

MAKOYA SUPPLY CHAIN HOLDINGS (PTY) LTD. BLINKPAN SIDING



ENVIRONMENTAL MANAGEMENT PROGRAMME FOR THE AIR EMISSION LICENSE FOR THE BLINKPAN SIDING, MPUMALANGA PROVINCE

Submitted to:

Mpumalanga – Department of Economic Development, Environment and Tourism

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REPORT



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Nkankala District Municipality



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GLOSSARY

Table 1: Terms and definitions

TERM	DEFINITION
Applicant:	The Applicant is the Developer – Makoya Supply Holdings (Pty) Ltd.
Container:	Disposable or re-usable vessel in which waste is placed for the purposes of storing, accumulating, handling, transporting, treating or disposing of that waste and include bins, bin liners and skips.
Contaminated water:	Means any water contamination by the Contractor’s activities, e.g. run-off from plant or personnel wash areas.
Corrective (or remedial) action:	Response required to addressing an environmental problem that is in conflict with the requirements of the EMP. The need for corrective action may be determined through monitoring, audits or management review.
Degradation:	The lowering of the quality of the environment through human activities, e.g. river degradation, soil degradation.
Developer:	The Developer is the Applicant: Makoya Supply Chain Holdings (Pty) Ltd.
Disposal:	The burial, deposit, discharge, abandoning, dumping, placing or release of waste into or onto any land.
Domestic Waste:	Waste (excluding hazardous waste), that emanates from premises that area wholly or mainly for residential, educational, health care, sport or recreation purposes.
Emergency:	An unexpected sudden occurrence, including a major emission, fire or explosion leading to serious danger to the public or potentially serious pollution of or detriment to the environment, whether immediate or delayed.
Environment:	<p>The surroundings within which humans live and that consist of :</p> <ul style="list-style-type: none"> (i) the land, water an atmosphere of the earth; (ii) micro-organisms, plant and animal life (iii) any part or combination of (i) and (ii) and the interrelationships among and between them; and the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and well-being.
Environmental Audit:	A systematic, documented verification process of objectively obtaining and evaluating evidence to determine whether specified environmental activities, events, conditions,

	management systems, or information about these matters conform with audit criteria, and communicating the results of this process to the client.
General Waste:	Waste that does not pose an immediate threat or hazard to health or to the environment, and includes: <ul style="list-style-type: none"> (a) Domestic waste (b) Building and demolition waste (c) Business waste; and (d) Inert waste
Groundwater:	All subsurface water that fills voids between highly permeable ground strata comprised of sand, gravel, broken rocks, porous rocks, etc. and move under the influence of gravitation.
Hazardous Waste:	Any waste that contains organic or inorganic elements or compounds that may, owing to the inherent physical, chemical or toxicological characteristics of that waste, have detrimental impact on health and the environment.
Holder of Waste:	Any person who imports, generates, stores, accumulates, transports, processes, treats or exports waste or disposes of waste.
Impact:	A description of the potential effect or consequence of an aspect of the development on a specified component of the biophysical, social or economic environment within a defined time and space.
Inert Waste:	Waste that: <ul style="list-style-type: none"> (a) Does not undergo significant physical, chemical or biological transformation after disposal; (b) Does not burn, react physically or chemically, biodegrade or otherwise adversely affect any other matter or environmental with which it may come into contact and (c) Does not impact negatively on the environment because of its pollutant content and because the toxicity of its leachate is insignificant
Infrastructure:	The network of facilities and services that are needed for economic activities, e.g. roads, electricity, water, sewerage.
Integrated :	Mixing or combining all useful information and factors into a joint or unified whole. See Integrated Environmental Management.
Integrated Environmental Management (IEM):	A way of managing the environment by including environmental factors in all stages of development. This includes thinking about physical, social, cultural and economic factors and consulting with all the people affected by the proposed developments.
Interested and Affected Parties (I&AP's):	Those individuals or organisations that have an interest in the proposed development or will be directly affected by the activities of the development, as identified in the environmental impact assessment process.

