).

This section can only be completes after receiving I&AP feedback at the end of the consultation period.

Table 2: Issues raised and possible mitigation measure.

COMMENTS RECEIVED ON THE DRAFT & REVISED SCOPING REPORT	
I&AP COMMENTS RAISED	POSSIBLE MITIGATION MEASURES TO ADDRESS I&AP COMMENTS

(ix) Motivation where no alternative sites were considered

The proposed mining operation would occur on land that is heavily impacted by historical workings. The proposed site is therefore transformed from its natural state, does not present any highly environmentally sensitive aspects and is unlikely to have much conservation value. The site has a known resource and is logically the next direction of mining given where mining has already occurred in the area. Therefore no alternative site location was considered.

Due to the simplistic nature of the proposed operation there are also no operational or technological alternatives identified that would be viable.

(x) Statement motivating the alternative development location within the overall site.

(Provide a statement motivating the final site layout that is proposed).

Due to the simplistic nature of the proposed operation there are no alternate site layout options to those presented in Appendix A2.

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

(Including (i) a description of all environmental issues and risks that were identified during the environmental impact assessment process and (ii) an assessment of the significance of each issue and risk and an indication of the extent to which the issue and risk could be avoided or addressed by the adoption of mitigation measures).

The below process was followed for a screening level impact assessment in order to determine the potential impacts of the proposed activities to be assessed in more detail during the Basic Assessment process. The full process undertaken to assess and rank impacts is outlined in Section 3(g)(vi) and the complete results of the assessment is given in Appendix A.4.

Considering the baseline environment, the proposed activities were evaluated against all the below environmental attributes to identify potential impacts / risks.

Environmental Attributes (presented alphabetically):	
• Aesthetics / Visual affects	• Sites of heritage & cultural interest
• Air Quality / Dust	• Soil
• Ecology / Fauna and Flora	• Socio-economic
• Geological features / subsidence	• Surface water
• Ground water	• Topography
• Noise / Sound levels	• Vibration
• Sensitive receptors	• Safety

All potential impacts were then categorised as follows:

Identified / concern raised as;
- Known impact (an impact that is known by experience)
- Identified by I&AP's
- Identified by Specialist (if applicable)

The probability of the impacts were then categorised into;
- Improbable
- Probable and
- Definite

The duration of the impact were then categorised into;
- Short term (impact will cease within 6 months)
- Medium term (impact will cease within 5 years)
- Permanant

Using the above definitions, the identified impacts were classified as either potentially significant or insignificant;
- Insignificant impacts / risks were described but not assessed any further.
- Potentially significant impacts / risks were subjected to further assessment during the Basic Assessment process to determine the significance of the impact / risk in order to assign the appropriate management measures.

Impacts deemed to be potentially significant were assessed further using the Umhlaba Impact Assessment tool as outlined in Section (vi) above and mitigation measures developed accordingly.

j) Assessment of Each Identified Potentially Significant Impact and Risk

(This section of the report must consider all the known typical impacts of each of the activities (including those that could or should have been identified by knowledgeable persons) and not only those that were raised by registered interested and affected parties).

The following assessment is the proposed potentially significant impacts based on current knowledge. Should further information be provided by I&AP's that requires inclusion / amendment to the assessment below, this will be updated after the consultation process has been completed.

The complete supporting impact assessment conducted by the EAP is attached as Appendix A.4.

Activity		Aspect	Potential Source / Cause	Impact		Ranking	Controls / Management Measures Implemented				Significance (WITH controls)
Phase	*Description of the physical activities that will cause the impacts*		*Description as to how the activity may cause the impact*	*A description of the impact that may result from the activity*		Significance (WITHOUT controls)	Effective Engineering	Effective Procedural	Effective Training	Effective Monitoring / Maintenance	
1. Application for Authorisations	Basic Assessment: - GNR 327 Activity 21, 22 and 27 - GNR633: Activity 15 (Category A)	Socio-economic	Application in terms of EIA regulations to NEMA	Legal and responsible mining	Pos	Medium	No	No	No	No	Medium
			Securing a mineral to become available to local markets through mining	Available building material that could be used in local development including nearby priority projects identified in the IDP.	Pos	Medium	No	No	No	No	Medium
2. Preparation, Operational and Supporting Activities	Site Preparation: • Clearing of vegetation and topsoil • Stockpiling of topsoil • Placement of mobile equipment • Establishment of stormwater and security controls Mining: • Drilling and blasting; • Crushing and screening using a mobile plant, • Loading and hauling, • Stockpiling of product and overburden Supporting Services: • Waste management • Sanitation; • Water supply and use; and • Diesel	Air quality	Dust entrainment and exhaust emmission from vehicles and machinery Windblown dust from exposed surfaces Dust emissions from drilling and blasting	Increased dust fallout that may cause a nuisance to nearby receptors.	Neg	Medium	No	Yes	Yes	No	Low-Medium
		Noise	Noise generated from vehicle / machinery operations and drilling and blasting	Increased ambiant noise levels that may cause a nuisance to nearby receptors	Neg	Medium	No	Yes	Yes	No	Low-Medium
		Visual	The existng vegatation will be removed during clearing / preparation of the site for mining and the existing pit will be expanded. Mining equipment and supporting services will be visible against the landscape.	Landscape that differs in appearance to the surrounding area with regards to vegetation cover and topography.	Neg	Low-Medium	No	Yes	Yes	No	Low-Medium
		Flyrock	Explosives will be used to blast the rock material.	Rocks expelled from the blast area present a safety risk to humans and animals in close proximity as well as potentially causing damage to houses / dwellings / infrastructure.	Neg	Low-Medium	Yes	Yes	No	No	Low
		Air blast and ground vibrations	Explosives will be used to blast the rock material.	The blast shockwave and ground vibrations experienced off-site may result in structural damage to houses / dwellings and infrastructure.	Neg	Low-Medium	Yes	Yes	No	No	Low
		Surface water flow	The mining area will be devoid of vegetation and the existing topography onsite will be altered.	Altered / impeded flow of water over the site during a rainfall event.	Neg	Medium	Yes	Yes	No	No	Low-Medium
		Water quality	Hydrocarbons such as fuels and greases will be used to operate machinery during mining. Spills from operational / standing machinery or spillages during refuelling of machinery could occur. Spillage could also occur from the chemical toilets.	Hydrocarbon, chemical toilet spillages and sediment could mix with surface water runoff and flow into a water source resulting in pollution of the surface water quality. Spills could also infiltrate the soil and filter down to the groundwater level causing pollution of ground water quality.	Neg	Medium	No	Yes	Yes	No	Low-Medium
		Soil	Topsoil will be stripped and stockpiled for use during rehabilitation. The target material will be excavated and removed from the site.	Altered chemical state and physical structure of the topsoil which may reduce its effectiveness during rehabilitation.	Neg	Low-Medium	No	Yes	No	No	Low
		Fauna / flora (Ecology)	Flora and subsequently habitats for fauna will be removed when clearing the site in preparation for mining.	Existing flora will be lost and fauna will not be able to inhabit the site during mining.	Neg	Low-Medium	No	Yes	No	No	Low-Medium
		Heritage	All objects on the surface of the mining site as well as within the ground to be mined will be removed.	Any heritage artefacts discovered onsite will either need to be disturbed (moved) or risk being destroyed.	Neg	Low-Medium	No	Yes	Yes	No	Low-Medium
		Social	Unauthorised access to land. Lack of consideration of landowners requests. Not rehabilitating land suffciently.	Unhappy landowners / land occupiers. Reduced land capability after mining.	Neg	Low-Medium	No	Yes	No	No	Low-Medium
3. Decommissioning & Rehabilitation	• Removing all mobile equipment and inspecting for signs of pollution • Sloping high walls and backfilling overburden; • Establishment of indigenous vegetation;	All aspects identified above	Implementation of sucessful concurrent rehabiliation activities	Reverse the temporary negative impacts associated with the mining activities.	Pos	Medium	No	No	No	No	Medium

k) 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).

The National Environmental Screening Tool (2017) identified the following possible environmental sensitivities:

Theme	V High	High	Medium	Low
Agriculture		X		
Animal species			X	
Aquatic biodiversity	X			
Archaeological, Cultural Heritage				X
Civil aviation				X
Defence				X
Plant species				X
Terrestrial biodiversity	X			

According to the Protocols for the Assessment and Reporting of Environmental Impacts, an applicant intending to undertake an activity on a site with aspects identified as being of "very high sensitivity" on the national web based environmental screening tool must submit an aspect specific Impact Assessment. The assessment must be prepared by a specialist registered with the South African Council for Natural Scientific Professionals (SACNASP) with expertise in the field of that specific aspect.

The protocols also indicate that:

Prior to commencing with a specialist assessment, the current use of the land and the environmental sensitivity of the site under consideration identified by the screening tool must be confirmed by undertaking a **site sensitivity verification.**

2.1. The site sensitivity verification must be undertaken by an environmental assessment practitioner or a specialist.

2.2. The site sensitivity verification must be undertaken through the use of:
- (a) a desk top analysis, using satellite imagery;
- (b) a preliminary on-site inspection; and
- (c) any other available and relevant information.

2.3. The outcome of the site sensitivity verification must be recorded in the form of a report that:
- (a) confirms or disputes the current use of the land and the environmental sensitivity as identified by the screening tool, such as new developments or infrastructure, the change in vegetation cover or status etc.;
- (b) contains a motivation and evidence (e.g. photographs) of either the verified or different use of the land and environmental sensitivity; and
- (c) is submitted together with the relevant assessment report prepared in accordance with the requirements of the Environmental Impact Assessment Regulations.

In line with 2.1 above, a site sensitivity verification was undertaken by the EAP and the following is noted (as described in Section 3(h)(iv) b and c of this report):

- The site mostly consists of the historical workings and land disturbed by activities associated with these workings
- The majority of the site is transformed from its natural state that does not present any highly environmentally sensitive aspects and is unlikely to have much conservation value

- The majority of the site is devoid of vegetation. Where vegetation exists it is mostly invasive species
- There are no wetlands or water courses within the application area
- The closest water course is the drainage line running west to east approximately 175m north of the site

It is therefore considered that the sensitivity of the site is low for both aquatic and terrestrial biodiversity and therefore it is unlikely that specialist studies will be required. However, should discussions with the local communities and other I&AP reveal concerns related to aquatic or terrestrial biodiversity over the application area, a specialist may be consulted.

I) ENVIRONMENTAL IMPACT STATEMENT

(xi) Summary of the key findings of the environmental impact assessment

The **key findings** from the environmental impact assessment can be summarised as follows;

- The most significant positive impacts, ranked as **Medium** of higher;
  - Socio-econimic - Legal / responsible mining that provides building material that could be used in local development including nearby priority projects identified in the IDP.
  - Rehabilitation – The land is vacant and transformed from its natural state through heavy grazing by livestock and is not currently supporting any particular land use. Rehabilitation after mining will support a future land use determined by the landowner.

