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Operational Environmental Management Plan for Quarrying Activities at the Existing Road Authority Borrow Pit at Osona Village, Okahandja, Otjozondjupa Region

Environmental Management Plan

APP-004574

Final

November 2024

Preferred Land Development Holdings (Pty) Ltd

GCS Project Number: 24-0565

Client Reference: Borrow Pit EMP



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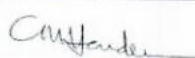
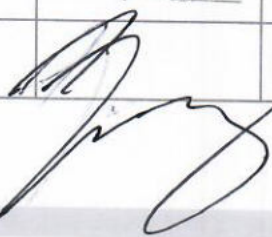
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1 OVERVIEW

1.1 Project Background

The Osona Village Development (OVD) is located approximately 10 km south of Okahandja, adjacent to the A1 Road and north-west of the Osona Military base. The OVD provides a satellite urban area which complements the existing urban area of Okahandja. It is located entirely within the proclaimed municipal area of Okahandja. The objective of the development is to engage pro-actively in the affordable land delivery process while complimenting the urban development of Okahandja (refer to **Figure 1-1** for the location of the development).



Figure 1-1: Location of Osona Village (Google Earth 2024)

Preferred Land Development Holdings (Pty) (PLDH) has ongoing development/construction in Osona Village. PLDH intends to extract the stockpiled residual materials left from the existing borrow pit (depicted in **Figure 2-1**) that was being used by VKE Namibia Consulting Engineers for the rehabilitation and upgrading of the TR9/1 road (from MR 49 to TR1/5) and TR1/6 (from MR 49 to TR7/1) between Windhoek and Okahandja under an Environmental Clearance Certificate dated 08 July 2014.

1.2 Purpose of the EMP

Regulation 8 of the Environmental Management Act's (EMA's; Act No. 7 of 2007) Environmental Impact Assessment Regulations (2012) requires that a draft Environmental Management Plan (EMP) be included as part of the scoping Environmental Assessment (EA) process. A 'management plan' is defined as:

"...a plan that describes how activities that may have significant effects on the environment are to be mitigated, controlled and monitored."

An EMP is one of the most important outputs of the EA process as it synthesises all the proposed mitigation and monitoring actions, set to a timeline and with specific assigned responsibilities. It provides a link between the impacts identified in the Environmental Impact Assessment (EIA) Process and the required environmental management on the ground during project implementation and operation.

It is important to note that an EMP is a legally binding document and a person who contravenes the provisions of this EMP may face imprisonment and/or a fine. This EMP is a living document and should be amended to adapt to project changes and/or environmental conditions and feedback from compliance monitoring.

The purpose of this document is therefore to guide environmental management throughout the life-cycle stages of the proposed development: mining operation and decommissioning. This will ensure that unnecessary damage to the environment during the mining period is avoided and mitigation measures will be implemented to minimise environmental degradation.

The following phases are addressed in this EMP:

- **Operations:** During the operational phase, PLDH will be actively loading and transporting existing aggregate stockpiles; there will be no mining of new material. PLDH will ensure that the actions provided in this report are implemented to establish accountability and responsibility between the different role players. (Because the borrow pit is already open, there is no 'construction' period as such.)
- **Decommissioning** - The period during which the Proponent may decide to discontinue with the mining operations and rehabilitate or restore the mined-out areas.

1.3 Environmental Assessment Practitioner (EAP)

GCS Water Environmental Engineering Namibia (Pty) Ltd (GCS) was appointed as independent environmental consultant to apply for the Environmental Clearance Certificate (ECC). This includes preparation and submission of the EMP for the identified site. The application will be submitted to the Environmental Commissioner at the Department of Environmental Affairs (DEA) of the Ministry of Environment, Forestry and Tourism (MEFT) for review and approval. The EMP will also be used by Contractors as well as the Proponent in guiding them during the proposed operations and rehabilitation phases to ensure that impacts on the environment are avoided altogether or are limited.

1.4 Legal Requirements

The contents of the EMP must meet the requirements Section 8 (j) of the EIA Regulations. The EMP must address the potential environmental impacts of the proposed activity throughout the project life cycle. It must also include a system for assessment of the effectiveness of monitoring and management arrangements after implementation. PLDH therefore has the responsibility to ensure that the proposed activity conforms to the principles of EMA and must ensure that any contractors appointed by them also comply with such principles.

Table 1-1: below lists the relevant Namibian legislation applicable to the project.

Table 1-1: Applicable and relevant Namibian legislations and guidelines for the EA process

Legislation	Permit/Approval/Requirement	Contact Details
Environmental Management Act 2007 Environmental Impact Assessment (EIA) Regulations (EIAR) (GG No. 4878)	Amendments (required every 3 years) to this EMP will require an amendment of the ECC for the development. Activities listed in Government Notice (GN) No. 29 of GG No. 4878 require an ECC.	Mr Damian Nchindo DEA, MEFT Tel: 061 284 2701
Water Act 54 of 1956	Prohibits the pollution of underground and surface water bodies (S23 (1)). Liability of clean-up costs after closure/abandonment of an activity (S23 (2)).	Mr Witbooi (Department of Water Affairs): Tel: (061) 208 7226

