REHABILITATION PLAN FOR BORROW PIT 02

THE PROPOSED ESTABLISHMENT OF BORROW-PITS TWO FOR THE UPGRADING OF ACCESS ROAD D5010 AND D5021 AND ASSOCIATED INFRASTRUCTURE WITHIN THE LEPELLE-NKUMPI AND FETAKGOMO TUBATSE LOCAL MUNICIPALITIES, CAPRICORN AND SEKHUKHUNE DISTRICT MUNICIPALITIES, LIMPOPO PROVINCE (RAL/T1282/2025).

Prepared By:
QEMS Management and Business Solutions
cc
7 Munnik Avenue, Sterpark,
Polokwane, 0700
Limpopo, South Africa

Prepared For:
Roads Agency Limpopo (RAL)
Private Bag X9554
Polokwane, 0700

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Acronyms

EAP	Environmental Assessment Practitioner
DMR	Department of Mineral Resources
RAL	Roads Agency Limpopo
EIA	Environmental Impact Assessment
EAP	Environmental Assessment Practitioner
EMPr	Environmental Management Programme

1. INTRODUCTION

Roads Agency Limpopo (SOC) Ltd (RAL) is in the process of applying for borrow pit permit from the Department of Petroleum and Mineral Resources (DMPR) Limpopo regional office. The proposed project requires an Environmental Authorization from the Department of Mineral Resources (DMR) in accordance with the Mineral and Petroleum Development Resources Act 28 of 2002 and the Environmental Impact Assessment (EIA) Regulations, 2014 (as amended), an EA is required and therefore, RAL is undertaking a Basic Assessment Process (BA).

The materials obtained from the proposed borrow pits will be used for the upgrading of Road D5010 in Nkotokwane, including the installation of culverts, the upgrading of Road D5021 between Nkotokwane and Apel, and the construction of a bridge over the Olifants River. Both roads will be upgraded from gravel to a bituminous-surfaced standard.

The proposed road works will cover a total distance of approximately 3.6 km, comprising 2.2 km of upgrades to Road D5010 and 1.4 km for Road D5021. In addition, the project entails the excavation of five borrow pits to provide the necessary construction materials for the road upgrades and bridge construction

QEMS Management and Business Solutions cc has been appointed by Sekhukhune & Associates Consulting Engineers on behalf of Roads Agency Limpopo (RAL) to undertake all necessary procedures and processes required by the Department of Mineral and Petroleum Resources (DMPR) in terms of the National Environmental Management Act (107 of 1998). The proposed project requires a mining permit from the DMPR in accordance with the Mineral and Petroleum Development Resources Act 28 of 2002. The project triggers listed activity (GNR 327) under the Environmental Impact Assessment (EIA) Regulation as promulgated under the National Environmental Management Act (107 of 1998).

2. OBJECTIVES OF REHABILITATION

Borrow pit rehabilitation is aimed at restoring the environment, enhancing safety, and preventing long-term damage following the extraction of materials such as soil, gravel, or sand. The main objectives include:

- ❖ Returning the mining footprint to a post-mining condition acceptable in terms of ecological functioning and natural aesthetics.
- ❖ Ensuring that the mining area is safe and stable.
- ❖ The successful implementation of the storm water management plan.
- ❖ Implementation of appropriate drainage control and erosion protection measures.
- ❖ Ensuring that the project area is kept free of invasive plant species.
- ❖ Ensure that the project area is progressively re-vegetated with locally occurring indigenous species.

3. LOCALITY

The proposed borrow pit site is located at the central coordinates 24°25'27.83"S 29°42'16.14"E, Portion 0 of farm Zwarthoek 501 KS, within the jurisdiction of the Lepelle Nkumpi Local Municipality, Capricorn District Municipality, Limpopo Province.



Figure 1:Locality Map of the development

4. DETAILS OF THE APPLICANT

The details of the applicant, which is RAL are reflected in Table 1.

Table 1:The Applicant Details

ITEM	DESCRIPTION
Name of Applicant	Road Agency Limpopo
Address of Applicant	61 Rabe Street Polokwane 0700
Applicant representative	Shoni Tshivhase
Contact details	Tel: 015 299 5652 Cell: 082 441 5330 Fax: 015 297 6787

5. DETAILS OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP)

DETAILS OF THE EAP WHO PREPARED THE REPORT

QEMS Management and Business Solutions cc (QEMS) has compiled this report on behalf of Road Agency Limpopo. The details of the consultant responsible are reflected in Table 2.