Local Authority:	Steve Tshwete Local Municipality
Mitigation:	Measures designed to avoid, reduce or remedy adverse impacts.
Natural environment:	Our physical surroundings, including plants and animals, when they are unspoiled by human activities.
Pollutant:	A contaminant at a concentration high enough to endanger the environment or the public health.
Pollution:	<ul style="list-style-type: none"> • <i>National Water Act, 36 of 1998</i>: “Water pollution means the direct or indirect alteration of the physical, chemical or biological properties of a water resource so as to make it – <ul style="list-style-type: none"> (a) less fit for any beneficial purpose for which it may reasonably be expected to be used; or (b) harmful or potentially harmful – <ul style="list-style-type: none"> (aa) to the welfare, health or safety of human beings; (bb) to any aquatic or non-aquatic organisms; (cc) to the resource quality; or (dd) to property”. • <i>National Environmental Management Act, No. 107 of 1998</i>:- “pollution means any change in the environment caused by – <ul style="list-style-type: none"> (i) substances; (ii) radioactive or other waves; or (iii) noise, odours, dust or heat <p>emitted from any activity, including the storage or treatment of waste or substances, construction and the provision of services, whether engaged in by any person or an organ of state, where that change has an adverse effect on human health or well-being or on the composition, resilience and productivity of natural or managed ecosystems, or on materials useful to people, or will have such an effect in the future.”</p>
Recycle:	A process where waste is reclaimed for further use, this process involves the separation of waste from a waste stream for further use and the processing of that separated materials as a product or raw material.
Rehabilitation:	Rehabilitation is defined as the return of a disturbed area to a state which approximates the state (wherever possible) which it was before disruption.
Re-use:	To utilise articles from the waste stream again for a similar or different purpose without changing the form or properties of the articles.

SANS 10234:	Latest edition of the South African National Standard Globally harmonised System of the Classification and Labelling of Chemicals (GHS)
Storage:	The accumulation of waste in a manner that does not constitute a treatment or disposal of that waste.
Waste:	<p>Any substance, whether or not that substance can be reduced, re-used or recycled and recovered-</p> <ul style="list-style-type: none"> (a) That is surplus, unwanted, rejected, discarded, abandoned or disposed of; (b) Which the generator has no further use of for the purposes of production; (c) That must be treated or disposed of; or (d) That is identified as waste by the Minister by notice in the Gazette and includes waste generated by the mining, medical or other sector, but – <ul style="list-style-type: none"> (i) A by-product is not considered waste <p>Any portion of waste, once reused, recycled and recovered, ceases to be waste.</p>
Waste Classification:	<p>Establishing –</p> <ul style="list-style-type: none"> (a) Whether a waste is hazardous or not based on the nature of its physical, health and environmental hazardous properties (hazard classes); and (b) The degree or severity of the hazard posed (hazard categories)
Waste Generator:	Any person whose actions, production processes or activities including waste management activities, results in the generation of waste.
Waste Management:	Classifying, recycling, treatment and disposal of waste generated during operational activities.
Waste Manager:	Any person who re-uses, recycles, recovers, treats or disposes of waste.

1. INTRODUCTION

1.1 Background

The Applicant, Makoya Supply Chain Holdings (Pty) Ltd – Coal Terminal Operations, is making an Application for Environmental Authorisation for the proposed Blinkpan Railway Siding in the Mpumalanga Province, in terms of the National Environmental Management Act, Act No. 107 of 1998 (as amended) (NEMA), the National Environmental Management: Air Quality Act, Act No. 36 of 2004 and the Environmental Impact Assessment (EIA) Regulations 2010. This Application for Environmental Authorisation is being made to the Competent Authority (CA), namely, the Mpumalanga Department of Economic, Environment and Tourism, hereafter referred to as MDEDET, and is required since the proposed development triggers activities which are listed in terms of the NEMA Environmental Impact Assessment Regulations 2010.

Environmental Assurance (Pty) Ltd. has been appointed by Makoya Supply Chain Holdings (Pty) to complete the Basic Assessment Process including the Environmental Management Programme (EMP) dealing with the operational phases associated with the following development proposal:

Upgrade of the Blinkpan siding with a total development footprint of 492, 71 ha (refer to Figure 1 below) which includes the following infrastructure:

- Containers (offices and reception area, workshops, ablution and change rooms, weigh bridge offices);
- Building structure (main offices);
- Weigh bridges;
- Diesel depot;
- Relevant services (water, sanitation and electrical);
- Railway line;
- Gravel access roads;
- Stormwater infrastructure;
- Pollution control dams;
- Slurry dams; and
- Clean water channels.