- The most significant negative impacts, ranked as **Medium** or higher prior to consideration of management measures is;
  - Air quality - Increased dust fallout from mining activities may cause a nuisance to nearby receptors.
  - Noise - Noise generated from vehicle / machinery operations and drilling and blasting may cause a nuisance to nearby receptors.
  - Surface water flow - Altered / impeded flow of water over the site during a rainfall event.
  - Water quality - Hydrocarbon, chemical toilet spillages and sediment could mix with surface water runoff and flow into a water source.

All negative impacts can be reduced with the implementation of mitigation measures including controls such as engineering, procedural, training and monitoring/maintenance (see Impacts Assessment in Appendix A4). After the implementation of mitigation measures all impacts reduce to either low medium or low.

(xii) 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. Attach as Appendix A5:).

The site map attached in Appendix A5. There are no identified environmental sensitivities to be avoided within the proposed site boundary.

(xiii) Summary of the positive and negative impacts and risks of the proposed activity and identified alternatives

Due to the simplistic nature of the proposed operation there are no alternatives considered. The positive and negative impacts listed above are applicable to the proposed activity.

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).

The following management measures are the proposed measures based on current knowledge and assessment. Should further information be provided by I&AP's that requires inclusion / amendment to the proposed management measures below, this will be updated after the consultation process has been completed.

Activity		Aspect	Potential Source / Cause	Impact		Reverability of impact	NEMA Hierarchy	Impact Management Actions
Phase	*Description of the physical activities that will cause the impacts*		*Description as to how the activity may cause the impact*	*A description of the impact that may result from the activity*			Avoid / Manage / Mitigate *(Definitions on page 6.1)*	Appendix 4(1)(f)(i): Actions to be implemented in order to achieve Impact Management Objectives
1. Application for Authorisations	Basic Assessment: - GNR 327 Activity 21, 22 and 27 - GNR633: Activity 15 (Category A)	Socio-economic	Application in terms of EIA regulations to NEMA	Legal and responsible mining	Pos	Yes - impact ceases if process is not completed.	Manage	A Basic Assessment process must be undertaken by an independent and competent person, that adheres to the requirements of the EIA regulations. Once authorised, the conditions of the EA must be strictly adhered to.
			Securing a mineral to become available to local markets through mining	Available building material that could be used in local development including nearby priority projects identified in the IDP.	Pos	Yes - impact ceases if process is not completed.	Manage	Before mining commences the authorised area must be demarcated on the ground. Once the mineral has been mined, ensure that it is made available to the local market.
2. Preparation, Operational and Supporting Activities	Site Preparation: • Clearing of vegetation and topsoil • Stockpiling of topsoil • Placement of mobile equipment • Establishment of stormwater and security controls Mining: • Drilling and blasting; • Crushing and screening using a mobile plant, • Loading and hauling, • Stockpiling of product and overburden	Air quality	Dust entrainment and exhaust emmission from vehicles and machinery Windblown dust from exposed surfaces Dust emissions from drilling and blasting	Increased dust fallout that may cause a nuisance to nearby receptors.	Neg	Yes - impact reverses when mining stops	Manage	Ensure that the equipment being used has appropriate dust suppresion systems where applicable. Do not undertake activities that generate dust if high winds are visibly taking dust offsite towards nearby receptors. Make use of a water cart to wet areas that are sources of dust. Set suitable speed limits for the haul roads and access roads. Implement traffic control measures such as speed bumps if necessary.
		Noise	Noise generated from vehicle / machinery operations and drilling and blasting	Increased ambiant noise levels that may cause a nuisance to nearby receptors	Neg	Yes - impact reverses when mining stops	Manage & Mitigate	All equipment and/or vehicles will be maintained appropriately to minimise noise nuisance. Operational hours of the mine will be restricted to daylight hours. Blasting to be undertaken by a certified contractor.

	Supporting Services: • Waste management • Sanitation; • Water supply and use; and • Diesel	Visual	The existng vegatation will be removed during clearing / preparation of the site for mining and the existing pit will be expanded. Mining equipment and supporting services will be visible against the landscape.	Landscape that differs in appearance to the surrounding area with regards to vegetation cover and topography.	Neg	Yes - impact reverses when mining stops and site is rehabilitated.	Manage	Ensure good housekeeping and waste management in the mobile plant and supporting services areas. Once an area has been mined out and will not be disturbed through further mining actvities, implement rehabilitation ativities.
		Flyrock	Explosives will be used to blast the rock material.	Rocks expelled from the blast area present a safety risk to humans and animals in close proximity as well as potentially causing damage to houses / dwellings / infrastructure.	Neg	Yes - impact ceases when blasting stops	Manage	Blasting to be undertaken by a certified contractor and all blasts should be designed to minimise the risk of lyrock. Notify all recpetors within 500m of the impending blast. If necessary, vacate inhabitants of any houses/dwellings in close proximity for the duration of the blast.
		Air blast and ground vibrations	Explosives will be used to blast the rock material.	The blast shockwave and ground vibrations experienced off-site may result in structural damage to houses / dwellings and infrastructure.	Neg	Yes - impact ceases when blasting stops	Manage	Blasting to be undertaken by a certified contractor and all blasts should be designed to minimise the risk of airblast or ground vibrations. Notify all recpetors within 500m of the impending blast. If necessary, vacate inhabitants of any houses / dwellings in close proximity for the duration of the blast.
		Surface water flow	The mining area will be devoid of vegetation and the existing topography onsite will be altered.	Altered / impeded flow of water over the site during a rainfall event.	Neg	Yes - impact reverses when mining stops and site is rehabilitated.	Manage	Develop a storm water management plan and implement it effectively.
		Water quality	Hydrocarbons such as fuels and greases will be used to operate machinery during mining. Spills from operational / standing machinery or spillages during refuelling of machinery could occur. Spillage could also occur from the chemical toilets.	Hydrocarbon, chemical toilet spillages and sediment could mix with surface water runoff and flow into a water source resulting in pollution of the surface water quality. Spills could also infiltrate the soil and filter down to the groundwater level causing pollution of ground water quality.	Neg	Yes - impact reverses when pollution source is removed after mining stops.	Avoid, Manage & Mitigate	Chemical toilets to be provided for sanitation requirements and must be serviced regularly. All vehicles / machinery to be used must be well maintained. All chemicals required will be stored in a sealed container and on an impermeable layer such as a plastic lining. Spillages of hydrocarbons will be cleaned up immediately and placed in a sealed container and disposed of appropriately. Diesel container / bowser brought to site must be positioned on a plastic lined area. Dispensing of fuel must be done by trained personnel.

		Soil	Topsoil will be stripped and stockpiled for use during rehabilitation. The target material will be excavated and removed from the site.	Altered chemical state and physical structure of the topsoil which may reduce its effectiveness during rehabilitation.	Neg	Yes - impact reverses when mining stops and site is rehabilitated.	Manage	Any topsoil and overburden must be used stored in a designated stockpile and in a manner that satisfies the conditions of the waste management license issued. The stockpiles must be stabilised to ensure that the topsoil / overburden is not eroded away by surface water flow. Any areas that are compacted by mining activities must be ripped as part of the rehabilitation process.
		Fauna / flora (Ecology)	Flora and subsequently habitats for fauna will be removed when clearing the site in preparation for mining.	Existing flora will be lost and fauna will not be able to inhabit the site during mining.	Neg	Yes - impact reverses when mining stops and site is rehabilitated.	Avoid & Manage	Before mining commences, the authorised area must be demarcated on the ground to ensure that fauna and flora beyond the authorised area are not impacted. Rehabilitation activities must be undertaken to facilitate the restoration of fauna and flora after mining activities have ceased.
		Heritage	All objects on the surface of the mining site as well as within the ground to be mined will be removed.	Any heritage artefacts discovered onsite will either need to be disturbed (moved) or risk being destroyed.	Neg	No - if an artefact is disturbed or destroyed it cannot be repaired or replaced	Avoid	Mine personnel / contractors should be made aware (during induction) that archaeological deposits usually occur below ground level. Should archaeological artefacts or skeletal material be revealed in the area during development activities, such activities should be halted, and a university or museum notified in order for an investigation and evaluation of the find(s) to take place
		Social	Unauthorised access to land. Lack of consideration of landowners requests. Not rehabilitating land suffciently.	Unhappy landowners / land occupiers. Reduced land capability after mining.	Neg	Yes - impact reverses when mining stops and site is rehabilitated.	Avoid & Manage	Monthly inspection of the site by site manager to ensure that environmental management is being implemented as per the EMPr and that any landowners concerns/requests are being considered. Rehabilitation of the site must be undertaken as per the EMPr.

3. Decommissioning & Rehabilitation	• Removing all mobile equipment and inspecting for signs of pollution • Sloping high walls and backfilling overburden; • Establishment of indigenous vegetation;	All aspects identified above	Implementation of sucessful concurrent rehabiliation activities	Reverse the temporary negative impacts associated with the mining activities.	Pos	N/A	Manage	All mobile equipment / foreign matter will be removed from the site. The entire disturbed area will be inspected for any signs of pollution (as a result of mining activities) and if identified it will be removed and disposed of in a registered landfill site. Stockpiled overburden/topsoil will be backfilled into the excavations and the any steep walls will be sloped to a safe angle. The disturbed area will be reseeded and alien vegetation will be controlled until the site is successfully revegetated. Areas compacted as a result of mining activities undertaken will be loosened to promote self-vegetation, and any ruts created by accessing or leaving the site will be filled to ensure that no future erosion shall emanate from the site. The landowner will be requested to inspect the success of the rehabilitation.

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).

- It is proposed that as this authorisation is only for two years, that an en environmental audit of the implementation of the EMPr should be undertaken biennially.
- The financial provision calculation must be updated annually in line with prevailing legislation and any shortfall provided to the authority.
- The relevant land owners must agree on the success of rehabilitation and achievement of the closure objectives when the operation is decommissioned.

o) DESCRIPTION OF ANY ASSUMPTIONS, UNCERTAINTIES AND GAPS IN KNOWLEDGE

(Which relate to the assessment and mitigation measures proposed).

When considering the uncertainties in this assessment it is important to note that EIA/EMP processes are not an exact science and impacts can only be evaluated on the information that is currently available and through past experience. Due to the fact that the land is already transformed through historical mining, the physical impacts are aniticipated to be restricted and the majority of impacts and appropriate mitigations measures are known.

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

(i) Reasons why the activity should be authorized or not

It is the author's opinion that this application **should** be authorised for the following reasons:

- The proposed activities are limited and temporary in nature.
- The impact assessment has indicated that negative impacts from the proposed activities can be controlled to an acceptable level through approporiate mitigation and management measures.
- The proposed project fits with historical activities having taken place on the property (old Laman quarry).
- The proposed site is itself already transformed from its naural state through historical workings.
- The positive result of the proposed project will secure a building product that will support local development, including IDP projects in nearby communities which are identified as priority areas.

