

ENERMIN AFRICA (PTY) LTD



MYEZO ENVIRONMENTAL MANAGEMENT SERVICES

Environmental Stewardship

BACKGROUND INFORMATION DOCUMENT

SEPTEMBER 2012

**ENVIRONMENTAL MANAGEMENT PROGRAMME PROCESS IN TERMS OF MINERAL
AND PETROLEUM RESOURCE DEVELOPMENT ACT, 2002 (ACT 28 OF 2002)
(MPRDA), FOR A PROPOSED KOI-KOI STONE QUARRY PROJECT – MAFIKENG LOCAL
MUNICIPALITY**

Project applicant: Enermin Africa (Pty) Ltd

DMR Ref No. NW 30/5/1/2/2/10036 MR

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Background and introduction

You have been identified as an interested or affected part (IAP) for the proposed Koi-Koi Stone Quarry Project, which is planned within Mafikeng Local Municipality, on Farm Molopo Ratshidi 302 JQ.

The Project is planned by Enermin Africa (Pty) Ltd (Enermin) and will consist of an aggregate stone quarry and other associated activities. Figure 1.4-1 and Figure 1.4-2 shows the local setting and the regional setting of the area, respectively. The application boundary, with coordinates is shown in Figure 1.4-1.

Myezo has been commissioned by the applicant, Enermin to compile an Environmental Management Programme Report (EMPR), required in terms of the Mineral and Petroleum Resources Development Act (Act 28 of 2002) (MPRDA) for the proposed project.

The purpose of this document, is to provide you with background information on the project, and to allow you an opportunity to raise any concerns or suggest solutions you might have, regarding this project. It also provides you with the process to be followed to lodge/raise comments or seek clarity/more information on the project. IAPs are encouraged to comment on how they believe this project will impact on any of these environmental components listed in the box below:

What is environment?

Surroundings within which humans exist and the interlinkages amongst these surroundings or components.

e.g.

Soils, topography, land use; air, water, plants, animals, socio-economic, archaeology.

Purpose of this document

- Inform IAPs about the proposed project;
- Inform IAPs about the public involvement process, which is being undertaken for the proposed project;
- Give IAPs an opportunity to raise any concerns or suggest solutions they might have in relation to the project;
- Incorporate IAPs comments, concerns and suggested solutions into the EIA/EMP process;
- In terms of the constitution (Act No 108 of 1996), everyone has the right to an environment that is not harmful to their health or well being, and to have the environment protected for the benefit of present and future generations, through reasonable legislative and other measures that prevent pollution and ecological degradation, promote conservation and the sustainable use of natural resources while promoting justifiable economic and social development. It is thus the intention of the consultation process to provide IAPs with this constitutional right and is thus also your right to participate in this development to exercise this right and responsibility.

Background on Koi-Koi Stone Quarry Project

Enermin is a company that was registered in South Africa in 2002. It is a major shareholder in the project and Barolong Boora Tshidi has been allocated 5% shares on the proposed Koi-Koi Stone Quarry Project. Enermin will be funding the project for its initial development phase. Approximately 50 000 – 60 000 tons of amygdaloidal andesitic/aggregate stone will be extracted every month for a period of over 30 years.

There is an existing quarry at Koi-Koi that was mined for aggregate stone for several years and it is estimated that approximately 285 000 tons of rock had been removed by the time it closed, more than twenty years ago (Figure 1.4-1 shows the existing quarry).

Enermin has an existing prospecting right over the application area. Prospected areas are shown in Figure 1.4-3b. Prospecting activities were conducted and subsequently, a mining right application was lodged with Department of Mineral Resources (Klerksdorp) for extraction of aggregate stone, within the existing prospecting right area. The application for a mining right has since been accepted by DMR on 22 August 2012 (Online system acceptance).