Legislation	Permit/Approval/Requirement	Contact Details
Water Resources Management Act No.11 of 2013	<p>The Act provides for the management, protection, development, use and conservation of water resources; and provides for the regulation and monitoring of water services and to provide for incidental matters. The objects of this Act are to:</p> <p>Ensure that the water resources of Namibia are managed, developed, used, conserved and protected in a manner consistent with, or conducive to, the fundamental principles set out in Section 66 - protection of aquifers, Subsection 1 (d) (iii) provide for preventing the contamination of the aquifer and water pollution control (Section 68).</p>	
Forestry Act 12 of 2001	<p>The Act provides for the management and use of forests and related products / resources. It offers protection to any living tree, bush or shrub growing within 100 metres of a river, stream or watercourse on land that is not a surveyed erven of a local authority area. In such instances, a licence would be required to cut and remove any such vegetation.</p> <p>These provisions are only guidelines.</p>	If there are trees within the proposed footprint of the project area that need to be removed, the Proponent should notify the Okahandja Forestry Department of the number and/or type of trees to be removed and apply for permit to remove protected tree species.
Namibia Urban and Regional Planning Act No 5 of 2018	To consolidate the laws relating to urban and regional planning; to provide for a legal framework for spatial planning in Namibia; to provide for principles and standards of spatial planning; to establish the urban and regional planning board; to decentralise certain matters relating to spatial planning; to provide for the preparation, approval and review of the national spatial development framework, regional structure plans and urban structure plans; to provide for the preparation, approval, review and amendment of zoning schemes; to provide for the establishment of townships; to provide for the alteration of boundaries of approved townships; to provide for the disestablishment of approved townships; to provide for the change of name of approved townships; to provide for the subdivision and consolidation of land; to provide for the alteration, suspension and deletion of conditions relating to land; and to provide for incidental matters.	<p>Mr Tobias Newaya</p> <p>Ministry of Urban and Rural Development</p> <p>tnewaya@murd.gov.na</p>
Roads Ordinance 17 of 1972	<ul style="list-style-type: none"> Section 3.1 deals with width of proclaimed roads and road reserve boundaries Section 27.1 is concerned with the control of traffic on urban trunk and main roads Section 36.1 regulates rails, tracks, bridges, wires, cables, subways or culverts across or under proclaimed roads 	<p>Ms Elina Lumbu</p> <p>Roads Authority</p> <p>Specialised road Legislation, Advise & Compliance</p> <p>lumbue@ra.org.na</p>

Legislation	Permit/Approval/Requirement	Contact Details
	<ul style="list-style-type: none"> Section 37.1 deals with Infringements and obstructions on and interference with proclaimed roads. 	

1.5 Assumptions and Limitations

This EMP has been drafted with acknowledgment of the following assumptions and limitations:

- The EMP is based on an existing opencast, mechanized borrow pit and site investigation undertaken. No detailed specialist studies were included as part of the assessment; and
- The mitigation measures recommended in this EMP document are based on the risks/impacts which were identified based on the provided project description and site investigation. Should the scope of the project change, the risks will have to be reassessed, and mitigation measures will be revised accordingly.

2 PROJECT DESCRIPTION

2.1 Background

The OVD consists of the townships Osona Village Proper to Extension 14. The overall concept of the OVD can be seen in **Figure 2-1** below. This outlines the land uses catered for within the larger OVD such as residential, schools, CBD, roads, etc.

VKE/Roads Authority established and operated the borrow pit, adjacent to A1 Road and Osona Village, for the rehabilitation and upgrading of the TR9/1 road (from MR 49 to TR1/5) and TR1/6 (from MR 49 to TR7/1) between Windhoek and Okahandja under Environmental Clearance Certificate dated 08 July 2014 (**Appendix A**).

PLDH is in the process of constructing roads in Osona Village. PLDH intends to extract the stockpiled residual materials left in the above-mentioned borrow pit over a period of about ten (10) years. VKE Namibia Consulting Engineers and the Road Authority are no longer extracting materials from the borrow pit and have not rehabilitated it. Rehabilitation of the borrow pit at this point in time would amount to the disturbance of suitable stockpiled materials, which in turn would render the materials useless for street construction purposes. Hence PLDH is requesting that the obligation to rehabilitate the borrow pit, as prescribed by the Environmental Clearance Certificate originally issued to VKE, be transferred to PLDH instead. This will allow PLDH to economically utilize the residual materials stockpiled by the Roads Authority for the purpose of constructing streets in Osona. PLDH is interested only in stockpiled materials and does not intend to mine any new material.

Since the borrow pit in question does not have a specific and valid individual clearance certificate, PLDH is prepared to assume the responsibility of rehabilitation of the borrow pit under a new, site specific clearance which is being applied for here. PLDH will comply with the EMA and all relevant regulations related thereto.



2.2 Land Environment

The project site is located on already disturbed forest land adjacent to the Osona Village. The borrow pit is unfenced. The images below indicate that the borrow pit landscape is severely disturbed, topsoil having been removed from large areas and mixed soil stockpiles created and distributed haphazardly. On some of these, there is some vegetation/ ground cover, but this will be secondary growth of species that have receded themselves. It is highly unlikely that any biodiversity resources of conservation value remain in this transformed site.



Figure 2-2: Existing Borrow Pit on the site at Osona Village

As previously mentioned, PLDH will not extract material from deeper levels but will instead remove over time the stockpiled residual materials.



2.3 Material Retrieval Process

As depicted in **Figure 2-2**, the borrow pit contains mixed soil stockpiles, including natural soils, sieved stockpiles, and aggregate stockpiles. There will be no set-up at the borrow pit of temporary structures such as toilets and site office, since the contractors already have their construction camp in Osona where their site office and toilets are. There will only be a truck going there to load the soil/materials and go back. The only staff at the borrow pit will be the truck driver and the TLB operator and perhaps a core driver to assist in covering the truck to prevent sand from being blown from it during transit.

2.4 Water Supply

Water will be required for dust suppression and drinking water for the handful of people who will be working on this project. The water will be supplied from the nearby OVD municipal network.

2.5 Archaeology

During the site visit, no archaeological or cultural heritage sites were observed or identified in the existing borrow pit area.

3 ROLES AND RESPONSIBILITIES

This section describes the roles and responsibilities of the key stakeholders involved in the development, implementation and review of the EMP.

3.1 Competent Authority

The DEA: MEFT is responsible for the review of the EMP document, it is the competent authority.

3.2 Preferred Land Development Holdings (Pty) Ltd

PLDH (or its successor in title), as it is the applicant, is ultimately responsible for the implementation of the EMP. The Proponent may delegate this responsibility at any time. The delegated responsibility for the effective implementation of this EMP will rest on the following key individuals and may be fulfilled by the same person:

- Proponent's Representative; and
- Environmental Control Officer

3.2.1 Proponent's Representative

Overall responsibility for site environmental practices will be assigned to a senior professional person referred to in this plan as the Proponent's Representative (PR). The PR's responsibilities are included in **Table 3-1** below.