(ii) Conditions that must be included in the authorisation

(1) *Specific conditions to be included into the compilation and approval of EMPr*

The landowner must be requested to inspect the success of the rehabilitation after mining to confirm that it supports the predetermined future land use indicated by the landowner.

(2) *Rehabilitation requirements*

After mining has been completed, the following will be undertaken:

- All mobile equipment / foreign matter will be removed from the site.
- The entire disturbed area will be inspected for any signs of pollution (as a result of mining activities) and if identified it will be removed and disposed of in a registered landfill site.
- Stockpiled overburden/topsoil will be backfilled into the excavations and the any steep walls will be sloped to a safe angle.

- The disturbed area will be reseeded and alien vegetation will be controlled until the site is successfully revegetated.
- Areas compacted as a result of mining activities undertaken will be loosened to promote self-vegetation, and any ruts created by accessing or leaving the site will be filled to ensure that no future erosion shall emanate from the site.
- The landowner will be requested to inspect the success of the rehabilitation.

q) PERIOD FOR WHICH THE ENVIRONMENTAL AUTHORISATION IS REQUIRED

This application is for an Environmental Authorisation of TWO years for sand ad aggregate mining activities. If mining has not been completed within the two year period the applicant will have the opportunity to renew the right.

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).

An undertaking to meet the requirements of this section is provided at the end of this EMPr.

s) FINANCIAL PROVISION

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

R 1 700 000 has been proposed for financial provision purposes.

(i) Explain how the aforesaid amount was derived

The Financial Provision amount was derived by making use of the DMR "Guideline Document for the Evaluation of the Quantum of Closure Related Financial Provision Provided by a Mine", Revision 1.6, published in January 2005, (DMR, 2005).

(ii) Confirm that this amount can be provided for from operating expenditure

(Confirm that the amount, is anticipated to be an operating cost and is provided for as such in the Mining work programme, Financial and Technical Competence Report or Prospecting Work Programme as the case may be).

The calculated financial provisioning amount has been provided for as an operational cost in the Financial and Technical report submitted as part of the application process.

t) SPECIFIC INFORMATION REQUIRED BY THE COMPETENT AUTHORITY

(i) 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:-

(1) ***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 alluvial diamond 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 an Appendix A6: Socio-Economic Assessment.

No specialist socio-economic investigation was conducted for this application however socio-economic impacts are considered in the impact assessment register based on the information obtained from the approved Integrated Development Plan for the OR Tambo District Municipality (2020/2021). Should specific socio-economic impacts be raised by I&AP's during the consultation period these will be included in the updated assessment of impacts already identified when finalising the report.

(2) ***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 alluvial diamond 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 A7: Heritage Assessment and confirm that the applicable mitigation is reflected in ~~2.5.3; 2.11.6. and 2.12.~~ the EMP Report[2] herein).

There is no nationally owned infrastrucuture or land within the proposed site boundary. There are also no known cultural or heritage interests identified within the application area however management measures have been included to avoid or mitigate any cultural or heritage interests that may be discovered during the implementation of the proposed activities.

u) OTHER MATTERS REQUIRED IN TERMS OF SECTION 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 an Appendix A8: Motivation).

With reference to Section 24(4)(b)(i), the proposed mining operation would occur on land that is heavily impacted by historical workings. The proposed site is therefore transformed from its natural state, does not present any highly environmentally sensitive aspects and is unlikely to have much conservation value. The site has a known resource and is logically the next direction of mining given where mining has already occurred in the area. Therefore no alternative site location was considered.

Due to the simplistic nature of the proposed operation there are also no operational or technological alternatives identified that would be viable..

[2] The template provided on the DMR website has reference to numbered sections of this report that do not exist and hence have been crossed out and amended by underlined text.

PART B:
ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT

1. DRAFT ENVIRONMENTAL MANAGEMENT PROGRAMME

This environmental management programme report has been compiled in line with the template provided by the Department of Minerals, Resources and Energy.

a) DETAILS OF THE EAP

(Confirm that the requirement for the provision of the details and expertise of the EAP are already included in PART A, section ~~1(a)~~ 3(a)[3] herein as required).

The requirement for the provision of the details and expertise of the EAP are already included in PART A, Section 3(a).

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 (3)(h) herein as required d).

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 3(d).

c) COMPOSITE MAP

(Provide a map (attached in Appendix B1: composite maps showing Environmental Sensitivity) 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).

A composite map illustrating the environmental sensitivity of the site is given in Appendix B.1.

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 the baseline environment herein).

The current closure objective is to *rehabilitate the disturbed land back to a state that is safe for humans and animals and supports a predetermined landuse in agreement with the landowner.*

(ii) Volumes and rate of water use required for the operation

No washing of product will be required. If water is required for other uses it will be obtained from a pre-existing legal source.

(iii) Has a water use licence been applied for?

A water use license will not be required. If water is required for other uses it will be obtained from a pre-existing legal source.

[3] The template provided on the DMR website has an error in the reference to a former section of this report. This has been crossed out and amended by underlined text.

(iv) Impacts to be mitigated in their respective phases

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

And

e) IMPACT MANAGEMENT OUTCOMES

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

And

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)~~ (d) and (e)[4] will be achieved).

Activity		Aspect	Potential Source / Cause	Impact		Impact Management Actions	Impact Management Outcomes	Timeframe	Compliance
Phase	*Description of the physical activities that will cause the impacts*		*Description as to how the activity may cause the impact*	*A description of the impact that may result from the activity*		Appendix 4(1)(f)(i): Actions to be implemented in order to achieve Impact Management Objectives	*Appendix 4(1)(d): A description of the impact management outcomes.*	*Appendix 4(1)(j): Time period for Implementation of Impact Management Actions*	*Appendix 4(1)(f)(ii): Environmental Management Standards / Practices*
1. Application for Authorisations	Basic Assessment: - GNR 327 Activity 21, 22 and 27 - GNR633: Activity 15 (Category A)	Socio-economic	Application in terms of EIA regulations to NEMA	Legal and responsible mining	Pos	A Basic Assessment process must be undertaken by an independent and competent person, that adheres to the requirements of the EIA regulations. Once authorised, the conditions of the EA must be strictly adhered to.	The proposed activities are legally authorised and allow for optimal utilisation of the mineral resources that minimises impacts on the natural, social and economic environments..	Throughout planning phase	EIA Regulations
			Securing a mineral to become available to local markets through mining	Available building material that could be used in local development including nearby priority projects identified in the IDP.	Pos	Before mining commences the authorised area must be demarcated on the ground. Once the mineral has been mined, ensure that it is made available to the local market.	A building material product is available to the local market.	Throughout planning phase	MPRDA
2. Preparation, Operational and Supporting Activities	Site Preparation: • Clearing of vegetation and topsoil • Stockpiling of topsoil • Placement of mobile equipment • Establishment of stormwater and security controls Mining: • Drilling and blasting; • Crushing and screening using a mobile plant, • Loading and hauling, • Stockpiling of product and overburden Supporting Services: • Waste management • Sanitation; • Water supply and use; and • Diesel	Air quality	Dust entrainment and exhaust emmission from vehicles and machinery Windblown dust from exposed surfaces Dust emissions from drilling and blasting	Increased dust fallout that may cause a nuisance to nearby receptors.	Neg	Ensure that the equipment being used has appropriate dust suppresion systems where applicable. Do not undertake activities that generate dust if high winds are visibly taking dust offsite towards nearby receptors. Make use of a water cart to wet areas that are sources of dust. Set suitable speed limits for the haul roads and access roads. Implement traffic control measures such as speed bumps if necessary.	Off-site dust fallout rates are below the residential / non-residential standard (as applicable) On-site dust fallout rates are below the site specific target	Throughout operational phase	NEM:AQA, GN827
		Noise	Noise generated from vehicle / machinery operations and drilling and blasting	Increased ambiant noise levels that may cause a nuisance to nearby receptors	Neg	All equipment and/or vehicles will be maintained appropriately to minimise noise nuisance. Operational hours of the mine will be restricted to daylight hours. Blasting to be undertaken by a certified contractor.	Noise levels emanating from the operation are kept below the accetable standard	Throughout operational phase	ECA, NEM:AQA, SANS 10103
		Visual	The existng vegatation will be removed during clearing / preparation of the site for mining and the existing pit will be expanded. Mining equipment and supporting services will be visible against the landscape.	Landscape that differs in appearance to the surrounding area with regards to vegetation cover and topography.	Neg	Ensure good housekeeping and waste management in the mobile plant and supporting services areas. Once an area has been mined out and will not be disturbed through further mining actvities, implement rehabilitation ativities.	The visual appearance of the mining site is kept neat and tidy during the operational phase. Once the site is rehabilitated it will have a better aesthetic appeal.	Throughout operational and decommissioning phases	NA
		Flyrock	Explosives will be used to blast the rock material.	Rocks expelled from the blast area present a safety risk to humans and animals in close proximity as well as potentially causing damage to houses / dwellings / infrastructure.	Neg	Blasting to be undertaken by a certified contractor and all blasts should be designed to minimise the risk of lyrock. Notify all recpetors within 500m of the impending blast. If necessary, vacate inhabitants of any houses/dwellings in close proximity for the duration of the blast.	The risk of flyrock causing harm or damage to people, animals or possessions in the nearby community is minimised.	Throughout operational phase	NA
		Air blast and ground vibrations	Explosives will be used to blast the rock material.	The blast shockwave and ground vibrations experienced off-site may result in structural damage to houses / dwellings and infrastructure.	Neg	Blasting to be undertaken by a certified contractor and all blasts should be designed to minimise the risk of airblast or ground vibrations. Notify all recpetors within 500m of the impending blast. If necessary, vacate inhabitants of any houses / dwellings in close proximity for the duration of the blast.	The risk of airblast or ground vibrations causing harm or damage to people, animals or possessions in the nearby community is minimised.	Throughout operational phase	NA

[4] The template provided on the DMR website has an error in the reference to a former section of this report. This has been crossed out and amended by underlined text.

