

CONCOR INFRASTRUCTURE

QUARRY ON PORTION 1 OF FARM EK KRAAL NR 199 RD

CLOSURE REPORT

1. INTRODUCTION

Chameleon Environmental was commissioned by Concor Infrastructure to conduct the environmental studies pertaining to the Quarry on Portion 1 of Farm Ek Kraal Nr 199 RD. The landowner is Mr Mr Douglas Joseph Calldo.

2. DETAILS OF ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP)

The EAP that prepared this report is Dr J Bothma from Chameleon Environmental. The Environmental Assessment Practitioner (EAP) has the appropriate skills and experience to undertake the required studies for the proposed project. Dr Bothma has a PhD in Environmental Management:

- Experience in undertaking environmental studies for linear development projects. The EAP has specific experience in EIAs for National Roads for the South African National Roads Agency Soc Limited and other clients.
- Experience in environmental studies for borrow pits and quarries.
- The EAP is registered as an Environmental Assessment Practitioner with EAPSA with registration number 0082/06.
- Proven ability to timeously produce thorough, readable and informative documents.
- Adequate recording and reporting systems to ensure the preservation of all data gathered.
- A good working knowledge of all relevant and applicable policies, legislation, guidelines, norms and standards.
- The EAP does not have any links to engineering firms, construction companies, or financial institutions, and would be able sign the required declarations of independence to be submitted to the relevant environmental authorities.

Dr Bothma was previously the Environmental Manager for the South African National Roads Agency Soc Limited where she was responsible for the management of the environmental section at the Agency and consequently has gained extensive experience in project management and EIAs for major national road projects.

Dr Bothma is a founder member of Chameleon Environmental since August 2006, a specialist environmental consulting company based in Pretoria, South Africa but operates nationwide. The company provides a broad range of environmental consulting services to the public and private sectors. She has:

- » Twenty-nine (29) years' experience in the environmental field
- » Nineteen (19) years' experience in Project Management
- » Project management of large environmental assessment and environmental management projects.

3. CLOSURE OBJECTIVES

After the utilisation of the quarry, it will be rehabilitated and closed. Rehabilitation of the quarry would entail infilling with natural spoils as far as possible. Proper fencing around the quarry and clearly visible signage indicating a dangerous area will be put into place.

3.1 Shaping of Quarry

- The walls of the quarry will be sloped to a slope of at least 1:3 in order to prevent dangerous vertical walls.
- The quarry will be free draining.

3.2 Closure Measures

The following will be undertaken:

- a. Removal of mobile equipment and all scrap material;
- b. All unused material would be levelled to ensure that the quarry blends back into the existing landscape fabric. No stockpiled material is to be retained on site. Waste will not be permitted to be deposited in the excavations. Rocks and coarse material removed from the excavation must be dumped into the excavation simultaneously with the tailings.
- c. Removal of crushing- and screening plant as well as the concrete footings and the primary ramp retaining wall;
- d. Removal of all containers used as offices, workshops and stores. Where office/camp sites have been rendered devoid of vegetation/grass or where soils have been compacted owing to traffic, the surface shall be scarified or ripped. Areas containing French drains, if any, shall be compacted and covered with a final layer of topsoil to a height of 10cm above the surrounding ground surface;
- e. Clean-up of any fuel or lubricant spillage;
- f. Ensuring that all stormwater control mechanisms are in place.
- g. Ensuring alien vegetation is removed during and at the end of each contract;
- h. Ensuring that the access road is maintained and properly rehabilitated;
- i. Waste or bitumen will not be permitted to be deposited in the excavations. Rocks and coarse material removed from the excavation must be dumped into the excavation simultaneously with the tailings.
- j. Vegetative growth on the slopes is usually not possible at a quarry.
- k. Any permanent structures and facilities including brick-built personnel amenities , soak-aways, workshop aprons and workshop floors, gas stores and any electrical supply from the grid need to be removed and the area rehabilitated.
- l. Photographs of the camp and office sites, before and during the mining operation and after rehabilitation, shall be taken at selected fixed points and kept on record.
- m. The area will be fenced.
- o. The area will be reverted back to the landowner.