Table 3-1: Responsibilities assigned to the PR for the operation and decommissioning phases

Responsibility	Project Phase
Managing the implementation of this EMP and updating and maintaining it when necessary	Throughout the lifetime of the project
Management and monitoring of individuals and/or equipment on site in terms of compliance with this EMP	Throughout the lifetime of the project
Give warnings and impose fines and penalties on the Contractor if the Contractor neglects to implement the EMP satisfactorily	Throughout the lifetime of the project
Revise the EMP as required and inform the relevant parties of the changes	Throughout the lifetime of the project
Review report regarding the implementation of the EMP and make payments to the Contractor if the EMP is being implemented in a satisfactory manner	Throughout the lifetime of the project
Protect the environment and rehabilitate the environment as prescribed in the EMP	Throughout the lifetime of the project

3.2.2 Environmental Control Officer

The Proponent should assign the responsibility of overseeing the implementation of the whole EMP on the ground to a suitably qualified person, referred to in this EMP as the Environmental Control Officer (ECO). The ECO should be available for the duration of the period and should have appropriate training and experience in the overseeing of borrow pit EMPs through operations and decommissioning.

The ECO will have the following responsibilities:

- Management and facilitation of communication between the Proponent, PR and Interested and Affected Parties (I&APs) as regards the EMP;
- Assist the PR and Contractors in finding environmentally responsible solutions to challenges that may arise;

-
- Conducting site inspections, with a recommended minimum frequency of once every three months during operations and once every six months during the rehabilitation phase, of all affected areas (audit the implementation of the EMP);
 - Advising the PR on the removal of person(s) and/or equipment not complying with the provisions of this EMP;
 - Making recommendations to the PR with respect to the issuing of fines for contraventions of the EMP;
 - Audit the performance of the Contractors and ensure compliance with the EMP and associated method statements;
 - Undertaking an annual review of the EMP and recommending additions and/or changes to this document;
 - Validating regular site inspection reports that are prepared by the Contractor's Environmental Officer (EO);
 - Checking the EO's record of environmental incidents as well as corrective and preventative actions taken;
 - Checking the EO's public complaints register in which all complaints and remedial actions taken are registered;
 - Issuing site instructions to the Contractor's EO for corrective actions required;
 - Assisting with the resolution of conflict;
 - Communicating all amendments of the EMP to the relevant stakeholders; and
 - Conducting biannual audits to ensure that the system for implementing the EMP is effective.

3.3 Contractors (operators)

The contractor should appoint an Environmental Officer (EO) who is suitably qualified to implement the EMP. The responsibilities of the Contractor include:

- Compliance with the relevant legislation and the EMP.
- Preparation and submission to the Proponent through PR the following management Plans prior to commencing work:
 - Environmental Awareness Training and Induction;
 - Emergency Preparedness and Response Plan.
 - Waste Management Plan; and
 - Health and Safety Plan;
 - Method Statements.

- Environmental awareness presentations (induction) to be given to all site personnel prior to work commencement; the EO is to provide the course content and the following topics, at least but not limited to, should be covered:
 - The importance of complying with the relevant Namibian legislation, and best practice guidelines.
 - Roles and responsibilities, including emergency preparedness.
 - Basic rules of conduct (Do's and Don'ts).
 - EMP: environmental features, impacts and mitigation.
 - Fines for failure to adhere to the EMP.
 - Health and Safety requirements.
- Record keeping of all environmental awareness training and induction presentations.

4 ENVIRONMENTAL MANAGEMENT PLAN ACTIONS

4.1 Potential environmental impacts to be managed

All development projects exert impacts on their surrounding environment. These impacts may be beneficial or adverse, depending on the improvement or the deterioration it brings about in the status of air, water, land, natural ecosystems, socio-cultural lifestyles and economy of the local population.

However, in this case, project activities will be conducted largely in an established borrow pit area in which the surface and the plant and animal communities it hosted have been transformed from their natural state by the quarrying activities previously conducted there by VKE Namibia Consulting Engineers under a clearance issued on 8 July 2014. Much of the area comprises bare ground; the sparse plant growth evident on the some of the stockpiles are secondary, self-established species that have no biodiversity value *as such*. The only impacts that this project will have are some physical impacts and potential impacts on the nearby community, as outlined below in

Table 4-1.

Table 4-1: Summary of key potential environmental impacts per project phase

	Project Phase	Potential Impacts identified in the EA
1	Operations	<p>On-site effects:</p> <ul style="list-style-type: none"> • Ground surface disturbance • Dust entrainment • Noise due to back-acter/ bulldozer and haul trucks operating • Erosion caused by uncontrolled stormwater flow • Minor pollution of soil and groundwater in the event of littering and poor waste management. • Employment creation
2	Decommissioning	<p>Decommissioning will positively affect:</p> <ul style="list-style-type: none"> • The visual landscape, by restoring landform and revegetating the site • Erosion and stormwater, by creating a self-draining landform with stormwater drainage and/or storage. • Decommissioning will negatively impact the small number of jobs created by operating this borrow pit

The EMP follows the mitigation hierarchy, where the first option considered is to avoid potential impacts. Where this is not feasible, measures are provided to reduce the significance of impacts to acceptable levels, then finally to restore conditions to acceptable standards.

Management actions recommended to manage the potential impacts outlined above are presented in the following tables:

- Operations and maintenance (
- **Table 4-2).**
- Decommissioning (**Table 4-3)**

Once this EMP has been approved, PLDH will be legally committed to enacting the specific management actions detailed in the tables below.