		Surface water flow	The mining area will be devoid of vegetation and the existing topography onsite will be altered.	Altered / impeded flow of water over the site during a rainfall event.	Neg	Develop a storm water management plan and implement it effectively.	The natural flow of water is facilitated away from the mining area. Erosion resulting in sediments entering any water source is limited or avoided alltogether	Throughout operational phase	NWA, GN 704
		Water quality	Hydrocarbons such as fuels and greases will be used to operate machinery during mining. Spills from operational / standing machinery or spillages during refuelling of machinery could occur. Spillage could also occur from the chemical toilets.	Hydrocarbon, chemical toilet spillages and sediment could mix with surface water runoff and flow into a water source resulting in pollution of the surface water quality. Spills could also infiltrate the soil and filter down to the groundwater level causing pollution of ground water quality.	Neg	Chemical toilets to be provided for sanitation requirements and must be serviced regularly. All vehicles / machinery to be used must be well maintained. All chemicals required will be stored in a sealed container and on an impermeable layer such as a plastic lining. Spillages of hydrocarbons will be cleaned up immediately and placed in a sealed container and disposed of appropriately. Diesel container / bowser brought to site must be positioned on a plastic lined area. Dispensing of fuel must be done by trained personnel.	Hydrocarbons entering any water source is limited or avoided alltogether	Throughout operational phase	NWA, GN 704
		Soil	Topsoil will be stripped and stockpiled for use during rehabilitation. The target material will be excavated and removed from the site.	Altered chemical state and physical structure of the topsoil which may reduce its effectiveness during rehabilitation.	Neg	Any topsoil and overburden must be used stored in a designated stockpile and in a manner that satisfies the conditions of the waste management license issued. The stockpiles must be stabilised to ensure that the topsoil / overburden is not eroded away by surface water flow. Any areas that are compacted by mining activities must be ripped as part of the rehabilitation process.	Degradation of material to be used in rehabilitation is limited. Compaction of surface areas associated with the mining activities is rehabilitated. Hydrocarbons enetering the soil is limited or avoided alltogether.	Throughout operational phase	CARA
		Fauna / flora (Ecology)	Flora and subsequently habitats for fauna will be removed when clearing the site in preparation for mining.	Existing flora will be lost and fauna will not be able to inhabit the site during mining.	Neg	Before mining commences, the authorised area must be demarcated on the ground to ensure that fauna and flora beyond the authorised area are not impacted. Rehabilitation activities must be undertaken to facilitate the restoration of fauna and flora after mining activities have ceased.	Removal of flora and fauna is restricted to the authorised area of the mining permit. Fauna and flora are restored to the site through rehabilitation activities after mining.	Throughout operational phase	NA
		Heritage	All objects on the surface of the mining site as well as within the ground to be mined will be removed.	Any heritage artefacts discovered onsite will either need to be disturbed (moved) or risk being destroyed.	Neg	Mine personnel / contractors should be made aware (during induction) that archaeological deposits usually occur below ground level. Should archaeological artefacts or skeletal material be revealed in the area during development activities, such activities should be halted, and a university or museum notified in order for an investigation and evaluation of the find(s) to take place	No cultural / heritage site is destroyed or damaged by mining activities.	Throughout operational phase	NHRA
		Social	Unauthorised access to land. Lack of consideration of landowners requests. Not rehabilitating land suffciently.	Unhappy landowners / land occupiers. Reduced land capability after mining.	Neg	Monthly inspection of the site by site manager to ensure that environmental management is being implemented as per the EMPr and that any landowners concerns/requests are being considered. Rehabilitation of the site must be undertaken as per the EMPr.	Mining activities are undertaken in agreement with the landowner so as not to jeopardise current or future landuses. Good relations maintained with landowners.	Throughout operational phase	NA
3. Decommissioning & Rehabilitation	• Removing all mobile equipment and inspecting for signs of pollution • Sloping high walls and backfilling overburden; • Establishment of indigenous vegetation;	All aspects identified above	Implementation of sucessful concurrent rehabiliation activities	Reverse the temporary negative impacts associated with the mining activities.	Pos	All mobile equipment / foreign matter will be removed from the site. The entire disturbed area will be inspected for any signs of pollution (as a result of mining activities) and if identified it will be removed and disposed of in a registered landfill site. Stockpiled overburden/topsoil will be backfilled into the excavations and the any steep walls will be sloped to a safe angle. The disturbed area will be reseeded and alien vegetation will be controlled until the site is successfully revegetated. Areas compacted as a result of mining activities undertaken will be loosened to promote self-vegetation, and any ruts created by accessing or leaving the site will be filled to ensure that no future erosion shall emanate from the site. The landowner will be requested to inspect the success of the rehabilitation.	The mining permit area is retored to a state that will support a predetermined future use.	Throughout decommissioning phase	NEM:BA, CARA

4. General Requirements	Administration	Documentation	Management of legally required documents	Legal compliance (in terms of record keeping)	Pos	Ensure valid copies of the following documents / authorisations are availableat all times (list provided below): • The registered mining permit and associated documents • A copy of the regulation 2(2) plan depicting the mining permit area. • A copy of the approved EMPR • Copy of the latest Environmental Performance Audit • Records of implementing concurrent rehabilitation • Records of all environmental awareness training • Complaint book • A copy of the monthly inspection reports • Records of consultation with interested and affected parties • Records of non-conformances • Vehicle inspection check sheets and vehicle maintenance records • Records of waste disposal and relevant registration certificates of any service providers (as per NEM:WA)	Valid documentation applicable to environmental management of the site.	While the mining permit is valid.	As per authorisation
		Handling complaints	Interested and affected parties	Poor relations between Transkei Quarries and interested and affected parties.	Neg	All complaints received by the mine must be recorded. The information recorded must include, but is not limited to: • Date of complaint. • Name and contact details of complainant. • Nature / Description of the complaint. • A description as to how the complaint will be addressed. • A proposed target date for rectifying the complaint. • Date when corrective action was implemented (if necessary). • Confirmation / Explanation of feedback provided to the complainant. • A list of any monitoring or follow-up work that is required, including target dates.	Active communication with I&AP's resulting in potential issues being solved timeously.	Throughout operational phase	NA
		Ongoing consultation with I&AP's	Interested and affected parties	Maintaining a relation between Transkei Quarries and interested and affected parties.	Pos	Maintain a proactive open door policy with all interested and affected parties. Provide the landowner and surrounding land occupiers and any other interested and affected party an opportunity to discuss the environmental performance of the mine (at least annually) and maintain a record of all communication.	Active communication with I&AP's resulting in potential issues being solved timeously.	Throughout operational phase	NA
		Training	Training undertaken as per the Environmental Awareness Plan	Improved environmental awareness resulting in reduced impacts due to the occurrence of fewer environmental incidents / correct response to incidents	Pos	Prior to the implementation of mining activities the contractors will undergo environmental awareness training to inform them of the sensitivity of; - The need to avoid pollution of the soil by ensuring hydrocarbon spills are minimized or if they do occur they are cleaned up - The need to implement effective waste management (separation of domestic & hazardous waste) - The extent of the mining area so as not to unnecessarily disturb any flora and fauna beyond the authorised area - Typical heritage adrtefacts to be aware of - Good behavior in terms of interaction with the land owner and local community when implementing mining.	Improved environmental awareness resulting in reduced impacts due to the occurrence of fewer environmental incidents / correct response to incidents	As per the EAP	NEMA
5. Emergency Incidents	General				Neg	All assembly points must be: - Clearly labelled, - Documented, and - Communicated to all employees. Emergency numbers to be displayed at all assembly points. Conduct emergency drills / mock exercises of environmental emergency incidents to practice and perfect response. This will minimise the safety and environment impacts of real emergencies. If this identified deficiencies in the management actions, the relevant procedures will be amended Relevant government / municipal departments will be contacted within 14 days of an emergency incident which has resulted in environmental impacts / pollution. Notifications will be as per the relevant legislation: i.e.: - As per Section 30 of NEMA, and - As per Section 20 of the NWA and Regulation 2(d) of GN704 for impacts on water quality.	Facilitate a fast response to an emergency incident	Immediately stop source Within 24 hours of incident Within 14 days of incident	NEMA, S30 NWA, S20

	Non conformances		Unplanned incidents	Varied depending on the incident.	Neg	Should an environmental impact occur which is outside the normal operating environmental conditions of the mine (and is not considered an environmental emergency), it can be raised as a non-conformance. Non-conformances can be raised by any employee, customer or interested and affected party. If a non-conformance is raised the mine will: • Record the non-conformance and undertake the following actions - Implement corrective action if required. - Identify the root cause of the non-conformance. - Identify and implement preventative actions to ensure that it does not re-occur. - Once all actions and investigations have been completed, it can be documented and signed off.	Effective management of any impacts that are not specifically managed by mitigation measures spcifified in the EMPr.	Throughout operational phase	NA
	Hydrocarbon spills	Pollution of soil, surface and ground water	Large scale spills of hydrocarbons resulting from a ruptured tank	Pollution of soils and potentially off-site water bodies (if storm water flows into water courses) / ground water if spills remain in the soils for extended periods	Neg	Stop the source of the spill 'Contain the spill (utilising fine material on-site or material from the spill kits), Lift all contaminated "soils", and Dispose (at a licenced hazardous disposal facility) or bioremediation (at a licenced facility) contaminated "soils" Report the incident to the authorities	Pollution is confined to the incident area	Immediately stop source Within 24 hours of incident Within 14 days of incident	NEMA, S30 NWA, S20
	Fire	Air quality	Smoke emissions from a fire	Air pollution as a result of smoke emissions	Neg	The potential for the spread of veld fires will be reduced by: - Cutting vegetation from around buildings, and - Removing vegetation from the explosive magazine area. Maintained fire extinguishers will be available within the plant area and in the admin offices. Awareness training will include procedure required to alert emergency services.	Fires that start in the plant area on-site will be contained	Daily during the Life of Mine	Veld fire act

i) FINANCIAL PROVISION[5]

(1) Determination of the amount of Financial Provision

(a) ***Describe the closure objectives and the extent to which they have been aligned to the baseline environment described under Regulation 22(2)(d) as described in ~~2.4~~ Part A, (3)(g)(iv)(1)[6] herein.***

The current closure objective is to *rehabilitate the disturbed land back to a state that is safe for humans and animals and supports a predetermined landuse in agreement with the landowner.*

(b) ***Confirm specifically that the environmental objectives in relation to closure have been consulted with landowner and interested and affected parties***

Landowners and I&AP's have the opportunity to review the sections of this report pertaining to closure and rehabilitation and to provide their comments thereon. Any comments received specifically relating to closure and rehabilitation will be addressed in these sections when finalising the report after the consultation period has concluded.

(c) ***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***

After mining has been completed, the below rehabilitation activities will be undertaken. As the whole application area is to be mined, the scale and extent of rehabilitation is relevant to the whole 5 ha illustrated in the layout plan in Appendix A2.

- All mobile equipment / foreign matter will be removed from the site.
- The entire disturbed area will be inspected for any signs of pollution (as a result of mining activities) and if identified it will be removed and disposed of in a registered landfill site.
- Stockpiled overburden/topsoil will be backfilled into the excavations and the any steep walls will be sloped to a safe angle.
- The disturbed area will be reseeded and alien vegetation will be controlled until the site is successfully revegetated.
- Areas compacted as a result of mining activities undertaken will be loosened to promote self-vegetation, and any ruts created by accessing or leaving the site will be filled to ensure that no future erosion shall emanate from the site.
- The landowner will be requested to inspect the success of the rehabilitation.

(d) ***Explain why it can be confirmed that the rehabilitation plan is compatible with the closure objectives***

The rehabilitated land will support a predetermined land use agreed with the landowner.

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[5] The template provided on the DMR website does not have headings for numbers "g" and "h". Numbering has been maintained as per the template.

[6] The template provided on the DMR website has an error in the reference to a former section of this report. This has been crossed out and amended by underlined text.