Project Description

Enermin wants to mine amygdaloidal andesitic/stone by quarry methods. Approximately 50 000 - 60 000 tons of amygdaloidal andesitic/aggregate stone per month will be removed by opencast mining methods to a depth of 35m. The resource has indicated a potential life of mine of 30 years and during this period grade variability will be managed through a blending model, which will assist in maximising the life of the resource, with the potential to extend this to 35 years.

The raw material that will be extracted will be used for several concrete products. The extracted aggregate stone will be crushed and sold to the market for use in the construction activities such as roads, buildings, bridges and other related activities. There are cement

companies in the area, which Enermin intends to approach, to purchase cement at a reasonable price for the planned production of concrete products, which are still being considered at pre-feasibility stage.

The removed stone will be transported to the crushing point to be processed. The opencast will be operated for 18 hour work days within 24 days a month. There will be a mineral recovery rate of 97%. The removed top soil will be stockpiled for rehabilitation purpose. Clearing of vegetation will only occur in areas that will be disturbed; such include quarry sites, haul roads and crushing area etc.

Rehabilitation

It is planned that there will be ongoing rehabilitation, where the topographical features of the area will be profiled as close as possible to their natural state and as such there will be backfilling. The disturbed areas will be fenced off for safety reasons. Topsoil will be stockpiled for future rehabilitation to ensure that a self-sustaining ecosystem is mimicked after mining.

Equipment to be used

Excavators, wheel loaders, dump trucks, water tankers and safety vehicles will be used. The maintenance of this equipment will be key to the safe and efficient operation of the mine.

SOCIO-ECONOMIC

Mine community and rural development

Enermin appointed an independent consultant to compile a social and labour plan in support of the mining right application. The social and labour plan is a legally binding document, which will be undertaken together with the community, taking cognizance of the integrated development plans and other development initiatives within the affected communities.

Relocation of existing structures within the application area

It is planned that there will be a relocation of structures/houses within the application

area. There are steps that need to be followed before the relocation is done and such will include communication with the affected parties and other key stakeholders like South African Heritage Resources Agency, Mafikeng Local Municipality, DMR and other relevant authorities.

Employment opportunity

The proposed mining activity will create job opportunities for local people and local entrepreneurs. It is expected that 53 people will be employed. Enermin will encourage and support local entrepreneurs in the local community to establish themselves in selling various products such as sand and aggregate stone. The skills which, Enermin will require include, engineering managers, explosive drillers, clerks, drivers and other mining skills. Nevertheless, the proposed activity will have possible indirect employment through satellite businesses and other manufacturing products. Since there are cement factories in the nearby area, which can provide cement at reasonable prices on a regular basis, concrete products are the most obvious choice for small businesses.

However, besides concrete products, there are other developments which can be considered:

- Ready mix concrete
- Haulage and supply of aggregate to construction industry
- Stone for footpaths for homes and farms and landscaping
- Stone for driveways

The enterprise development programme will be utilised to encourage local communities to establish enterprises that will cater for the procurement needs of the mine. A number of procurement opportunities will be ring-fenced for local communities only after a thorough assessment of available vendors' capacity to supply the mine. The enterprise development programme will also be used to develop the capacity of local vendors where it is found lacking.

RESOURCE USE

Water and Energy

It is planned that water for domestic use, dust suppression and other related uses will be sourced from underground. A water use licence will be lodged by the applicant with the Department of Water Affairs as part of the NWA requirements.

Moving mining equipment, water tankers and mine safety vehicles will all impact on fuel usage. Primary and tertiary crusher will operate on electricity.

Environmental setting

An outline of the environmental setting of the site is demonstrated through the photographic record in Appendix 1.

The proposed site is situated 8km south-south west of Mafikeng Town, within Mafikeng Local Municipality. The area falls within the Lotlhakane River catchment, which at its closest point about 100 m from the edge of the disused quarry. There is an existing railway line traversing the application area from Mafikeng to Vryburg.

The disused quarry is located between the railway and the Mafikeng to Ditlhakong gravel road. There are a number of residential buildings to the south and west of the quarry, all within the Koi-Koi Stone Quarry Project application area.