4.2 Phase 1: Operational Phase Management Actions

Table 4-2: Operation phase (Material Retrieval Phase) management actions

Environmental Feature	Impact	Management Actions	Monitoring	Responsibilities
EMP training	Lack of EMP awareness and the implications thereof	<ul style="list-style-type: none"> All Contractors appointed will ensure that all personnel are aware of necessary health, safety and environmental considerations applicable to their respective work. A copy of the EMP will be available at the PLDH site office. Employees appointed for work (Operations, maintenance etc.) will be made aware by the PR of the provisions of the EMP that their work must comply with. 	<ul style="list-style-type: none"> A record will be kept of training provided, inclusive of training attendance and completion. 	<ul style="list-style-type: none"> ECO PLDH Management Contractor
Auditing	EMP non-compliance	<ul style="list-style-type: none"> The ECO will inspect the site before operations commence; The ECO will inspect the site regularly during the operations; and The ECO will inspect the site at the end of the materials retrieval period to assist in the formulation of a detailed decommissioning/ rehabilitation plan. 	<ul style="list-style-type: none"> The ECO shall compile a brief monthly audit report on performance against these actions. 	<ul style="list-style-type: none"> ECO

Environmental Feature	Impact	Management Actions	Monitoring	Responsibilities
Employment	Recruitment	<ul style="list-style-type: none"> Local employment and use of local businesses/suppliers should be encouraged to promote and improve the local economy as far as reasonably possible. 	<ul style="list-style-type: none"> Inspections by PLDH Management Record keeping 	<ul style="list-style-type: none"> PLDH Management Contractor
Community relations	Communication	<ul style="list-style-type: none"> Establish an open communication channel between the developers (PLDH), the Contractors and IAPs such that any queries, complaints or suggestions can be dealt with quickly and by the appropriate person(s). 	<ul style="list-style-type: none"> Maintain complaints register. 	<ul style="list-style-type: none"> ECO EO
Health and safety	Health and Safety	<ul style="list-style-type: none"> Erect warning signs along the periphery of the borrow pit, forbidding unauthorised entry and warning of danger All PLDH and Contractor staff shall undergo health and safety induction at the start of operations. A policy of Zero Tolerance of transgressions will be applied. Site workers will be provided with drinking water at all times. A well-stocked first aid kit will be available to site workers at all times Machinery and vehicle operators will be equipped with appropriate personal protection equipment. 	<ul style="list-style-type: none"> Health and safety incident register will be maintained. A report should be made and updated of all incidents reported. The report should contain dates when training was conducted and when safety equipment and structures were inspected and maintained. 	<ul style="list-style-type: none"> EO ECO

Environmental Feature	Impact	Management Actions	Monitoring	Responsibilities
		<ul style="list-style-type: none"> No open fires may be made anywhere on site during the entire period of the project. 		
Waste Management	Visual impact; soil and groundwater contamination	<ul style="list-style-type: none"> The contractor and his personnel will adhere to all the relevant laws and regulations applicable to the disposal of waste. Staff will be sensitised to dispose of waste in a responsible manner and not to litter. The site will always be kept tidy and free of litter. No waste may be buried or burned in the borrow pit. Given the limited nature of material retrieval operations at the site, eating will be done at PHDL's Osona site office, thus avoiding any disposal of food wastes in the borrow pit area Maintenance and washing of vehicles and machinery will not take place routinely at the borrow pit. Should a break-down require infield repair, drip trays and closed receptacles for used oil are to be used. Used oil can be recycled through local channels. 	<ul style="list-style-type: none"> Regular inspections. Observation of mining sites appearances by the manager. 	<ul style="list-style-type: none"> ECO EO/ Contractor

Environmental Feature	Impact	Management Actions	Monitoring	Responsibilities
Fauna and Flora	Ecological Impacts	<ul style="list-style-type: none"> The intentional killing by employees of any animal on or near the borrow pit will be regarded as illegal poaching, for which the punishment is dismissal. 	<ul style="list-style-type: none"> Maintain a record of road kills by Company vehicles 	<ul style="list-style-type: none"> ECO Contractor
Fire preparedness	Runaway fires	<ul style="list-style-type: none"> While igniting a fire in this landscape is very unlikely, good practice mandates the formulation of a basic fire-fighting emergency response plan, eg in the event of a vehicle catching alight. 	<ul style="list-style-type: none"> Incident report to be written up should any such incidents occur 	<ul style="list-style-type: none"> ECO
Archaeological	Archaeological Sites	<p>During the materials retrieval activities, the contractor might come across archaeological features or objects that possess cultural values.</p> <ul style="list-style-type: none"> If archaeological remains or objects with cultural values (e.g. pottery, bones, shells, ancient clothing or weapons, ancient cutlery, graves etc) are uncovered at the project location or surroundings, the area will be barricaded off and the relevant authorities contacted immediately. Any archaeological site thus found is to be protected with fencing and No Entry signs erected before quarrying activity recommences. 	<ul style="list-style-type: none"> Record of any discoveries and proof of notifications to authorities should be kept on SHE files. 	<ul style="list-style-type: none"> ECO PLDH Management Contractor
Noise Pollution	Noise nuisance impact	<ul style="list-style-type: none"> Maintain vehicles and machinery in optimal condition to minimize noise. Quarrying operations will take place only between 07H00 to 18H00. 	<ul style="list-style-type: none"> Strict operational times. Maintain complaints register. 	<ul style="list-style-type: none"> ECO Contractor

Environmental Feature	Impact	Management Actions	Monitoring	Responsibilities
		<ul style="list-style-type: none"> No work may be conducted on public holidays unless permission is given by the PLDH and the relevant affected community. Workers at the quarry are to wear appropriate personal protective equipment (PPE), as dictated by the Health and Safety Representative. Any complaints received by the Contractor regarding noise will be recorded and communicated to the ECO. Public perceptions and complaints with regards to noise and other impacts will be recorded and corrective measures taken (also recorded) as necessary. 		
Air Pollution	Dust Impact	<ul style="list-style-type: none"> Water suppression should be done on the haul road at a rate and frequency sufficient to prevent nuisance dust reaching residential areas. Dust protection masks may be provided to workers in very windy, dusty conditions. Excavation, handling and transport of materials should be avoided under high wind conditions. All vehicles entering the site and machinery used on the project must be in good working condition to prevent unnecessary gaseous emissions. 	<ul style="list-style-type: none"> Strict operational times. Regular visual inspection. Maintain complaints register. 	<ul style="list-style-type: none"> ECO Contractor