(e) ***Calculate and state the quantum of the financial provision required to manage and rehabilitate the environment in accordance with the applicable guideline***

R 1 700 000 has been proposed for financial provision purposes. Please refer to Section 3(s).

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

The amount calculated above will be provided for in the form of Insurance financial guarantee.

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

Based on the Environmental Impact Assessment (see Appendix A.4), the following monitoring network may be required and must be considered should any complaints be received from surrounding receptors.

IMPACTS	SOURCE ACTIVITY	FUNCTIONAL REQUIREMENTS	ROLES AND RESPONSIBILITIES	MONITORING AND REPORTING FREQUENCY
Dust Fallout	• Stripping of topsoil and overburden • Drilling and blasting • Loading blasted material • Vehicle entrainment • Processing at mobile crusher • Exposed surfaces (access roads, stockpiles etc)	See minimum requirements below	Monitoring by an independent service provider and results scrutinised by the mine manager.	Monthly

Should the above monitoring networks be required, a guideline of minimum requirements has been provided hereafter, with site specific information provided where necessary. It must be stressed that these requirements are only a guide and that they are likely to change during the life of a mine depending on a number of factors, such as; advice for service providers, input from specialists, input from the authorities, analysis of monitoring results, changes in neighbouring land use, change in on-site activities and/ or changes in monitoring requirements (i.e. SANS).

Minimum requirements for air quality (dust fallout) monitoring.

DUST FALLOUT MONITORING	
Applicable Legislation:	• National Environmental Management Act, Act No 107 of 1998 (NEMA), particularly Section 28. • National Environmental Management: Air Quality Act, Act No. 39 of 2004 (NEM:AQA), particularly Section 12. • South African National Standard - SANS 1929.
Parameters:	• Dust Fallout / Deposition.
Monitoring Method:	Single or directional fallout monitors, following the American Society for Testing and Materials standard method for collection and analysis of dustfall (ASTM

DUST FALLOUT MONITORING		
		D1739). An open topped cylinder (bucket) not less than 150mm in diameter with a height not less than twice the diameter and suspended 2m above the ground (*fixed point monitoring*). The bucket must be exposed for a *continuous* period of 30 days (±2 days). The dust is dissolved in water which is returned to the laboratory, filtered and the residue dried before the insoluble dust is weighed. Results are expressed as mg/m^2/day.
Site Selection Parameters:		Monitoring sites should be located within 2km of the mining area (background sites can be further away) and must consider: • *Wind direction*: Monitoring stations should be located downwind of the mining site. (Ensure monitoring point recording dust fallout downwind of all prominent wind directions.) • *Receptors*: Monitoring points must be located at all sensitive receptors (residential area, schools, ecologically sensitive habitats, etc.) within 2km of the mine. • *Other sources of pollution in the vicinity*: If the mining site is located downwind of another dust source, locate a directional unit between the mining site and the off-site source.
Recommended Sites:		The fallout buckets need to be placed along the boundary of the quarry in at least the four main wind directions.
Monitoring Interval:		• *Monthly (on-going)*: Sampler should be exposed for a continuous period of **30 days** (±2 days), results expressed as mg/m^2/day.
Evaluation of Results:	**Performance Indicators**:	• SANS 1929. • On-site – target of below Industrial limit. • Site boundary – Industrial limit. • Previous monitoring results.
	Reporting:	It is advisable to store all results in a spread sheet and project the results graphically in order to determine: • Exceedances of the SANS, which should be presented on the graphs. • Trends with previously monitored results.
	Environmental Management:	When exceedances of performance indicators are recorded, the following steps must be taken and documented: • Determine the source of the pollution and prevailing winds. • If pollution is from the mine, determine if it is as a result of a once off incident or a routine event. • Determine how the incident / event can be prevented, or how it can be managed in future. Implement appropriate mitigation measures. • The success of mitigation must be confirmed through continued routine monthly sampling. • If pollution continues after two months of monitoring, alternative preventative / mitigation measures must be implemented. The success must once again be confirmed through the routine monthly monitoring.

l) INDICATE THE FREQUENCY OF THE SUBMISSION OF THE PERFORMANCE ASSESSMENT REPORT[7]

As the proposed duration of the permit is two years, it is proposed that the environmental audit be undertaken biennially and submitted to the DMRE in accordance with Regulation 34 of GNR 326 of the National Environmental Management Act, Act No. 107 of 1998, as amended.

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

Transkei Quarries recognises the importance of environmental training and is committed to implementing training to its employees. As part of this commitment, Transkei Quarries recognises the importance of making all employees and subcontractors aware of the potential environmental impact that could result from conducting their jobs and how this potential can be minimised through effective training.

Based on the impact assessment the most important environmental management issues relating to Transkei Quarries are recognising the importance of:

- demarcating the authorised area and restricting disturbance
- managing stormwater flow
- managing dust emissions
- managing topsoil for rehabilitation
- maintaining good landowner relationships

Other environmental issues that should also be included are:

- managing nuisance noise
- avoiding / managing hydrocarbon spills
- being aware of possible cultural / heritage artefacts
- managing waste

It is important to note that the environmental awareness programme is a living document and should be reviewed regularly to ensure that relevant environmental concerns are discussed and the potential impacts of such concerns are minimised. The syllabus to be taught to employees has been determined through identification of the major environmental concerns raised in the impact assessment of this report.

Employees will be informally trained prior to the start of undertaking mining activities where various environmental topics will be addressed. Training will be implemented in the following forums:

- Induction training / Environmental talks
- Training on an incident.

Induction training / Environmental talks:
Prior to the implementation of mining activities, environmental awareness training will be provided to inform employees / contractors of the measures for managing the environmental issues listed above.

Training on incidents:

[7] The template provided on the DMR website does not have headings for numbers "j" and "k". Numbering has been maintained as per the template.

If an environmental incident occurs, the following topics will be discussed with all employees / contractors (this is not an exhaustive list):

- How and why the incident occurred.
- How the incidents was cleaned up (if applicable).
- Evaluation of the clean-up or response by staff.
- Can the clean-up or response be improved.
- What preventative measures should be implemented / what can be done to reduce the likelihood of the incident recurring.

A record of all training implemented will be maintained at the registered office.

(2) Manner in which risks will be dealt with in order to avoid pollution or the degradation of the environment

Managing Non-Conformances:

Management & Mitigation	Timeframes
1. Non-Conformances: • Should an environmental impact occur which is outside the normal operating environmental conditions of the mine (and is not considered an environmental emergency), it must be raised as a non-conformance. • Non-conformances may be raised by any employee, customer or interested and affected party. If a non-conformance is raised the mine: – Record the non-conformance and undertake the actions described below. • For reported non-conformances, the applicable responsible person must: - Implement corrective action if required. - Identify the source of the non-conformance. - Identify and implement preventative actions to ensure that it does not re-occur. - Once all actions and investigations have been completed, it be documented and signed off. - Retain all documents pertaining to the non-conformance to be made available for inspection.	LoM

Managing Emergency Incidents:

Emergency incidents / accidents can be defined as incidents / accidents having the following criteria:

- The likelihood of these incidents / accidents occurring is considered to be very low or may never take place during the life of the mine.
- The environmental impacts associated with these incidents / accidents may be significant.
- It is essential that the mine personnel know how to respond in the event of an environmental emergency situation in order to avoid significant environmental degradation / impacts or injury to human health.

Ideally such incidents should not occur if all necessary management measures are implemented. However, despite the best intentions and the best environmental management practices, it is impossible to ensure that no incidents / accidents ever occur on a mining site. Therefore, it is vital to ensure that all personnel are aware of the management measures to be undertaken in the event of an accident.

Overall Management

Although there are emergency specific management measures to be implemented (discussed separately for each identified emergency incident), there are also common management measures that must be applied throughout.

Management & Mitigation	Timeframes
• Assembly points must be: - Clearly labelled. - Documented. - Communicated to all employees.	LoM.
• Emergency numbers are to be prominently displayed.	LoM.
• Conduct emergency mock exercises of emergency incidents to practice and perfect response. This will minimise the safety and environment impacts of real emergency.	Annually.
• If this identifies deficiencies in the management actions, amend relevant procedures	Within a week.
• Report any emergency incidents to the relevant government / municipal departments within 14 days of the incident.	When an incident occurs
• General environmental incidents must be reported to environmental authorities, as required in Section 30 of the NEMA.	When an incident occurs

Large Hydrocarbon Spills (spills resulting in a surface pollution spread of greater than 2m^2).

Goals and Objectives: Prevent extensive pollution as a result of a hydrocarbon spill. In the event that a spill occurs (despite management measures), immediate ***clean up*** steps should be taken as described below, followed by the ***reporting*** of the incident.

Clean up Procedures	Timeframes
Prevention Steps: • Prevent vehicles that are in a state of disrepair (leaking diesel or oil) from operating. • Ensure that the diesel bowser is maintained in a good condition and does not leak. • Train employees on fuel dispensing techniques to minimise the potential of a spills. • Implement daily vehicle checks for oil leaks.	LoM
Clean-up Steps: • The source of the spill must be stopped and the spill must be contained.	In the event of a spill.
• All contaminated material must be lifted and stored in containers that do not leak (the type of container will be determined by the volume of contaminated material to be stored).	
• Dispose of contaminated material as hazardous waste.	LoM
• Keep a record of the collection. • Retain proof of disposal (waste manifest documents) from the hazardous waste disposal company that this waste was disposed of at a suitably licensed facility.	LoM
Reporting: • Report the incident as per the requirements in Section 30 of the NEMA.	Within 14 days.

Fire

Goals and Objectives: Prevent the spread of fires.

Management & Mitigation	Timeframes
Vehicle/equipment Fires: • Fire extinguishers to be available in all vehicles and must be checked on a monthly basis.	LoM.
• Fire extinguishers to be checked by a qualified person.	Annually.
• If the fire cannot be controlled by the person who discovers the fire, it will be reported to the emergency services.	Immediately.
Training:	

Management & Mitigation	Timeframes
• Selected employees who form the fire fighting team will undergo fire drill training. • Records of training must be retained.	Annually.

n) SPECIFIC INFORMATION REQUIRED BY THE COMPETENT AUTHORITY

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

- It is proposed that as this authorisation is only for two years, that an en environmental audit of the implementation of the EMPr should be undertaken biennially.
- The financial provision calculation must be updated annually in line with prevailing legislation and any shortfall provided to the authority.
- The relevant land owners must agree on the success of rehabilitation and achievement of the closure objectives when the operation is decommissioned.