4. MECHANISMS FOR MONITORING COMPLIANCE WITH AND PERFORMANCE ASSESSMENT AGAINST THE CLOSURE PLAN AND REPORTING THEREON

The source activities and impacts requiring monitoring programmes during closure for the mining at both borrow pits were identified as the following:

PHASE	SOURCE ACTIVITY	IMPACT REQUIRING MONITORING PROGRAMMES
DECOMMISSIONING PHASE	Sloping and Landscaping during rehabilitation	<ul style="list-style-type: none"> • Soil erosion • Health and safety risk posed by unsloped areas • Dust nuisance caused during sloping and landscaping activities • Noise nuisance caused during sloping and landscaping activities • Contamination of site due to hydrocarbons • Emissions from heavy vehicles
	Replacing the topsoil and revegetating the disturbed area	<ul style="list-style-type: none"> • Loss of reinstated topsoil due to absence of vegetation • Infestation of the area with weed and invader plants

4.1 Functional requirements for monitoring

Please see Appendix J of the BAR report.

4.2 Roles and responsibilities

Please see Appendix J of the BAR report.

4.3 Time frames for monitoring

Please see Appendix J of the BAR report.

5. MEASURES TO REHABILITATE THE ENVIRONMENT

The measures to rehabilitate the environment affected by any listed activity were determined in the table on page 45 in the BA report.

Activities	Phase	Size and scale of disturbance	Mitigation measures	Compliance with standards	Period for implementation
Sloping and Landscaping	Decommissioning and closure	4.78 ha	<ul style="list-style-type: none"> - Control through dust suppression - Control measures to prevent soil erosion - Control through noise control measures - Control measures to lower visual intrusion - Control measures to lower impacts on terrestrial ecology - Control measures for hydrocarbon spillage - Control measures to lower emissions from heavy vehicles - Control measures for removal of alien vegetation 	<p>SANS noise control legislation</p> <p>Dust standards</p> <p>Safety standards</p> <p>Approved EMPr</p>	<p>Upon cessation of mining activities.</p> <p>Progressive rehabilitation</p>

6. AVOIDANCE, MANAGEMENT AND MITIGATION MEASURES

The avoidance, management and mitigation measures that will be taken to address the possible environmental impacts resulting from the undertaking of the activity was determined in table under part B 1 (e)

Activities	Potential impact	Aspects Affected	Phase	Mitigation type	Standards to be achieved
Sloping and Landscaping	<ul style="list-style-type: none"> - Dust - Soil Erosion - Noise - Visual - Terrestrial Ecology - Hydrocarbon spillage - Emissions from heavy vehicles 	<ul style="list-style-type: none"> - Workers - Travelling public - Fauna and flora 	Decommissioning and closure	<ul style="list-style-type: none"> - Control through dust suppression - Control measures to prevent soil erosion - Control through noise control measures - Control measures to lower visual intrusion - Control measures to lower impacts on terrestrial ecology - Control measures for hydrocarbon spillage - Control measures to lower emissions from heavy vehicles - Control measures 	<ul style="list-style-type: none"> - No dust nuisance or complaints from landowners or public - No soil erosion and complaints from landowners - Noise levels shall be kept to a minimum. The working hours shall be limited to between 07:00 hrs and 18:00 hrs on weekdays, and 07:00 hrs and 16:00 hrs on Saturdays, or as per contract documentation. - Earth berms should be placed to the side of the road to

Activities	Potential impact	Aspects Affected	Phase	Mitigation type	Standards to be achieved
				for removal of alien vegetation	obscure the mining activities from the travelling public, if possible. - Impact to the terrestrial ecology low. Mitigation measures as per specialist study - Spillage contained - Low emissions - No alien vegetation at borrow areas

7. DESCRIPTION OF MANNER TO MODIFY, REMEDY, CONTROL OR STOP ANY ACTION, ACTIVITY OR PROCESS WHICH CAUSES POLLUTION OR ENVIRONMENTAL DEGRADATION DURING CLOSURE

7.1 The following impacts will be controlled:

- Control through dust suppression
- Control measures to prevent soil erosion
- Control through noise control measures
- Control measures to lower visual intrusion
- Control measures to lower impacts on terrestrial ecology
- Control measures for hydrocarbon spillage
- Control measures to lower emissions from heavy vehicles
- Control measures for removal of alien vegetation

7.2 Compliance with environmental standards

The following standards will be complied with:

- SANS noise control legislation
- Dust standards
- Safety standards
- Approved EMPr

It will be attempted to achieve the following standard:

- No dust nuisance or complaints from landowners or public.
- No soil erosion and complaints from landowners.
- Noise levels shall be kept to a minimum. The working hours shall be limited to between 07:00 hrs and 18:00 hrs on weekdays, and 07:00 hrs and 16:00 hrs on Saturdays, or as per contract documentation.
- Earth berms should be placed to the side of the road to obscure the mining activities from the travelling public, if possible.
- Impact to the terrestrial ecology low. Mitigation measures as per specialist study
- Spillages contained.
- Low emissions.
- No alien vegetation at quarry site.