Environmental Feature	Impact	Management Actions	Monitoring	Responsibilities
Surface water impacts	Erosion and sediment transport	<ul style="list-style-type: none">• Should stormwater drain from the site in an uncontrolled fashion, causing erosion, surface recontouring may be done to contain any such runoff, or to discharge it in a controlled manner with erosion protection in place	<ul style="list-style-type: none">• Regular visual inspection.•	<ul style="list-style-type: none">• ECO• PLDH Management• Contractor
Soil and groundwater impacts	Groundwater Contamination	<ul style="list-style-type: none">• Groundwater impacts can be expected to be minimal, unless there is a spillage• Any spillage of hydrocarbons including fuels, oils, lubricants and grease will be cleaned up and disposed of immediately at the designated disposal facility.• Drip trays and/or plastic sheeting will be used in the event of infield repairs• Sewage from the portaloo will be regularly removed by honeysucker and disposed at the nearest municipal sewage works	<ul style="list-style-type: none">• Regular visual inspection.	<ul style="list-style-type: none">• ECO• PLDH Management• Contractor

4.3 Phase 2: Rehabilitation and Decommissioning Management Actions

Table 4-3 below presents the general principles of management actions for the decommissioning phase. Given the long lead time (10 years or so) to decommissioning, it is not feasible at this point to specify the details of a site rehabilitation plan. Management actions indicated for the operational phase remain applicable until decommissioning.

Table 4-3: Decommissioning phase management actions

Environmental Feature	Impact	Management Actions	Monitoring	Responsibilities
Employment	Loss of employment	<ul style="list-style-type: none"> The Proponent will inform the Contractors to inform their employees well in advance (no less than 2 months), of its intentions to close the borrow pit, and the expected date of such. 	<ul style="list-style-type: none"> Official communications will be in a black and white and will be kept on the SHE file by contractor and PLDH Management. 	<ul style="list-style-type: none"> PLDH Management Contractor
Auditing	EMP compliance	<ul style="list-style-type: none"> The ECO will audit the implementation of the rehabilitation plan. The ECO will sign off on the closure of the site following an inspection of the site at the end of the project. The inspection must verify that the agreed closure criteria have been met, eg. acceptable surface contouring/ X percentage vegetation cover obtained. 	<ul style="list-style-type: none"> Monitor the implementation of the EMP and Restoration/Rehabilitation Plan 	<ul style="list-style-type: none"> ECO PLDH Management
Solid Waste	Waste management	<ul style="list-style-type: none"> Bulk material wastes, if they will not leach any pollutants, can be used for backfilling and re-shaping the land surface. 	<ul style="list-style-type: none"> Final inspection 	<ul style="list-style-type: none"> ECO PLDH Management Contractor

Environmental Feature	Impact	Management Actions	Monitoring	Responsibilities
Rehabilitation	Soil, surface and groundwater contamination	<ul style="list-style-type: none"> Upon project completion, the Contractor shall ensure that all worked areas be restored to a condition that is as good as their original state (as per Namibia's EMA Regulations), where feasible. A simple site rehabilitation plan will be drawn up by project engineers and a restoration ecologist that details: <ul style="list-style-type: none"> Where and how disturbed surfaces are to be reworked and contoured to create a landform that is similar to or compatible with landforms in the surrounding region; Surface water drainage to support plant growth in places (swales/ contour banks) and rapid discharge in others, to support a self-sustaining landscape; Specifications for a self-sustaining revegetation plan using indigenous seeds and plant material if feasible. Fast-growing, annual ground cover species, exotic or indigenous, may first have to be used to create a micro-climate for the longer-lasting perennial, indigenous species. 	<ul style="list-style-type: none"> A series of photographs before and after rehabilitation is to be taken The outcomes of the rehabilitation process may be documented in a report. 	<ul style="list-style-type: none"> Independent Specialist Consultant (Restoration Ecologist) Contractor EO ECO, and PLDH Management

5 CONCLUSION

Based on the recommendation given in this EMP, GCS is confident that the activities as described in **Chapter 2**, may be granted an Environmental Clearance Certificate, provided that the EMP is implemented and that all the legal requirements pertaining to this proposal are complied with.

6 REFERENCES

Geo Experts Consulting Services CC. (n.d.). *Cement Raw Material on Farm Simplon and Surroundings (Karas Region)*.

**APPENDIX A: VKE NAMIBIA CONSULTING ENGINEERS ENVIRONMENTAL CLEARANCE
CERTIFICATE**



REPUBLIC OF NAMIBIA

MINISTRY OF ENVIRONMENT AND TOURISM

Tel: +264 61 2842701
Fax: +264 61 240339
Enquiry: Saima Angula

Capital Centre, 6th Floor
Private Bag 13306
Windhoek
8 July 2014

OFFICE OF THE ENVIRONMENTAL COMMISSIONER

The Managing Member
VKE Namibia Consulting Engineers (Pty) Ltd
P.O. Box 45
Windhoek

Dear Sir or Madam

SUBJECT: ENVIRONMENTAL CLEARANCE FOR THE ENVIRONMENTAL SCOPING FOR THE PROPOSED REHABILITATION AND UPGRADING OF TR9/1 (FROM MR 49 TO TR1/5) AND TR1/6 (FROM MR 49 TO TR7/1) BETWEEN WINDHOEK AND OKAHANDJA, KHOMAS REGION

The Environmental Scoping Report submitted is sufficient as it made an adequate provision of the environmental management during your project activities. From this perspective regular environmental monitoring and evaluations on environmental performance should be conducted. Targets for improvements should be established and monitored throughout this process.

In view of the fact that your project is located in an environmentally sensitive area, this clearance is issued with the following conditions.

- a. Unnecessary removal of vegetation should be avoided.
- b. Measures should be put in place to suppress dust.
- c. The noise level must be minimized.

Additionally, you are informed that further legislative and regulatory conditions may still be attached during the operational phase of the project

On the basis of the above, this letter serves as an environmental clearance for the project to proceed. However, this clearance letter does not in anyway hold the Ministry of Environment and Tourism accountable for misleading information, nor any adverse effects that may arise from this project's activities. Instead, full accountability rests with the proponent and his/ her consultants.