2. UNDERTAKINGS

THE EAP HEREWITH CONFIRMS

a) The Correctness of the Information Provided in the Reports ☒
b) The Inclusion of Comments and Inputs from Stakeholders and I&Ap's, where relevant ☒
c) The Inclusion of Inputs and Recommendations from the Specialist Reports, where Relevant ☒
d) That the Information Provided by the EAP to Interested and Affected Parties and any Responses by the EAP to Comments or Inputs made by Interested and Affected Parties are Correctly Reflected herein, where relevant ☒

Signature of the EAP: _____

Name of company: _____

Date: _____

UNDERTAKING BY APPLICANT

(To be signed on approval by the DMR)

I, _____, representative for Transkei Quarries Sand (Pty) Ltd, hereby declare that the information regarding the mining process in this document is true, complete and correct and that I undertake to implement the measures as described in this Environmental Management Programme report. In addition to the implementation of the Environmental Management Programme report, I understand that this undertaking is legally binding and that failure to give effect hereto will render me liable for prosecution. I am also aware that the Regional Manager may, at any time but after consultation with me, make such changes to this programme as he/she may deem necessary.

Signed on this _____ day of_____, 20_____ at _____

Signature: _____

DMR APPROVAL

I, _____[on behalf of the Department of Mineral Resources] hereby approve the Environmental Management Programme for Transkei Quarries Sand (Pty) Ltd – Mining Permit, compiled in accordance with the requirements of *Appendix 4 of GNR 326 – The Environmental Impact Assessment Regulations, 2017 – to the National Environmental Management Act, Act No. 107 of 1998 as amended*.

Signed on this _____ day of_____, 20_____ at _____

Signature: _____

REFERENCES

Department of Environment, 2017. The National Environmental Screening Tool. Available at: https://screening.environment.gov.za/screeningtool/index.html#/pages/welcome

Department of Environmental Affairs, 2019. OR Tambo District Municipality Environmental Profile. Available at: www.ortambodm.gov.za

ECSECC, 2017. OR Tambo District Municipality Socio Economic Review and Outlook. Eastern Cape Socio Economic Consultative Council. Postnet Vincent, P/Bag X9063, Suite No 302, Vincent. Available at: www.ecsecc.org

Mhlontlo Local Municipality, 2017. Integrated Development Plan 2017-2022. Available at: https://www.mhlontlolm.gov.za/idpdocs

Mhlontlo Local Municipality, 2018. Service Delivery and Budget Implementation Plan (SDBIP) 2018 / 2019. Available at: https://www.mhlontlolm.gov.za/sdbipdocs

OR Tambo District Municipality, 2020/2021. Revision of the Integrated Development Plan. Available at: www.ortambodm.gov.za

South African National Biodiversity Institute, 2018. BGIS Land Use Decision Support Tools. Available at: https://bgis.sanbi.org/MapViewer

Statistics SA, 2011. Census 2011. Available at: http://www.statssa.gov.za

APPENDICES FOR PART A

APPENDIX A1: CV OF EAP

PERSONAL DETAILS:

First names		Andrew Charles
Surname		Nicholson
ID number		740103 5108 086
Contact details:	Business telephone	(011) 791 3389
	Business cell	084 840 6316
	E-mail	andrew@umhlaba.co.za
Home language		English

EDUCATION:

Degrees:

BSc Honours Biological Sciences (1992-1995).

Leicester University, Leicester, England. Grade: Upper Second

Post Graduate Diploma Natural Resources Management (1996-1997)

Leicester University, Leicester, England. *Research post / Environmental consulting:* Scandioconsult, Box 5343, Gotenburg 40227, *Sweden*.

Registration:

Registered Environmental Assessment Practitioner Reg No: 2019 -716

Recent Courses and Workshops Attended:

Carbon tax workshop

June 2019 – Presented by Imbewu Sustainability Legal Specialists (Pty) Ltd, Johannesburg

Mine closure and recent case law workshop

June 2019 – Presented by Imbewu Sustainability Legal Specialists (Pty) Ltd, Johannesburg

Compliance with and enforcement of the Waste Act workshop

April 2018 – Presented by Imbewu Sustainability Legal Specialists (Pty) Ltd, Johannesburg

Environmental law update workshop

August 2017 – Presented by Imbewu Sustainability Legal Specialists (Pty) Ltd, Johannesburg

Technical orientation on IFC's Performance

October 2014 – Johannesburg

GRI Course and workshop on sustainability reporting

September 2013 – Presented by Environmental & Sustainability Solutions, Johannesburg

Mining law workshop

May 2013 – Presented by Imbewu Sustainability Legal Specialists (Pty) Ltd, Johannesburg

Contaminated land workshop

October 2012 – Presented by Imbewu Sustainability Legal Specialists (Pty) Ltd, Johannesburg

Air Quality Training

July 2010 – Presented by Imbewu Sustainability Legal Specialists (Pty) Ltd, Johannesburg

Mine project planning and control

September 2009 – University of Witwatersrand, Johannesburg

Waste Laws workshop

August 2009 – C.S Environmental Services

Third International Seminar on Mine Closure

October 2008 - Johannesburg

Writing and Reviewing Environmental Impact Assessments and Environmental Management Programmes

August 2006 – IAIAsa Conference, Pilanesberg, North West Province

ISO 14001 Bridging Course from 1996 to 2004 version. SABS Training

June 2006.

Environmental Law for Environmental Managers. Overall score: **86%**

August 2005 - North West University

Five-day Institute of Environmental Management and Assessment (IEMA) Approved Environmental Management System (ISO14001) Implementation & Internal Auditor course.

May 2002 - Walmsley, Johannesburg.

Example of recent Environmental Impact Assessments I have worked on:

Bundu Mining (Pty) Ltd – Expansion of mining right footprint

Brief project description: Undertaking a full scoping and environmental impact assessment process in order to expand an existing mine into an area which was not part of the original mining right or covered in the approved environmental authorisation. The project included commissioning a number of specialist studies, implementing a public participation process and compiling a Scoping report followed by an Environmental Impact Assessment report (EIAr).

Status of project: Final Environmental Impact Assessment Report submitted to the DMR for a decision in November 2018. Still awaiting the decision on the submitted application.

Role: Leading environmental assessment practitioner.

Prime Spot Trading – Mining Right Application

Brief project description: Undertaking a full scoping and environmental impact assessment process in order to apply for a new mining right for a small open cast quarrying operation. The project included commissioning a number of specialist studies, implementing a public participation process and compiling a Scoping report followed by an EIAr.

Status of project: Final environmental impact assessment report submitted to the DMR for a decision in July 2017. Positive decision received in July 2019 and notification process of the decision to the registered I&AP's has occurred.

Role: Leading environmental assessment practitioner.

Far East Gold (SPV) – Expansion of mining right footprint

Brief project description: Undertaking a full scoping and environmental impact assessment process in order to expand an existing mine to incorporate 4 adjacent prospecting rights. The project included commissioning a number of specialist studies, implementing a public participation process and compiling a Scoping report followed by an EIAr.

Status of project: Final environmental impact assessment report submitted to the DMR for a decision in October 2016. Positive decision received in May 2019 and notification process of the decision to the registered I&AP's has occurred.

Role: Leading environmental assessment practitioner.

AfriSam Properties (Pty) Ltd – Jukskei Quarry EMPr amendment

Brief project description: Amending the mining right area through a combination of a S102 application through the Mineral Petroleum Resources Development Act, Act 28 of 2002 as amended (MPRDA), an EMPr amendment in accordance with part 2 amendments of Section 32 of the 2014 EIA regulations and a closure application in line with Regulation 43 of the MPRDA.

Status of project: All final submissions for the various application lodged with the DMR by May 2017. Awaiting the decision on the applications.

Role: Leading environmental assessment practitioner.

West Wits mining right application

Brief project description: Assisting a land owner on ensuring their concerns are raised with regards to the West Wits mining right application. This involved understanding the landowners concerns followed by evaluating then commenting on the draft Scoping report, a number of specialist studies and the draft EIAr.

Status of project: Final comments on the draft EIAr submitted in July 2019. Notification of the decision yet to be received.

Role: Environmental consultant advising a landowner.

Aquila Thabazimbi Mining Right application

Brief project description: Assisting a community (Rooiberg Bewaria) on ensuring their concerns and comments are raised with regards to the Aquila mining right application to mine iron ore from the Meletse Mountain. This involved understanding the communities concerns followed by evaluating then commenting on the draft Scoping report, a number of specialist studies and the draft EIAr.

Status of project: No longer involved in the project, but believe the application was refused.

Role: Environmental consultant advising a community.

Raumix Aggregates (Pty) Ltd

Various: Assisting six quarries with completing environmental audits, compiling financial provision calculations and implementing environmental monitoring (dust, noise and water). Providing general environmental advise to their operations.

Status of project: Most recent environmental audits were completed in June 2019

Role: Consultant advising Raumix Aggregates.

EMPLOYMENT HISTORY:

Environmental Consultant **Umhlaba Environmental Consulting CC**

January 2004 to present (15+ years)

I am one of the Founding Members of Umhlaba and my responsibilities include work such as:

- Managing the company and ensuring its continued success.
- Environmental authorisation applications (both Basic Assessments and Full EIA's) for mines.
- Amending existing Environmental Management Programme Reports to compile with the 2014 EIA Regulations.
- Environmental auditing of Environmental Management Programme Reports and water use licenses.
- Environmental compliance audits
- Closure applications
- Liaison with various Government Departments, on behalf of the clients.
- Liaising with and facilitating various specialist studies on behalf of our clients
- Compiling mining permit, mining rights and prospecting right applications and renewals thereof
- Section 102 applications
- Advising on all aspects of the environmental law applicable to mining houses
- Closure Plan, Environmental Risk Report and Final Risk Assessment.
- Calculating Financial Provision for Environmental Rehabilitation.
- Implementing and compiling monthly environmental monitoring reports
- Due diligences
- Feasibility reports

Environmental Consultant **Blue Swallow Environmental Services (Pty) Ltd.**

July 2002 to December 2003

Initially I was appointed as a Projects Manager to run various projects undertaken by the company. From June 2003 to December 2003, I was appointed the General Manager of the company which in addition to my allocation of various projects, I was responsible for the day to day running of the company. The majority of my work focussed around mining activities, including:

- Environmental Management Programme Reports (in terms of the Minerals Act, 1991).
- Pre-ISO Auditing.
- Environmental Impact Assessment Checklists.
- Liaison with Government departments, on behalf of the clients.
- Financial Provision documents.
- Rehabilitation plans and projects.
- Closure Reports.
- Tourism Marketing.

Camp Manager / Senior Game Ranger / Game Ranger **Londolozi Safari Lodge, CCAfrica**

January 2001 to May 2002

My responsibilities outside of being senior game ranger include helping with the day to day running of the lodge.

Ngala Game Reserve, CCAfrica

January 1999 to January 2001

As well as being a game ranger, I was also involved in the community development aspects of the lodge, organizing conservation lessons and taking an interest in the African Foundation Rural Investment funds work in the Welverdiend community adjacent to Ngala. For the month October 2000, I worked as a game ranger / assistant camp manager at Sandibe lodge, Okavango Delta, Botswana.

PERSONAL DETAILS:

Full names:	Gregory David Coates
Telephone:	011 791 3389
Fax:	011 791 3384
E-mail:	greg@umhlaba.co.za

EDUCATION:

Formal:

- **Senior Certificate with exemption (1997)** – Durban High School, RSA.
- **BSc: Wildlife Science (graduated 2001)** – University of Natal, Pietermaritzburg, RSA.
- **MSc: Zoology (graduated 2003)** - University of KZN, Pietermaritzburg, RSA.