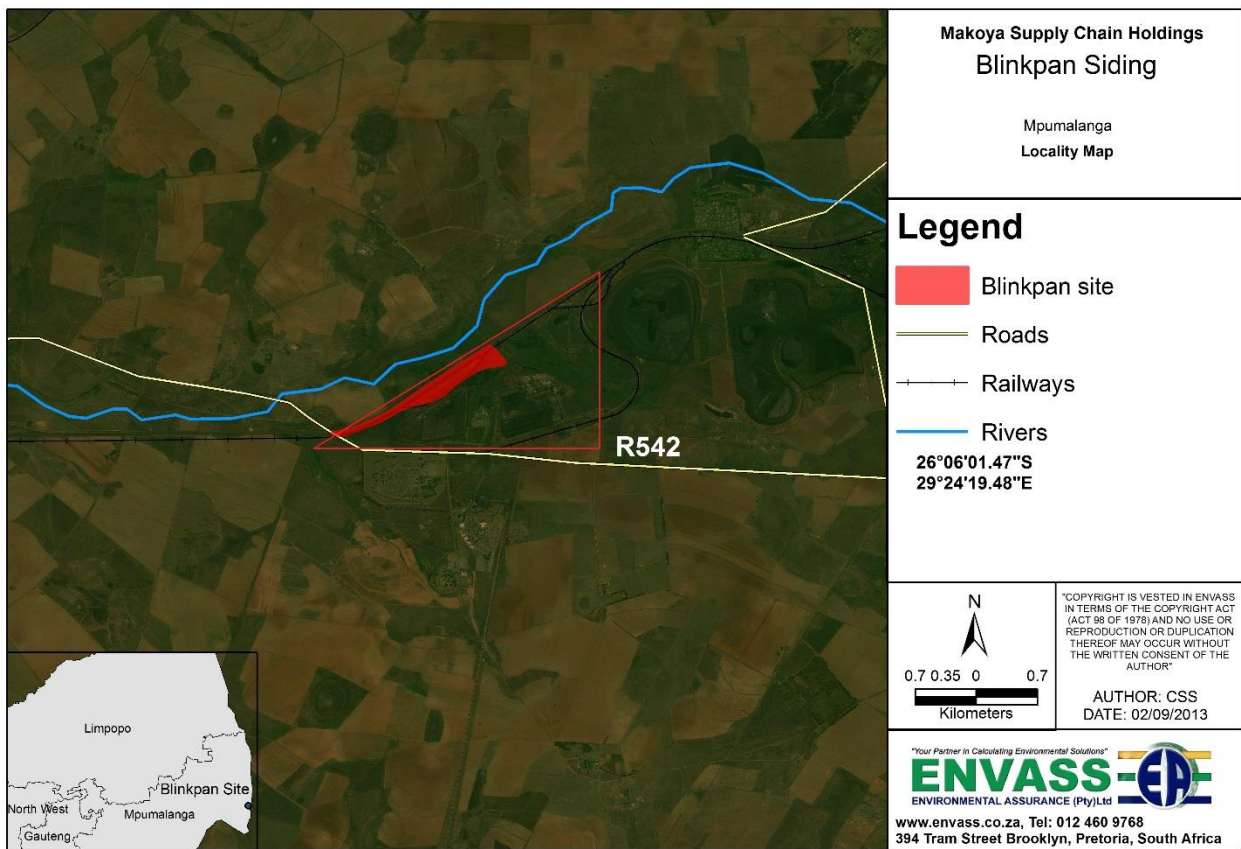


Figure 1: Locality plan

1.2 Legislative requirements

The proposed development requires compliance with the EIA Regulations of 2010, promulgated in terms of NEMA. The proposed activity requires a Basic Assessment process as listed activity 2 under Government Notice No R. 544 are triggered. The compilation of this EMP forms part of the requirements of the EIA Regulations (2010) and compliance with the contents of this report is required during the operational phases. More specifically, the EMP is a legal requirement in terms of Section 24N of NEMA (Amendment Act, 2008). The EMP is an environmental management tool, providing a site specific structured plan of mitigatory measures, which serves as a guide to assist in minimising the potential environmental impact of the activity that may arise during the operational phases.