Yours sincerely,


Teofilus Nghitila
Office of the
ENVIRONMENTAL COMMISSIONER

APPENDIX B: CV OF EAP



Elina Shangeelao Pelivavali Vakuwile
Environmental Consultant

CORE SKILLS

- Environmental Impact assessment
- Environmental Management and mitigation Plan
- Environmental Monitoring
- Public Consultation/ participation and stakeholder engagement
- Client engagement
- Waste Management
- Occupational Health and Safety
- Project Management
- Business Administration

DETAILS

Qualifications:

- NEBOSH International General Certificate in Occupational Health and Safety. (In Progress)
- B-TECH Environmental Management
- ND: Environmental Management
- Supervision of Solid Waste Management Practice (Certificate)
- Project Management 1 (Certificate)
- Secretarial and Administration (Diploma with Pitman)

Membership:

EAPAN Environmental Practitioners Association of Namibia

Languages:

English
Oshiwambo

Countries Worked In:

Namibia

PROFILE

Elina is an Environmentalist, a Registered Environmental Assessment Practitioner (EAP) with experience in Environmental projects in various sectors. Her work experience ranges from environmental assessments for urban development projects, Agricultural projects, Residential projects, sand mining projects, waste as well as Occupational Health and Safety. She has conducted various public participation and stakeholder engagement for Environmental Assessment projects.

Professional Affiliations:

EAPAN (Environmental Practitioners Association of Namibia)

Areas of Expertise:

- Environmental Impact assessment
- Environmental management and mitigation
- Environmental compliance monitoring and reporting
- Health Safety and Environment (HSE)



Professional Experience

Period	Employer	Position	Role/ Responsibility
03 April 2023 to present	GCS	Environmental Consultant	<ul style="list-style-type: none"> ➤ Environmental Impact assessment ➤ Environmental Management Plans ➤ Environmental Compliance Monitoring Audit ➤ Public participation and stakeholder engagement
01 September 2022 - 31 March 2023	James and Young Trading Enterprise cc	Health and Safety Officer	<ul style="list-style-type: none"> ➤ Review contractors safety programs ➤ Plan and Implement Work Health and Safety Policies and programs ➤ Conduct safety training for workers ➤ Make on-site inspections ➤ Investigate accidents and incidents ➤ Monitoring the site for compliance ➤ Keeping records of incidents & safety concerns ➤ Prepare and Submit reports
06 December 2021 - 31 January 2022	Ministry of Health & Social Services. Ohangwena Region: Eenhana District Oshikunde Constituency	Temporary Spraying Operator (Supervisor) of the Indoor Residual Spraying on Malaria Spraying Programme	<ul style="list-style-type: none"> ➤ Supervising all Temporary Spraying Operators during the Indoor residual spraying programme ➤ Ensuring sumishield (for buildings) is sprayed on the right structure and that DDT (for traditional rooms) is sprayed on the right structures.
30 November 2020 - 14 April 2021	Namibia Statistics Agent (NSA)	Mapper/Enumerator	<ul style="list-style-type: none"> ➤ Enumerating the total population ➤ Responsible for updating structures, dwelling units and households within the allocated Enumeration Areas (EA's)
27 November 2019 only	Electoral Commission of Namibia (ECN) Ohangwena Region: Eenhana Constituency	Polling Officer (Temporary)	<ul style="list-style-type: none"> ➤ Handling of all polling materials
03 July 2017 - 29 May 2020	Nghivelwa Planning Consultant	EIA Consultant (Associate)	<p><u>Environmental Consulting Services e.g.</u></p> <ul style="list-style-type: none"> ➤ Environmental Impact Assessment (EIA) ➤ Environmental Management Plans (EMP) ➤ Site visits/ Investigations ➤ Conducting Public Consultation meetings

Professional Experience

07 March 2016 - 30 November 2016	Gobabeb Research and Training Centre	Environmental Educator (internship)	<ul style="list-style-type: none"> ➤ Training Primary, Secondary and Tertiary Students focusing on how organisms adapt to arid-environments. ➤ Tour Guide; giving Station Tour, Nature Walk Tour and Night Walk Tour to Tourists, Guests and Interns ➤ Planning, Budgeting, Organising summits, ➤ Scientific Research ➤ Monitoring long-term In-house Environmental Research Programmes (e.g Dune Morphology, Welwitschia Leaf Growth Monitoring, Borehole Monitoring, Tenebrionid beetles and other species, Daily Weather recording, ➤ Air sampling with NOAA- National Oceanic Atmospheric Administration ➤ Operating the EM27 Bruker Spectrometer ➤ Atmospheric Science and Meteorology studies
18 May 2015 to 31 January 2016	Nam Geo-Enviro Solutions cc	Environmental Consultant	<p><u>Environmental Consulting Services e.g.</u></p> <ul style="list-style-type: none"> ➤ Environmental Impact Assessment (EIA) ➤ Environmental Management Plans (EMP) ➤ Site visits/ Investigations ➤ Conducting Public Consultation meetings
01 September 2013 to 31 January 2014	Ministry of Agriculture, water and forestry: (Windhoek) Division: Water Planning	Environmental Management Trainee (Internship)	<ul style="list-style-type: none"> ➤ Gathering EIA Data ➤ Assisting on Natural Resource Management ➤ Administration work
01 December 2011- 20 January 2012	Eenhana Town Council	Environmental Management Trainee (Internship)	<ul style="list-style-type: none"> ➤ Waste Management ➤ Controlling of Environmental Pollutions and Contaminations ➤ Food Hygiene ➤ Ecological Footprint ➤ Epidemiology and Occupational Safety ➤ Administration duties
29 November 2010-18 January 2011 & 01 December 2009- 08 January 2010	Ondangwa Town Council	Environmental Management Trainee (Internship)	<ul style="list-style-type: none"> ➤ Issuing Business Registration Certificates ➤ Issuing Business Fitness Certificates ➤ Doing inspections ➤ Food Hygiene ➤ Waste Management ➤ Visiting the Municipality Kraal daily ➤ Issuing Fine Letters and other related administration duties