8. TIME PERIODS FOR IMPLEMENTATION

The rehabilitation measures will be implemented as soon as the mining activity has ceased.

9. PROCESS FOR MANAGING ENVIRONMENTAL DAMAGE

Concor Infrastructure shall ensure that its employees are adequately trained with regard to the implementation of the EMP, as well as regarding the process for managing environmental damage.

a. Induction Training:

All employees and visitors on site will have an INDUCTION training on environmental awareness. Where possible, the presentation needs to be conducted in the language of the employees.

The environmental training should include information on possible environmental risks.

Employees will be adequately trained with regard to the following potential environmental risks:

- The risk of non-conformance with all environmental policies, procedures, plans and systems.
- The risk of not strictly implementing the approved EMP.
- The potential consequences of departure from specified operating procedures.
- The significant environmental impacts, actual or potential, as a result of their work activities.

b. General awareness training and training on dealing with emergency situations:

Employees will be given general awareness training and training on dealing with emergency situations by means of the following:

- Understanding, and importance of, and the reasons why, the environment must be protected.
- Basic awareness and understanding of the key environmental features of the work site and environments.
- The mitigation measures required to be implemented when carrying out their work activities.
- The environmental benefits of improved personal performance.
- Their roles and responsibilities in achieving conformance with the environmental policy and procedures, including emergency preparedness and response requirements.
- What to do in the case of a hydrocarbon spill.
- Who to contact in the case of an emergency.

10. PUBLIC PARTICIPATION PROCESS

A public participation process was undertaken in accordance with the EIA Regulations, 2014, as amended.

The public participation and communication process aims to identify issues in order to maximise the social and environmental benefits, and to minimise the social and environmental costs of the proposed project. Interested and affected parties (I&APs) were consulted and afforded the opportunity to participate. The I&APs were informed and involved in the project from the outset in order to promote participation and transparency.

The aim of this public participation process is to achieve the following broad goals:

- identification of all key I&APs and stakeholders;
- the active involvement of all I&APs with respect to decision making;
- an exchange of information relevant to the proposed project through Background Information Documents (BID), consultations and newspaper advertisements.
- the development of an understanding with regards to the broader project objectives and goals and knowledge of the project; and
- the identification of issues and concerns with regards to all potential alternatives associated with the proposed development.

The following approach was followed in undertaking the public participation process:

a. Identification of and Consultation with I&APs

The first step in the public participation process was to identify the key I&APs. A list of the registered I&APs is attached as Appendix D to the BAR.

b. Advertising

In accordance with the EIA Regulations, 2014, as amended an advertisement was placed requesting I&APs to register their interest in the project. An advertisement was placed in the The Burger of 2 March 2018. A copy of the advertisement is included in Appendix D to the BAR.

c. Site Notice

Site notifications in English in A2 format requesting comments or objections were placed on site on 20 February 2018. Photographs of the site notice are included in Appendix I to the BAR.

d. Notification Letter and Background Information Document

Notification letters about the project and a Background Information Document were sent out to the particular Ward Councillor and Government Departments that would be relevant to this project. The affected landowner, Mr DJ Caldo signed a landowner notification form. He has no objection to the proposed development. Please see letters in Appendix D to the BAR.

e. Comments and Response Report

A comments and response report was drafted that included all the issues raised by the Interested and/or Affected Parties as well as the responses to the issues raised. The Comments and Response report is included in Appendix D to the BAR.

f. Local Authority Involvement

A letter was forwarded to the Karoo Hoogland Local Municipality. The letter is included in Appendix D to the BAR.

g. Review of Draft Basic Assessment Report

The Draft Basic Assessment Report was made available to the public for review and comment, within an allocated 30-day period. A copy of the report was available to I&APs at the following venue:

- a. Laingsburg Library
Address: Van Riebeeck str 2, Laingsburg, 6900, Tel: 023 551-1019.

11. FINANCIAL PROVISION

The rehabilitation cost for the quarry was determined by means of the SARS quantum scales. The quantum for the quarry is calculated at R64357.00 for the rehabilitation of the quarry.

Please refer to Appendix H for the quantum for the quarry in the BAR.