Table 2:The EAP Details

ITEM	DESCRIPTION
Company	QEMS Management and Business Solutions cc (QEMS)
Address	7 Munnik Avenue, Sterpark, Polokwane, 0700
Registered EAP	Dr Sithole
Contacts Details	Tel: 061 535 3141 Email: sitholetp@qems.co.za

6. REHABILITATION METHODOLOGY

To address the potential negative impacts outlined in the Draft Basic Assessment Report regarding the establishment of a borrow pit for extract gravel material for the upgrading of road D5021 and D5010 specifications and mitigation measures detailed in this Rehabilitation Report must be followed. Additionally, the general recommendations from the Environmental Management Programme (EMPr) should be strictly adhered to. These include the following:

❖ Clear demarcation of the Borrow Pit footprint, including access roads, parking, and stockpile areas.

❖ Preservation of as much indigenous vegetation as possible, particularly large indigenous trees located along the perimeter of the proposed Borrow Pit.

❖ Immediate initiation of an ongoing, active, and intensive alien invasive plant control program for the proposed site and surrounding areas, utilising best-practice methods.

❖ Progressive rehabilitation of the Borrow Pit perimeter during and after construction, including:

- Appropriate shaping of slopes (with no steeper gradients than 1(V):3(H)), ensuring that new slopes mirror the natural topography of the surrounding area.
- Replacement of topsoil that was removed and stored during site clearance, restoring it to its original depth.
- Ripping and scarifying of all areas (along the contour) following the application of topsoil.
- Establishment of indigenous ground cover using locally sourced grass seed mix.
- Ongoing removal and control of alien invasive plant species.

6.1.STOCKPILES

Upon completion of mining, the following rehabilitation measures shall be implemented:

❖All surplus material within and around the excavations, including stockpiled gravel and oversized rocks (excluding topsoil), shall be returned to the pit, and the sides of the pit shall be graded to a 1:3 slope.

❖Stockpiled gravel will remain inside the pit for use in future projects.

❖The topsoil stockpiled prior to mining shall be evenly spread over designated areas of the borrow pit, with a minimum thickness of 75 mm.

❖Topsoil from adjacent road clearing activities may be used to supplement the topsoil for mining areas where the existing topsoil is deemed insufficient by the engineer.

❖The topsoil must be properly keyed into the re-profiled surfaces to prevent erosion or washaway.

❖The topsoiled surface shall be left intentionally rough (i.e., not smoothed) to promote seedling establishment, reduce water runoff, and enhance infiltration

6.2. LANDSCAPING

❖ All borrow pit slopes must be shaped to create a smooth, rounded concave or convex profile.

❖ Ensure the safety of hard rock slopes, with benching being the preferred method for stabilization.

❖ The borrow pit floor should be gently undulating, blending seamlessly with the surrounding landscape.

❖ The rehabilitated area must visually align with the surrounding environment, and any negative visual impacts should be addressed to the satisfaction of the regional manager.

6.3.RE-VEGETATION

Seeding of replaced topsoil should not be necessary unless the topsoil has been stored for more than 12 months. Once replaced, the topsoil should be left to naturally revegetate, unless natural regrowth does not occur or significant erosion of the topsoil is observed.

❖ Prepared surfaces must be regularly irrigated for the first 30 days, with ongoing monitoring for natural regrowth. If natural vegetation does not begin to establish within 30 to 60 days, planting or seeding may be required, and specialist advice should be sought to determine specific needs.

❖ If the initial approach proves inadequate, the affected areas should be seeded with appropriate grass species to provide initial ground cover and stabilize the soil. Seeds can either be collected onsite (using a mower or by hand) or sourced from a local seed supplier.

❖ Special attention must be given to slopes during rehabilitation, as these areas are more susceptible to erosion before vegetation can establish.

❖ No alien species should be planted in the area, and any invasive alien plants that emerge during rehabilitation must be manually removed.

6.4. DRAINAGE

- ❖ The borrow pit must be designed to ensure effective drainage, preventing water accumulation that could lead to erosion or instability.
- ❖ Proper drainage channels should be established to direct surface water away from the pit and surrounding areas, minimizing the risk of flooding or waterlogging.
- ❖ Any low-lying areas within the pit should be graded to encourage natural water flow towards designated drainage points, such as culverts or ditches.
- ❖ Regular monitoring of the drainage system should be conducted to ensure its functionality, especially during periods of heavy rainfall.
- ❖ Erosion control measures, such as silt fences or check dams, should be used in areas with high runoff to prevent sedimentation and water quality degradation.
- ❖ If necessary, sediment ponds should be constructed to capture and treat runoff water before it is released into surrounding environments.
- ❖ Drainage features should be maintained and adjusted as needed to ensure long-term stability of the borrow pit and surrounding area.

7. FURTHER STEPS

Unauthorised personnel, construction vehicles and equipment are strictly prohibited from entering the borrow pit area. Only authorised personal and equipment to be used for rehabilitation purposes may be permitted to enter the borrow area.

8. CLOSURE

After the borrow pit has been utilised, the mining permit holder (RAL) will apply for a closure certificate from the Department of Mineral Resources. The certificate will be issued based on whether all conditions outlined in the plan have been met and the department's satisfaction with the rehabilitation efforts.