Professional Experience

20 February 2008- 12 January 2009	Onamagongwa Trading Enterprises cc	Secretary	<ul style="list-style-type: none">➤ Reception telephone screening➤ Administrative work➤ Telephone reconciliation
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Year	Client	Project Description	Role/Responsibility
2023	SPC	Subdivision, Rezoning, Registration of “Right of Way” Servitude and the Registration of 15m wide Waterline Servitude on the Remainder of the Farm Hentiesbaai Townlands No. 133 Erongo Region.	Project Manager & EAP
2023	SPC	Subdivision, Rezoning, Creation of Street, and the Registration of 15m wide Waterline Servitude on Erf 1924, Hentiesbaai Extension 8, Erongo Region.	Project Manager & EAP
2023	SPC	Establishment of the Flexible Land Tenure Scheme in Ndama-South Informal Settlement in Rundu, Kavango-East Region.	Project Manager & EAP
2023	SPC	Establishment of the Flexible Land Tenure Schemes in Ombili and Bonya Informal Settlement in Helao Nafidi, Ohangwena Region.	Project Manager & EAP
2023	SPC	Subdivision of the Remainder of the Farm Ondangwa Town and Townlands No. 882 into Portion A, B and the Remainder for the Townships Establishment of Omashaka Proper and Omashaka Extension 1.	Project Manager & EAP
2023	SPC	Environmental Clearance Certificate Renewal for Various Township Establishments, creation of street and installation of bulk services, Helao Nafidi, Ohangwena Region.	Project Manager & EAP
2023	SPC	Environmental Impact Assessment for the Proposed Township Establishment, Creation of Street and Installation of Bulk Services for Rundu Extension 30, Kavango East Region.	Project Manager & EAP
2023	SPC	Environmental Impact Assessment for the Proposed Subdivision and Street Creation on Erf 1390, Rundu Extension 4, Kavango East Region.	Project Manager & EAP
2023	SPC	Environmental Impact Assessment for the Proposed Permanent Closure, Rezoning and Subdivision of Erf 4241, Kaisosi Extension 12, Kavango East Region.	Project Manager & EAP
2023	SPC	Subdivision, Rezoning and Creation of Street on Erf 4181, Oshakati Extension 16, Oshana Region.	Project Manager & EAP
2023	SPC	Township Establishment, Creation of Street, and Installation of Bulk Services on Erf A/RE/1574, Uupindi North to be known as Uupindi Extension 1, Oshakati, Oshana Region.	Project Manager & EAP
2022	Eongelo Fishing Company (Pty) Ltd.	Environmental Impact Assessment for the For the Proposed Subdivision of Erf 685 into Portion A and Reminder. Subsequent Permanent Closure of Portion A and Rezoning of	EAP



Project Experience

		Portion A (a Portion of Erf 685) Nkurenkuru Extension 1 from “Public Open Space” to “Business” with a Bulk of 3.0.	
2022	Monte Carlo Guest House	Environmental Impact Assessment for the proposed Subdivision of Erf 133 into Portion A and Reminder and Permanent Closure of Portion A as a Public Open Space in Eenhana Town, Ohangwena Region, Namibia.	EAP
2020	Irvington	Environmental Impact Assessment for the Establishment of a Milling Plant on a 2 ha of Farm Irvington No. 744 in Grootfontein for the Irvington Irrigation Project. (May 2020)	EAP
2020	MEFT	Environmental Impact Assessment for the Closure of Reminder of Erf 87, Lafrenz as an Open Space and Subsequent Rezoning and Subdivision of Erf 87 within Windhoek City for the Ministry of Environment and Tourism	EAP
2019	ACH Trading cc	Environmental Impact Assessment for for the proposed Incorporation and Subdivision of Portion 12 of the Farm Okakarara Townland No. 517, Okakarara Town. Township Establishment in Okakarara	EAP
2018	SOK Printing Master Design	Environmental Impact Assessment for Omulunga Extension 9 Township Establishment in Grootfontein	EAP
2018	NTA	Environmental Impact Assessment for for the construction of a Vocational Training Centre at Erf 16, Nkurenkuru for Namibia Training Authority	EAP
2018	Tsandi Village Council	Environmental Impact Assessment for Tsandi Sand Mining Activity for Tsandi Village Council	EAP
2017	Ruacana Town Council	Environmental Impact Assessment for Okonjota Township Establishment in Ruacana for Ruacana Town Council	EAP
2017	Melody Trading	Environmental Impact Assessment for Melody Service Station in Oshigambo	EAP
2017	Ayesha Trading	Environmental Impact Assessment for Ayesha Service Station in Oshikunde, Ohangwena Region	EAP
2017	Sinamu Trading	Environmental Impact Assessment for Omutsegonime Service Station	EAP
2015	Three Sisters Nanyeni Investment	Environmental Impact Assessment for Three Sisters Service Station at Ondangwa	EAP



Project Experience

2015	Mr. Agrippa Shilongo	Environmental Impact Assessment for Service Station at Omungwelume, Ohangwena Region	EAP
2015	Aloe Investments Number 27 (Pty) Ltd	Environmental Impact Assessment for Solar 5 (MW) PV Plant at Rosh Pinah	EAP
2015	J & M Trading	Environmental Impact Assessment for J & M Trading Service Station at Oniipa, Oshikoto Region	EAP
2015	Longa Trailers cc	Environmental Impact Assessment for Longa Service Station at Oniipa, Oshikoto Region	EAP
2015	Baby Face Civils cc	Environmental Impact Assessment for Mining Quarry at Okahandja	EAP
2015	Sanny Auto Repar cc	Environmental Impact Assessment for SAR Service Station at Ogongo, Omusati Region	EAP



Project Experience

DECLARATION

I, Elina Shangeelao Pelivavali Vakuwile, hereby declare that the details furnished above are true and correct to the best of my knowledge and belief and I undertake to inform you of any changes therein, immediately. In case any of the above information is found to be false or untrue or misleading or misrepresenting, I am aware that I may be held liable for it.

A handwritten signature in purple ink, appearing to be 'ES' followed by a long horizontal line and a small flourish at the end.

Signature:

Date: 12 December 2023

APPENDIX C: GUIDELINE ECO ENVIRONMENTAL AUDITING REPORT

Reported by:

Date:

Environmental Feature	Impact	Management Actions	Observation	Remedial Action	Compliance (Yes/No)
EMP training	Lack of EMP awareness and the implications thereof	<ul style="list-style-type: none">• All Contractors appointed will ensure that all personnel are aware of necessary health, safety and environmental considerations applicable to their respective work.• A copy of the EMP will be available at the site office.• Employees appointed for work (Operations, maintenance etc.) will be made aware by the PR of the provisions of the EMP that their work must comply with.			