Training: Courses, Workshops and Seminars Attended:

- **IAIAsa ECO Workshop**

2019 (September) – Panel discussion on ECO vs EAP registrations

- **Environmental Law Update Workshop**

2018 (October) – Legal Training Workshop by Imbewu Sustainability Legal Specialist

- **Carbon Footprint Analyst**

2018 (July) – IEMA and SETA accredited course by Terra Firma Academy

- **Air Quality: Dustfall Monitoring and Reporting**

2017 (October) – Short Course by Gondwana Environmental Solutions

- **Conducting and Reporting an Independent EIA Process**

2017 (February) - Short Course by Gondwana Environmental Solutions

- **Financial Provision Regulations and Mine Closure Requirements**

2016 (July) – Legal Training Workshop by Imbewu Sustainability Legal Specialist

- **Invasive Species Consultant Training**

2015 (April) – Workshop by South African Green Industries Council

- **ArcGIS1: Introduction to GIS**

2014 (September) – Short Course by ESRI

- **Environmental Law for Environmental Managers**

2014 (August) – Short Course by Centre for Environmental Management, Potchefstroom

- **Intro to the Practical Implementation of Environmental Law and the Legislation Updates**

2013 (October) – Workshop by Imbewu Sustainability Legal Specialists

- **Introductory Workshop in Project Management and Project Management Thinking**

2013 (July) – Online Course by ProjectManagement.co.za

EMPLOYMENT HISTORY:

Environmental Consultant **Umhlaba Environmental Consulting CC**

August 2013 – Present

My role at the company is as a generalist consultant either managing or collaborating on projects involving new applications for, or the amendment / renewal of, environmental authorisations (EA) in terms of NEMA EIA Regulations. I have experience in compiling applications for mining and prospecting rights, water use licenses and waste licenses in conjunction with EA processes (SEIA and BA) as part of the country's one environmental system. I also undertake projects assessing environmental compliance (audits of EA's), environmental risk (due diligence), environmental liability (financial provisioning), environmental monitoring networks (dust fallout and water quality) and environmental rehabilitation.

Nature Guide **Savanna Private Game Reserve**

August 2010 – May 2013

I was a FGASA and DEAT registered nature guide for this exclusive safari lodge.

Nature Guide **Mala Mala Private Game Reserve**
March 2010 – August 2010
I was a FGASA and DEAT registered nature guide for this exclusive safari lodge.

Policy Advisor **UK Department of Energy and Climate Change**
December 2008 – September 2009
I was part of a team developing policy and regulations for the Carbon Reduction Commitment scheme which was a mandatory emissions trading scheme to reduce carbon emissions from the small business sector in the UK.

Consultant **1st Contact Ltd**
December 2006 – September 2008
I was a consultant for the tax refunds and immigration services offered by this London based company.

Nature Guide **Mala Mala Private Game Reserve**
December 2003 – September 2006
I was a nature guide for this exclusive safari lodge.

LIST OF EIA's IN LAST FIVE YEARS:

AfriSam South Africa (Pty) Ltd:
- Lead EAP for an EMP amendment process for Verulam Quarry.

Anganna Investments 143 (Pty) Ltd:
- Lead EAP for a Basic Assessment process for a prospecting right application for gold.

***Atoll Metal Recovery (Pty) Ltd*:**
- Lead EAP for an EMP amendment process for Zimbiwa Quarry.

Drift Supersand (Pty) Ltd:
- Lead EAP for an EMP amendment process for Laezonia Quarry.

FIL Stone Projects CC:
- Lead EAP for a Basic Assessment process for a prospecting right application for aggregate.

Khuma Mining and Exploration (Pty) Ltd:
- Assistant EAP for a Basic Assessment process for a prospecting right application for gold.

Rand Leases Properties (Pty) Ltd:
- I&AP review of the draft Basic Assessment reports for the West Wits Kimberley West and Creswell Park mining permit applications.

Roelan Trading 173 (Pty) Ltd:
- Lead EAP for Scoping and EIA process for a prospecting right application for platinum.

West End Claybricks (Pty) Ltd:
- Lead EAP for an EMP amendment process.

LIST OF OTHER PROJECTS IN LAST THREE YEARS:

AfriSam South Africa (Pty) Ltd:
- Environmental Audits of the EMP for Coedmore Quarry, PMB Quarry, Umlaas Rd Quarry, Newcastle Quarry, Ladysmith Quarry, Macassar Sand Mine, Jukskei Quarry and Ferro Quarry.
- Monthly collection of dust fallout / water samples for four quarry operations and reporting on results.

***Atoll Metal Recovery (Pty) Ltd*:**
- Environmental Audit of the EMP and Financial Provision Calculation using the Quantum method for the Zimbiwa Quarry.

Begane Quarry (Pty) Ltd
- Independent review of the environmental monitoring network including dust fallout and water quality.

Bundu Mining (Pty) Ltd:
- Environmental Audit of the EMP and Financial Provision Calculation using the Quantum method for the Doornrandje Quarry.

Drift Supersand (Pty) Ltd:
- Environmental Audit of the EMP for Laezonia Quarry.
- Closure application in terms of MPRDA for the Roodekrans Prospecting Right.

Goldfields (Pty) Ltd:
- Infrastructure inventory for the purposes of calculating financial provision for the South Deep operation.

Gold One (Pty) Ltd:
- Renewal applications for the Newshelf Nigel, Grootvlei and Cons Modder prospecting rights.
- Closure applications for the Newshelf New State Areas and West Pit 1 prospecting rights.
- Environmental Audit of the EMP for the Sub Nigel operation.

Group Five Construction (Pty) Ltd:
- Environmental Audit of the EMP and Financial Provision Calculation using the Quantum method for the Zimbiwa Quarry.
- Environmental Audit of the EMP and Financial Provision Calculation using the Quantum method for the Sky Sands operation.
- Development of environmental monitoring protocols (dust and water) and independent monthly review of dust fallout and water quality monitoring results.

Raumix Aggregates (Pty) Ltd:
- Environmental Audit of the EMP and Financial Provision Calculation using the Quantum method for the Donkerhoek, Rosslyn, Willows and Crushco Quarries.
- Updating of the mine work programmes for the Willows, Rosslyn, Rossway and Crushco quarries.

Regal Bricks (Pty) Ltd:
- Environmental Audit of the EMP and Financial Provision Calculation using the Quantum method for the Chamdor operation.
- Renewal application for a mining right.

Sibanye Stillwater (Pty) Ltd:
- Properties Assessment and Infrastructure Inventory for Beatrix, Driefontein, Kloof, Cooke, Rustenberg, Kroondal and Marikana operations.

West End Claybricks (Pty) Ltd:
- Environmental Audit of the EMP and Financial Provision Calculation using the Quantum method.

PUBLICATIONS / PRESENTATIONS:

Coates G.D. & Downs C.T. (2005) Survey of the status and management of sympatric bushbuck and nyala in KwaZulu-Natal, South Africa. South African Journal of Wildlife Research. 35(2): 179-190.

Coates G.D. & Downs C.T. (2005) A telemetry-based study of bushbuck (*Tragelaphus scriptus*) home range in Valley Bushveld. African Journal of Ecology. 43: 376 – 384.

Coates G.D. & Downs C.T. (2006) A preliminary study of valley thicket and coastal bushveld-grassland habitat use during summer by bushbuck (*Tragelaphus scriptus*): a telemetry based study. South African Journal of Wildlife Research. 36(2): 167-172.

Coates G.D. & Downs C.T. (2007) Population estimates of bushbuck *Tragelaphus scriptus* in valley thicket and coastal bushveld-grassland habitat. South African Journal of Wildlife Research. 37(1): 91-95.

Downs, C., Coates, G. and Child, M. (2016) A Conservation Assessment of *Tragelaphus sylvaticus*. In: M.F. Child, L. Roxburgh, D. Raimondo, E. Do Linh San, J. Selier and H. Davies-Mostert (eds), *The Red List of Mammals of South Africa, Swaziland and Lesotho*. South African National Biodiversity Institute and Endangered Wildlife Trust, South Africa.

APPENDIX A2: SITE LAYOUT PLAN

APPENDIX A.3: RECORD OF PUBLIC PARTICIPATION DURING THIS BASIC ASSESSMENT PROCESS.

This section will be updated after the consultation period has been completed.

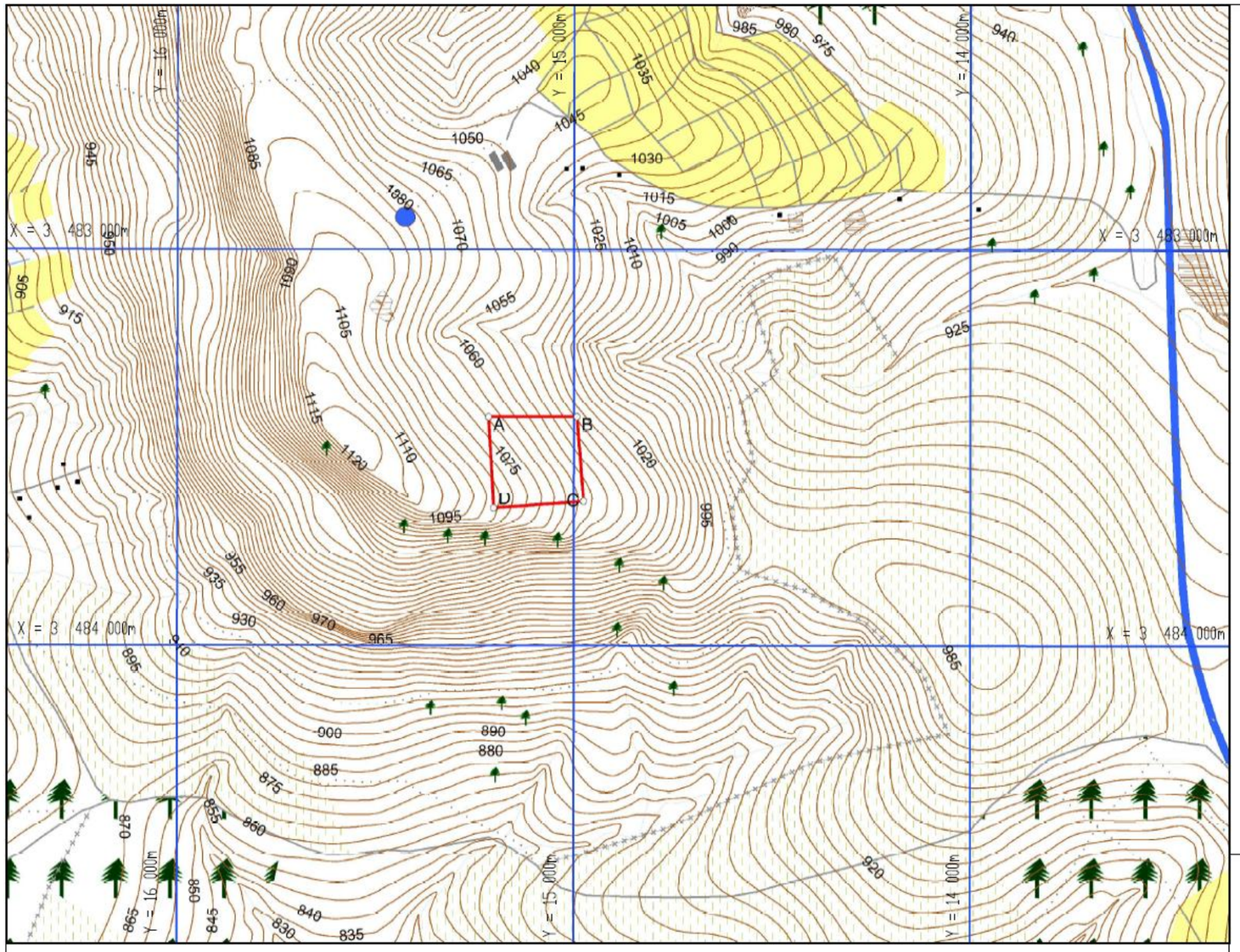
Appendix A.3.1. Documents used in Notification and Consultation Process and Public meeting

Appendix A.3.2. Feedback as received by I&AP's.