1.3 Affected environmental and impact statement

Topography, soils and geology

The study area, the Farm Koorfontein 27 IS located along R542 in Mpumalanga, falls in the Grassland Biome (Acocks, 1953) with the Eastern Highveld Grass (GM12) vegetation type dominating. The Eastern Highveld grassland vegetation is considered and listed as a vulnerable ecosystem (GM no.34809 of 2011). The landcover and land-use of the area is a combination of different mining operations, cultivated lands, open grassland and residential areas. The mining industry uses the terminal for transportation of coal to areas of trade.

Surrounding land-uses

The Blinkpan Siding lease area is situated on portions 13, 27, 29, 30, 31 and the remaining part of portion 12 of the Farm Koorfontein which is located within the Steve Tshwete Local Municipality (ELM), Mpumalanga Province. The applicable farm portions are situated north of the R542 provincial road.

The site is surrounded by the following (Figure 2 below):

- **North:** Railway line with various maize farms with the Anglo Colliery to the North East and the Blinkpan residential mining village beyond.
- **East:** Komati residential village with the Komati Power Station beyond.
- **South:** The R542 provincial road with the Anglo Goedehoop mining village 150m beyond.
- **West:** Various maize farms.



Figure 2: Surrounding land-uses

Impact summary

Table 2 below summarises the impacts identified in the Basic Assessment Process and specialist assessments.

Table 2: Impact Summary

NATURE OF IMPACT	DESCRIPTION OF IMPACT	STATUS	SIGNIFICANCE POST-MITIGATION
PREFERRED ALTERNATIVE A1 – PLANNING AND DESIGN PHASE			
This is not applicable due to no new facilities or infrastructure planned at present and therefore no construction will take place			
PREFERRED ALTERNATIVE A1 - CONSTRUCTION PHASE			
This is not applicable due to the fact that no construction will take place			
PREFERRED ALTERNATIVE A1 - OPERATIONAL PHASE			
GEOLOGICAL AND SOILS	Soil erosion through wind and stormwater and soil compaction by heavy duty vehicles	Negative	Very Low
GEOLOGICAL AND SOILS	Contamination of soils through indiscriminate disposal of waste and accidental spillage of petroleum products.	Negative	Very Low
HYDROLOGICAL GROUNDWATER	Groundwater pollution through seepage of coal stockpiles and leakage/seepage from pollution control dams if not maintained and / or properly lined.	Negative	Low
HYDROLOGICAL GROUNDWATER	Depletion of the groundwater aquifer	Negative	Low
HYDROLOGICAL STORMWATER AND EROSION	<ul style="list-style-type: none"> • Stormwater and erosion impacts due to uncontrolled and polluted runoff due to a lack of: <ul style="list-style-type: none"> ○ Management of stormwater run-off quality; and ○ Management of stormwater run-off quantity; • Change in the hydraulic characteristics of the area through: <ul style="list-style-type: none"> ○ Pollution of surface and groundwater through contaminated stormwater run-off from site and sedimentation of natural water resources; ○ Disruption of natural surface and sub-surface flow; and ○ Increased erosion and associated siltation on site. 	Negative	Low

BIOLOGICAL FLORA	Potential for spreading of alien and invasive species during the operational phase	Negative	Very Low
BIOLOGICAL FAUNA	Loss of fauna if fauna has access to the operations and are killed by vehicles or people.	Negative	Very Low
ARCHAEOLOGICAL	No impact	Negative	Very Low
VISUAL	Visibility from sensitive receptors / visual scarring of the landscape as a result of the additional stockpiles of coal.	Negative	Low
DUST	Decrease in air quality of the surrounding area associated with operational activities including: <ul style="list-style-type: none"> ○ Wind erosion; ○ Fugitive dust emissions from materials handling operations; and ○ Vehicle entrained dust from roads. 	Negative	Low
NOISE	Noise impacts on surrounding environment associated with operational activities (heavy duty vehicles and equipment).	Negative	Low
WASTE (INCLUDING HAZARDOUS MATERIALS)	Generation of additional waste material during the operational phases.	Negative	Low
TRAFFIC	Increased traffic due to increased supply of coal to the siding to be transported further by trains. Damage to roads due to increased traffic.	Negative	Low
HEALTH AND SAFETY	Health and safety impacts associated with operational activities.	Negative	Low
SOCIO-ECONOMIC	Positive impact of increased availability of electricity limiting load shedding.	Positive	High
PREFERRED ALTERNATIVE A1 - DECOMMISSIONING PHASE			
GEOLOGICAL	Soil erosion through improper management of stormwater and wind erosion. Soil compaction by heavy duty decommissioning.	Negative	Low
GEOLOGICAL	Contamination of soils through indiscriminate disposal of decommissioning waste and accidental spillage of petroleum products.	Negative	Low
HYDROLOGICAL GROUNDWATER	Groundwater pollution through seepage of coal stockpiles and leakage/seepage from pollution control dams if not maintained and / or properly lined.	Negative	Low