Environmental Feature	Impact	Management Actions	Observation	Remedial Action	Compliance (Yes/No)
Auditing	EMP non-compliance	<ul style="list-style-type: none">• The ECO will inspect the site before operations commence;• The ECO will inspect the site monthly during the operations; and• The ECO will inspect the site at the end of the materials retrieval period to assist in the formulation of a detailed decommissioning/rehabilitation plan.			

Environmental Feature	Impact	Management Actions	Observation	Remedial Action	Compliance (Yes/No)
Waste Management	Visual impact and soil contamination	<ul style="list-style-type: none"> The contractor and his personnel will adhere to all the relevant laws and regulations applicable to the disposal of waste. Staff will be sensitised to dispose of waste in a responsible manner and not to litter. The site will always be kept tidy and free of litter. No waste may be buried or burned in the borrow pit. Given the limited nature of material retrieval operations at the site, eating can be done at PHDL's Osona site office, thus avoiding any disposal of food wastes in the borrow pit area One waste bin could be positioned adjacent to the portaloo at the borrow-pit, and this emptied regularly. (It will need to be animal-proof) 			

Environmental Feature	Impact	Management Actions	Observation	Remedial Action	Compliance (Yes/No)
		<ul style="list-style-type: none"> Maintenance and washing of vehicles and machinery will not take place routinely at the borrow pit. Should a break-down require infield repair, drip trays and closed receptacles for used oil are to be used. Used oil can be recycled through local channels. 			
Noise	Disturbance to fauna	<ul style="list-style-type: none"> Maintain vehicles and machinery in optimal condition to minimize noise. Quarrying operations will take place only between 07H00 to 18H00. No work may be conducted on public holidays unless permission is given by the PLDH and the relevant affected community. Workers at the quarry are to wear appropriate personal protective equipment (PPE), as dictated by the Health and Safety Representative. Any complaints received by the Contractor regarding noise will be recorded and communicated to the ECO. 			

Environmental Feature	Impact	Management Actions	Observation	Remedial Action	Compliance (Yes/No)
		<ul style="list-style-type: none"> Public perceptions and complaints with regards to noise and other impacts will be recorded and corrective measures taken (also recorded) as necessary. 			
Health and Safety	Health and Safety on site	<ul style="list-style-type: none"> Erect warning signs along the periphery of the borrow pit, forbidding unauthorised entry and warning of danger All PLDH and Contractor staff shall undergo health and safety induction at the start of operations. A policy of Zero Tolerance of transgressions will be applied. Site workers will be provided with drinking water at all times. A well-stocked first aid kit will be available to site workers at all times Machinery and vehicle operators will be equipped with appropriate personal protection equipment. No open fires may be made anywhere on site during the entire period of the project. 			

Environmental Feature	Impact	Management Actions	Observation	Remedial Action	Compliance (Yes/No)
Employment	Recruitment	<ul style="list-style-type: none"> Local employment and use of local businesses/suppliers should be encouraged to promote and improve the local economy as far as reasonably possible. 			
Soil	Soil contamination	<ul style="list-style-type: none"> Spill control preventative measures should be put in place to manage soil contamination. Potential contaminants such as wastewater should be contained on site and disposed of in accordance with municipal wastewater discharge standards so that they do not contaminate surrounding soils. Soil contamination should be monitored on site daily by PR and monthly by ECO. 			
Water Management	Groundwater contamination	<ul style="list-style-type: none"> Groundwater impacts can be expected to be minimal, unless there is a spillage 			

Environmental Feature	Impact	Management Actions	Observation	Remedial Action	Compliance (Yes/No)
		<ul style="list-style-type: none"> Any spillage of hydrocarbons including fuels, oils, lubricants and grease will be cleaned up and disposed of immediately at the designated disposal facility. Drip trays and/or plastic sheeting will be used in the event of infield repairs Sewage from the portaloo will be regularly removed by honeysucker and disposed at the nearest municipal sewage works 			
Archaeology	Archaeological Impacts	<ul style="list-style-type: none"> Should a heritage site or archaeological site be uncovered or discovered on site, a “chance find” procedure should be applied in the order they appear below: <ul style="list-style-type: none"> If operating machinery or equipment, stop work; Demarcate the site with danger tape; Determine GPS position if possible; 			

Environmental Feature	Impact	Management Actions	Observation	Remedial Action	Compliance (Yes/No)
		<ul style="list-style-type: none"> ○ Report findings to the construction foreman; ○ Report findings, site location and actions taken to superintendent; ○ Cease any works in immediate vicinity; ○ Visit site and determine whether work can proceed without damage to findings; ○ Determine and demarcate exclusion boundary; ○ Site location and details to be added to the project's Geographic Information System (GIS) for field confirmation by archaeologist; ○ Inspect site and confirm addition to project GIS; 			

Environmental Feature	Impact	Management Actions	Observation	Remedial Action	Compliance (Yes/No)
		<ul style="list-style-type: none"> ○ Advise the National Heritage Council of Namibia (NHCN) and request written permission to remove findings from work area. • Recovery, packaging and labelling of findings for transfer to National Museum. 			
Traffic	Traffic Impacts	<ul style="list-style-type: none"> • Introduce speed limits and signage within the facility. • Roads to be clearly demarcated. • No off-road driving to be permitted on site. 			
Community relations	Communication	<ul style="list-style-type: none"> • Establish an official complaints procedure and communicate the procedure to all stakeholders. Ensure that feedback loops are in place. 			
Poaching	Wildlife disturbance	<ul style="list-style-type: none"> • Ensure all staff, residents and local community members are aware of the regulations relating to the 			

Environmental Feature	Impact	Management Actions	Observation	Remedial Action	Compliance (Yes/No)
		<p>harvesting of natural resources (firewood) and the need for these.</p> <ul style="list-style-type: none">• Enforce regulations to prohibit stripping of natural vegetation.• Ensure that poaching is not tolerated and that action is taken against any offenders in collaboration with MEFT.			