Myezo has visited the site to investigate the biophysical and socio-economic environment and is compiling an EMP to evaluate the possible environmental impacts as a result of the proposed development. Importantly, the EIA is complemented by public consultation, which has to be undertaken for the development. The EMP will incorporate the issues and responses collected during the public participation process and will then be submitted to the Department of Mineral Resources (DMR) - North West.

Climate

Mafikeng area has a semi arid climate. During summer months (from August to March), the climate brings brief but refreshing afternoon thundershowers. The

town has an above average rainfall of 300 to 700 mm annually. Low and Rebelo (1998) describes this area as having summer temperatures ranging between 22°C and 34°C. (The summer rainfall is erratic and extremely variable of 559 mm per year). The highest rainfall is experienced in the month of January. Temperatures vary between extremes of -6°C and 40°C, with an average of 15°C.

During winter the climate brings dry, sunny days and chilly nights. The average winter (from May to July) temperature is 16°C but can range from an average of 2 to 20° C in a single day.

Topography

The proposed project area is described as generally flat lying with Lotlhakane River passing through the area.

Soils and Land Capability

According to Low and Rebelo (1998) *Vegetation of South Africa*, the soils are characteristically red vertic clays enriched lower horizon and highly saturate doses. According to the *Environmental Potential Atlas of South Africa*, the soils in the North West Province are black and red strongly structured clayey soils with high base status. Soil depth classes are at ≥ 750 mm, the clay classes of the topsoil are at $\geq 35\%$ and soil leaching status classes fall within *calcareous* soils. During the site visit undertaken by Myezo the soils in the area were observed to be black and red.

Land use

The land of the proposed project area is mostly used for grazing. Photo 1 depicts cattle grazing on the site.



Photo 1: Cattle grazing

There are homesteads within the application and therefore the relocation of some of such houses is planned. Currently, relocation is planned for those who are specifically residing within the application area. Enermin is currently in consultation with the municipality, as the people who are to be relocated will have to be placed at a safe and accessible place, with the provision of all critical services. South African Heritage Resource Agency (SAHRA), who is responsible for activities such as preservation of heritage resources, will be informed as required in terms of National Heritage Act, should there be a need to relocate graves. The process of relocation will therefore require a thorough consultation with people who will be relocated, the municipality, SAHRA, DMR and other relevant stakeholders before it is done.

Land Cover

The area is covered by clumps of trees and bushes and grassland. Also there is a disused quarry within an application. The disused quarry is situated between the railway line which is also traversing the application area and Mafikeng to Dithakong gravel road. Land cover is shown in Figure 1.4-3.

Vegetation

The Vegetation Map of South Africa, Lesotho and Swaziland (Low and Rebelo, 1998) describes this area as Savanna Biome. Low and Rebelo (1998) classified this area as clay thorn *Bushveld*. The type of plant species present are Acacia: hairy Umbrella Thorn A. *Tortilis*, Scented Thorn A. *Nilotica*, Sweet Thorn A. *Karoo*, A. *Gerrardii*, A. *Nigrescens*

and *robusta*. Other woody species often encountered include Buffalo Thorn *Ziziphus mucronata*, Sicklebush *Dichrostachys* and wild Raisin *Grewia flava*. The principal grass species in a dense sward are Turf Grass *Ischaemum afrum*, Deck Grass *Sehima galpinii*, Canary Millet *Setaria incrassata* and *Panicum coloratum*. Overgrazing and deterioration of the grass sward cause an increase in cover of the woody species with an associated dominance of Pinhole Grass *Bothrichloa insculpta*, Three-awn Rolling Grass *Aristida bipartite*, Sweet Signalgrass *Brachiaria eruciformis* and *Sorghum versicolor*. Vegetation identified on site during the site visit is shown in Photo 2 The area is characterized by acacia species



Photo 2: Thornbushes

Surface water

The proposed project area falls within Lotlhakane River Catchment. Photo 1 shows the disused quarry.



Photo 6: Disused Quarry.