APPENDIX A.4: IMPACT ASSESSMENT REGISTER

Activity		Aspect	Potential Source / Cause	Impact		Consequence					External Factors			Ranking	Controls / Management Measures Implemented				Significance (WITH controls)
Phase	*Description of the physical activities that will cause the impacts*		*Description as to how the activity may cause the impact*	*A description of the impact that may result from the activity*		Nature	Extent	Duration	Frequency	Probability	Legal	I&AP	Cumulative	**Significance** (WITHOUT controls)	Effective Engineering	Effective Procedural	Effective Training	Effective Monitoring / Maintenance	
1. Application for Authorisations	Basic Assessment: - GNR 327 Activity 21, 22 and 27 - GNR633: Activity 15 (Category A)	Socio-economic	Application in terms of EIA regulations to NEMA	Legal and responsible mining	Pos	Medium	Neighbouring	Medium	Weekly	High	No	No	No	Medium	No	No	No	No	Medium
			Securing a mineral to become available to local markets through mining	Available building material that could be used in local development including nearby priority projects identified in the IDP.	Pos	Medium	Neighbouring	Medium	Weekly	High	No	No	No	Medium	No	No	No	No	Medium
2. Preparation, Operational and Supporting Activities	Site Preparation: • Clearing of vegetation and topsoil • Stockpiling of topsoil • Placement of mobile equipment • Establishment of stormwater and security controls Mining: • Drilling and blasting; • Crushing and screening using a mobile plant, • Loading and hauling, • Stockpiling of product and overburden Supporting Services: • Waste management • Sanitation; • Water supply and use; and • Diesel	Air quality	Dust entrainment and exhaust emmission from vehicles and machinery Windblown dust from exposed surfaces Dust emissions from drilling and blasting	Increased dust fallout that may cause a nuisance to nearby receptors.	Neg	Low-Med	Neighbouring	Medium	Weekly	Medium	No	No	No	Medium	No	Yes	Yes	No	Low-Medium
		Noise	Noise generated from vehicle / machinery operations and drilling and blasting	Increased ambiant noise levels that may cause a nuisance to nearby receptors	Neg	Low-Med	Neighbouring	Medium	Weekly	Medium	No	No	No	Medium	No	Yes	Yes	No	Low-Medium
		Visual	The existng vegatation will be removed during clearing / preparation of the site for mining and the existing pit will be expanded. Mining equipment and supporting services will be visible against the landscape.	Landscape that differs in appearance to the surrounding area with regards to vegetation cover and topography.	Neg	Medium	Neighbouring	Medium	Daily	Low	No	No	Yes	Low-Medium	No	Yes	Yes	No	Low-Medium
		Flyrock	Explosives will be used to blast the rock material.	Rocks expelled from the blast area present a safety risk to humans and animals in close proximity as well as potentially causing damage to houses / dwellings / infrastructure.	Neg	High	Neighbouring	Medium	Monthly	Low	No	No	No	Low-Medium	Yes	Yes	No	No	Low
		Air blast and ground vibrations	Explosives will be used to blast the rock material.	The blast shockwave and ground vibrations experienced off-site may result in structural damage to houses / dwellings and infrastructure.	Neg	Med-High	Neighbouring	Medium	Monthly	Low	No	No	No	Low-Medium	Yes	Yes	No	No	Low
		Surface water flow	The mining area will be devoid of vegetation and the existing topography onsite will be altered.	Altered / impeded flow of water over the site during a rainfall event.	Neg	Medium	Neighbouring	Short	Monthly	Medium	No	No	Yes	Medium	Yes	Yes	No	No	Low-Medium
		Water quality	Hydrocarbons such as fuels and greases will be used to operate machinery during mining. Spills from operational / standing machinery or spillages during refuelling of machinery could occur. Spillage could also occur from the chemical toilets.	Hydrocarbon, chemical toilet spillages and sediment could mix with surface water runoff and flow into a water source resulting in pollution of the surface water quality. Spills could also infiltrate the soil and filter down to the groundwater level causing pollution of ground water quality.	Neg	Low-Med	Neighbouring	Long	Monthly	Medium	No	No	No	Medium	No	Yes	Yes	No	Low-Medium
		Soil	Topsoil will be stripped and stockpiled for use during rehabilitation. The target material will be excavated and removed from the site.	Altered chemical state and physical structure of the topsoil which may reduce its effectiveness during rehabilitation.	Neg	Medium	On-site	Medium	6 Monthly	Low	No	No	No	Low-Medium	No	Yes	No	No	Low
		Fauna / flora (Ecology)	Flora and subsequently habitats for fauna will be removed when clearing the site in preparation for mining.	Existing flora will be lost and fauna will not be able to inhabit the site during mining.	Neg	Low-Med	On-site	Medium	6 Monthly	Medium	No	No	Yes	Low-Medium	No	Yes	No	No	Low-Medium
		Heritage	All objects on the surface of the mining site as well as within the ground to be mined will be removed.	Any heritage artefacts discovered onsite will either need to be disturbed (moved) or risk being destroyed.	Neg	High	On-site	Long	6 Monthly	Low	No	No	No	Low-Medium	No	Yes	Yes	No	Low-Medium
		Social	Unauthorised access to land. Lack of consideration of landowners requests. Not rehabilitating land suffciently.	Unhappy landowners / land occupiers. Reduced land capability after mining.	Neg	Med-High	Neighbouring	Medium	Daily	Low	No	No	No	Low-Medium	No	Yes	No	No	Low-Medium
3. Decommissioning & Rehabilitation	• Removing all mobile equipment and inspecting for signs of pollution • Sloping high walls and backfilling overburden; • Establishment of indigenous vegetation;	All aspects identified above	Implementation of sucessful concurrent rehabiliation activities	Reverse the temporary negative impacts associated with the mining activities.	Pos	Medium	On-site	Medium	Monthly	High	No	No	No	Medium	No	No	No	No	Medium

APPENDIX A5: SITE MAP



Legend

Application Area

Farm & Portion Boundaries

Scale 1 : 12 500

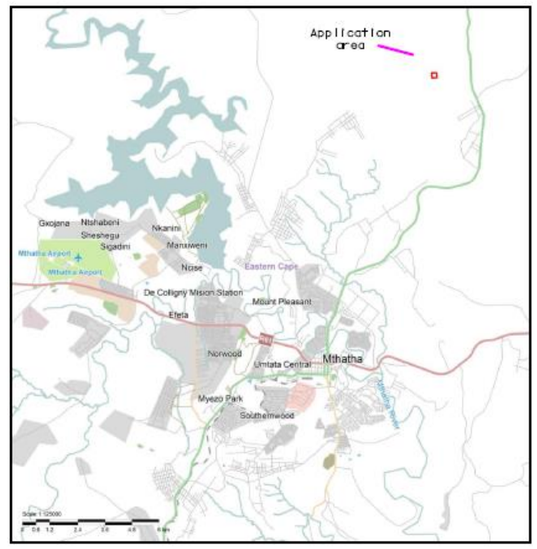
REGULATION 2(2) PLAN

Transkei Quarries (Pty) Ltd
Co Reg No: 2015/218760/07

SIDES Meters		ANGLES OF DIRECTION	CO-ORDINATES WGS 84 WG 29		
				Y+	X+
AB	222.851	269:51:03	A	15214.75	3483422.69
BC	214.217	355:28:40	B	14991.90	3483422.11
CD	227.558	85:44:27	C	14975.01	3483635.66
DE	230.227	176:48:37	D	15201.94	3483652.56

IN EXTENT: 4.9990 Ha

LOCALITY PLAN



LEGEND

RIGHT DESCRIPTION

The figure lettered A,B,C,D,E,F,G and A, represents a portion of unregistered stateland, within the Magisterial District of Umtata, in respect of which application is made for a mining permit to mine Aggregate, Stone Aggregate and Gravel in terms of Section 27 of the Minerals and Petroleum Resources Development Act (Act 28 of 2002),as amended.

Compiled by:Genpec Consulting (Pty) Ltd

P O Box 603
Fochville
2515

Mobile: 0824664278
E-Mail: eddie@mcc.co.za

Date 30 March 2021

Signed Date:	
Approved Date:	

APPENDIX A6: SOCIO-ECONOMIC ASSESSMENT

No specialist socio-economic investigation was conducted for this application however socio-economic impacts are considered in the impact assessment register based on the information obtained from the Integrated Development Plan for the OR Tambo District Municiplaity (2020/21). Should specific socio-economic impacts be raised by I&AP's during the consultation period these will be included in the updated assessment of impacts already identified when finalising the report.

APPENDIX A7: HERITAGE ASSESSMENT

A site inspection confirmed that the site is already mostly transformed from its natural state due to historical workings. This suggests that any cultural heritage artefacts that may have been present would have already been removed or destroyed during previous mining. Should discussions with the local communities and other I&AP reveal concerns related to cultural heritage aspects over the application area, a specialist may be consulted to confirm the sensitivity of the area.

APPENDIX A8: MOTIVATION WHERE NO ALTERNATIVES ARE CONSIDERED

The proposed mining operation would occur on land that is heavily impacted by historical workings. The proposed site is therefore transformed from its natural state, does not present any highly environmentally sensitive aspects and is unlikely to have much conservation value. The site has a known resource and is logically the next direction of mining given where mining has already occurred in the area. Therefore no alternative site location was considered.

Due to the simplistic nature of the proposed operation there are also no operational or technological alternatives identified that would be viable.

APPENDICES FOR PART B

APPENDIX B1: COMPOSITE MAPS SHOWING ENVIRONMENTAL SENSITIVITY