HYDROLOGICAL GROUNDWATER	Depletion of the groundwater aquifer	Negative	Low
HYDROLOGICAL STORMWATER AND EROSION	<ul style="list-style-type: none"> • Stormwater and erosion impacts due to uncontrolled and polluted runoff due to a lack of: <ul style="list-style-type: none"> ○ Management of stormwater run-off quality; and ○ Management of stormwater run-off quantity; • Change in the hydraulic characteristics of the area through: <ul style="list-style-type: none"> ○ Pollution of surface and groundwater through contaminated stormwater run-off from site and sedimentation of natural water resources; ○ Disruption of natural surface and sub-surface flow; and ○ Increased erosion and associated siltation on site. 	Negative	Low
BIOLOGICAL FLORA	Potential loss of vegetation type, ecologically important species and species of conservation concern.	Negative	Very Low
BIOLOGICAL FLORA	Potential for spreading of alien and invasive species during the operational phase.	Negative	Very Low
BIOLOGICAL FAUNA	Loss of fauna if fauna has access to the operations and are killed by vehicles or people.	Negative	Very Low
ARCHAEOLOGICAL	Damage to or destruction of archaeological resources that may be uncovered from below ground during decommissioning.	Negative	Very Low
VISUAL	Visibility from sensitive receptors / visual scarring of the landscape as a result of the decommissioning activities.	Negative	Low
DUST	<p>Decrease in air quality of the surrounding area associated with decommissioning activities including:</p> <ul style="list-style-type: none"> ○ Wind erosion; ○ Fugitive dust emissions from materials handling operations; and <p>Vehicle entrained dust from roads:</p> <ul style="list-style-type: none"> ○ Wind erosion; and ○ Vehicle entrained dust from roads. 	Negative	Low

NOISE	Noise impacts on surrounding environment associated with decommissioning activities (decommissioning vehicles and equipment).	Negative	Low
WASTE	Generation of additional waste/ litter and building rubble/hazardous material during the decommissioning phase.	Negative	Low
TRAFFIC	Temporary disruption of traffic due to decommissioning.	Negative	Low
HEALTH AND SAFETY	Health and safety impacts associated with decommissioning.	Negative	Low
SOCIO-ECONOMIC	Employment opportunities during the decommissioning for local people.	Positive	Medium
NO-GO ALTERNATIVE			
SOCIO-ECONOMIC	No economic development for the applicant and resulting positive impacts on the local communities and society in general.	Negative	High

2. OBJECTIVES AND SCOPE OF THE EMP

This EMP provides environmental management measures and mitigation to limit environmental impacts associated with the planning and operational phases of the proposed Blinkpan Railway Siding. The EMP in context is seen as a dynamic or 'living' document, which can be amended or revised during the life-cycle of the project as and when it may be required. The effectiveness of the EMP is limited by the level of adherence to the conditions set forth in this report by the Applicant/Developer. It is further assumed that compliance with the EMP will be monitored on a regular basis as set out in the EMP and contractual clauses.

The objectives of the EMP are to:

- Identify and set out a range of mitigation measures and environmental specifications which must be implemented during the operational phases of the project to reduce and mitigate the adverse environmental impacts to minimal or insignificant levels and to improve the condition of the environment (as and where possible).
- Provide a pro-active and practical framework to enable the measurement and monitoring of environmental performance on site.
- Ensure that the environmental specifications are identified, effective and contractually binding to enable compliance on site.
- To outline the relevant standards which must be achieved on site as outlined in terms of the relevant legislation and conditions of the environmental authorisation.