EMP Process

Enermin is planning to conduct mining activities at Farm Molopo Ratshidi 203 JQ and has lodged a mining right application with Department of Mineral Resources in terms of Section 22 of Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002) (MPRDA). Enermin is required to comply with section 22(4) (a) of MPRDA and thus to compile an environmental management programme (EMP) in line with provisions of Section 39 and Regulation 51 of MPRDA. The EMP will be compiled based on environmental impact assessment (EIA) and associated public participation, as required in terms of Regulation 48 and 49 of MPRDA. The planned project may trigger activities listed in terms of GN. No 545 – Activities 8, 15 and 20 under Section 24 (2) and 24 (d) of NEMA and thus the Environmental Impact Assessment (EIA) procedures might have to be followed. Activity 20 under listing deals with mining and is as such falling under the listed activities which have not yet come into effect under these EIA regulations of 2010. Nevertheless, the EIA process under MPRDA will cover the mining related impacts. Any other listed activities will be delineated and a separate application process will be lodged by the applicant with Department of Economic Development, Environment, Conservation and Tourism (DEDECT) as necessary.

A waste licence might also be required in terms of National Environmental Management: Waste Act for the approval of all waste related activities such as diesel

storage tanks or disposal or waste storage, depending on the volumes to be stored on site. These applications will also be lodged by the applicant with DEDECT as necessary.

The proposed development will also require a water use licence required in terms of National Water Act (No 36 of 1998) (NWA) for extraction of water from underground or any listed method in terms of Section 21 of NWA. An application for water uses will be lodged at Department of Water Affairs (DWA) for all the water use requirements

Currently, Myezo has been commissioned to only deal with the EMP in support of the mining right application in terms of the MPRDA requirements.

The EMP process is being undertaken in phases. The EMP process is currently at the scoping phase, which entails, engaging the IAPs and sending background information document and getting comments, concerns and suggestions on the proposed project. A pre-consultation meeting was held with the community leaders and representatives before organizing the scoping meetings.

These community representatives are the Barolong Boora Tshidi Tribal Council and councilor for Ward 21 in June 2012. The applicant had also met with the community after the compilation of the prospecting activities to inform them about the way forward and the fact the EMP process would be undertaken. These subsequent meetings are then part of what was already communicated to the community.

The process that has been undertaken to date is provided Table 1.

The EMP process for the project may take six months to complete. After the compilation of EMP report the registered IAPs will have an opportunity to comment on the report before it is submitted to the competent authorities. In addition, after the decision has been taken by competent authorities (Record of Decision), IAPs will receive a feedback on the authorisation application outcome. A schematic presentation of the project schedule is attached as Table 1. The yellow highlighted sections determine the stage where the IAPs will need to be involved during this process.

Table 1: Schematic project schedule and EMP process

It is necessary to establish a framework of co-operation between four key participants/role players who will contribute in the EMP process success and these role players are:

- The applicant, who submitted the mining right application and appointed an independent environmental practitioner to compile EMP. The applicant has to also provide a description of their project so that the impacts of such a development can be adequately assessed. The applicant will then makes commitments on how they will manage the identified impacts and provide human and financial resources for implementation of such commitments
- Independent environmental practitioner, who has to coordinate the engagement of stakeholders and gather issues relating to the development and then collate those into reports, commission specialists to investigate issues further and determine impacts. Then make recommendation on the mitigation measures. The applicant then provides commitments and the reports which contain these undertakings are submitted to the regulatory authority. These commitments then become the conditions of approval.
- IAPs, who have a right and a responsibility to present their issues, concerns and suggestions concerning the development; and
- The regulatory authorities, who guide the EIA/EMP process through legislative framework and then assess the submitted documentation and make a final decision whether to authorise the development or not.

- One-on one meetings were held with other key representatives to understand the socio-economic-geographic environment and key role players
- Meeting dates and structure of the subsequent consultation meetings were agreed with Tribal authorities and Ward councillor
- Preliminary information sharing meetings were held with the Tribal authorities and Ward councillor
- A scoping meeting was held with the community on 07 September 2012
- Letters confirming the scoping meetings scheduled with the communities were sent to the leaders
- Regulatory authorities and specialist interest groups are in the process of being engaged and scoping meetings are scheduled for 09 October 2012.
- Notices and adverts
 Adverts were placed as follows:
 - Mafikeng Mail on 06 September 2012
 - Site notices erected on site, along major roads, municipal offices and libraries. Appendix 2 shows the distribution of these site notices.

Scoping meetings were held with the affected communities as outlined in the slide below.

Adverts and site notices were published in both English and Tswana. The scoping meetings were also presented in Tswana.

Public consultation undertaken to date

- IAPs were identified and called to get contact details

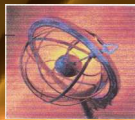
ENERMIN AFRICA (Pty) Ltd KOI KOI PROJECT

PRELIMINARY AND SCOPING MEETINGS

Date	Target group/category	Venue	Time
28 June 2012	Barolong Boora Tshidi Tribal Council	Barolong Boora Tshidi Tribal Offices	10:00-12:00
28 June 2012	Ward 23-Councillor	The Crossing-Mmabatho	13:30
28 June 2012	Ward-19- Councillor	The Crossing-Mmabatho	14:45
07 September 2012	Koi-Koi communities	Koi-Koi Crusher next to the old quarry	10:00-12:00
Other project meetings were held by the applicant with the communities			

MINING RIGHT APPLICANT:

ENERMIN AFRICA (PTY) LTD



ENVIRONMENTAL IMPACT ASSESSMENT PRACTITIONER:

MYEZO ENVIRONMENTAL MANAGEMENT SERVICES



**MYEZO ENVIRONMENTAL
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Environmental Stewardship

Community meetings held thus far

Potential environmental impacts

The potential environmental impacts listed below are based on the perceptions of the IAPs to date. Any raised issues will be investigated further by specialists to determine the impacts and Enermin will make commitments on how those impacts will be minimized or avoided.

- Potential air pollution due to the crushing of the aggregate stone and clearing of vegetation;
- Potential disturbance of existing grave sites;
- Potential loss of land used for grazing and compensation thereof;
- Potential disturbance of the landscape due to lack of rehabilitation;
- Potential loss of people's belongings due to relocation of houses
- Potential traffic increase on the access roads due to development vehicles;
- Socio-economic positive benefits of employment as well as infrastructure and enterprise development;
- Contamination of water resources due to improper storm water control for various stockpiling areas;
- Lack of water supply for project requirements.
- Loss of biodiversity due to vegetation clearing;
- Noise disturbance;
- Potential proliferation of informal settlements due to squatting by job seekers.

Mitigation of potential environmental impacts

Any concerns and issues which IAPs raise will be assessed by specialists during EIA/EMP process to determine the actual impacts. The environmental impacts identified from those issues, will be addressed in the EMP. Management measures, to ensure that the impacts are minimized or avoided, will be developed.

The environmental management programme (EMP) will be compiled and submitted to DMR who will then evaluate it, in consultation with other government departments to determine if environmental authorization for the planned mining activities should be issued.

Your involvement is requested

Interested and affected parties (IAPs) are invited to participate in the EIA/EMP process. To ensure that you are registered as an IAP or to lodge any issue, concern or seek clarity on the proposed project, please kindly contact the EIA consultant before 27 October 2012. Attached is a response slip which you can just fill-in and fax back using the number provided on it. We look forward to your participation.

There is also a regulatory authorities meetings scheduled for 09 October 2012.

Kindly submit the registration slip and you will then be supplied with the confirmed venue on 04 October 2012.

Figure 1.4-1: Local Setting

Figure 1.4-2: Regional Setting

Figure 1.4-3b: Drill holes

**Appendix 1: Environmental setting -
 Photographic record**

Appendix 2: Site notice distribution

Appendix 3: BID Reply slip