3. IMPLEMENTATION OF THE ENVIRONMENTAL MANAGEMENT PROGRAMME

3.1 Compliance to legislative requirements

The specifications and mitigation measures outlined in this EMP must comply with relevant legislation and conditions of the Environmental Authorisation as issued by the Mpumalanga Department of Economic Development, Environment and Tourism (MDEDET). Of particular importance is Section 28 (1) of the National Environmental Management Act (NEMA – Act 107 of 1998) which places an obligation on all individuals to take due care of the environment and to ensure remedial action is instituted to minimise and mitigate environmental impact.

Section 28(1) of NEMA: **“Every person who causes, has caused or may cause significant pollution or degradation of the environment must take reasonable measures to prevent such pollution or degradation from occurring, continuing or recurring, or, in so far as such harm to the environment is authorised by law or cannot reasonably be avoided or stopped, to minimise and rectify such pollution or degradation of the environment.”**

The EMP forms part of the Contract Documentation and is thus a legally binding document. In terms of this Act an individual responsible for environmental damage must pay costs both to environment and human health and the preventative measures to reduce or prevent additional pollution and/or environmental damage from occurring. This is referred to as the Polluter Pays Principle.

Listed in Table 3 below is the key legislation (relevant laws, permits and authorisations) applicable to the development.

Table 3: Applicable legislation

LEGISLATION	APPLICABILITY TO THE PROJECT
National Environmental Management Act 107 of 1998 (as amended)	Section 28(1): Duty of Care and responsibilities to minimise and remediate environmental degradation.
EIA Regulations (Government Notices 543; 544; 546)	Section 24 and 24D: Environmental Authorisation issued in terms of NEMA. Conditions of Environmental Authorisation must be adhered to.
National Water Act, 1998 (Act 36 of 1998)	Section 19: Prevention of pollution to watercourses. Section 21: a) Abstraction of water; b) Impeding or diverting the flow of water in a watercourse; g) Disposing of waste in a manner which may detrimentally impact on a water resource; and

	i) Altering the bed, banks, course or characteristics of a watercourse.
National Environmental Management: Air Quality Act, 2004 (Act 39 of 2004)	Section 27, 32, 34 & 35: Prevention of air pollution (includes dust, smoke and noise).
National Environmental Management: Waste Act, 2008 (Act 59 of 2008) Waste Classification and Management Regulations, 2013 (GNR: 634 – 635):	Section 16: General duty in respect of waste management Section 17: Reduction, re-use, recycling and recovery of waste Section 18: Extended producer responsibility Section 21: General requirements for storage of waste
Occupational Health and Safety Act, 1993 (Act 85 of 1993)	Section 9: Operations must be undertaken in such a manner as to ensure that persons other than his employees who may be directly affected by his activities are not thereby exposed to hazards to their health and safety.
National Environmental Management: Biodiversity Act, 2004 (Act 10 of 2004)	Section 2: Management and conservation of Biological diversity. Section 72: Duty of care relating to listed invasive species.
Conservation of Agricultural Resources Act, 1993 (Act 43 of 1983)	Regulation: Management of alien vegetation.
Animals Protection Act, 1962 (Act 71 of 1962)	Protection of animals found on site during construction.

3.2 Implementation of the EMP

The Applicant is responsible for the implementation of the EMP and for internal compliance monitoring of the EMP. The EMP will be made binding on all Contractors delivering to site, operating on the site, and picking up from site and will be included with the official contract documentation of each of the principal Contractors to be appointed to the contract. Non-compliance with, or any deviation from, the conditions set out in this document constitutes a failure in compliance. A schedule of fines for environmental damage or EMP transgressions is listed in Annexure 3.

The Applicant must appoint a SHEQ Official, fulfilling the duties of internal ECO (Environmental Control Officer), who will monitor and facilitate compliance with the EMP and other conditions of approval as they relate to environmental matters. All Contractors must inform the SHEQ Official immediately of events that have/will cause serious environmental damage or of any breaches of the Environmental Authorisation. The SHEQ Official will then inform the Applicant, who must then immediately inform the Competent Authority (within 24 hours) and the Local Authority of such events and the measures taken to address them.

3.3 Organisational Structure: Roles and Responsibilities

Details of the management and implementation structures for this EMP, as applicable to the operational phases showing official communication and reporting lines (including instructions, directives and information), are presented in Table 4 and Figure 3 below.

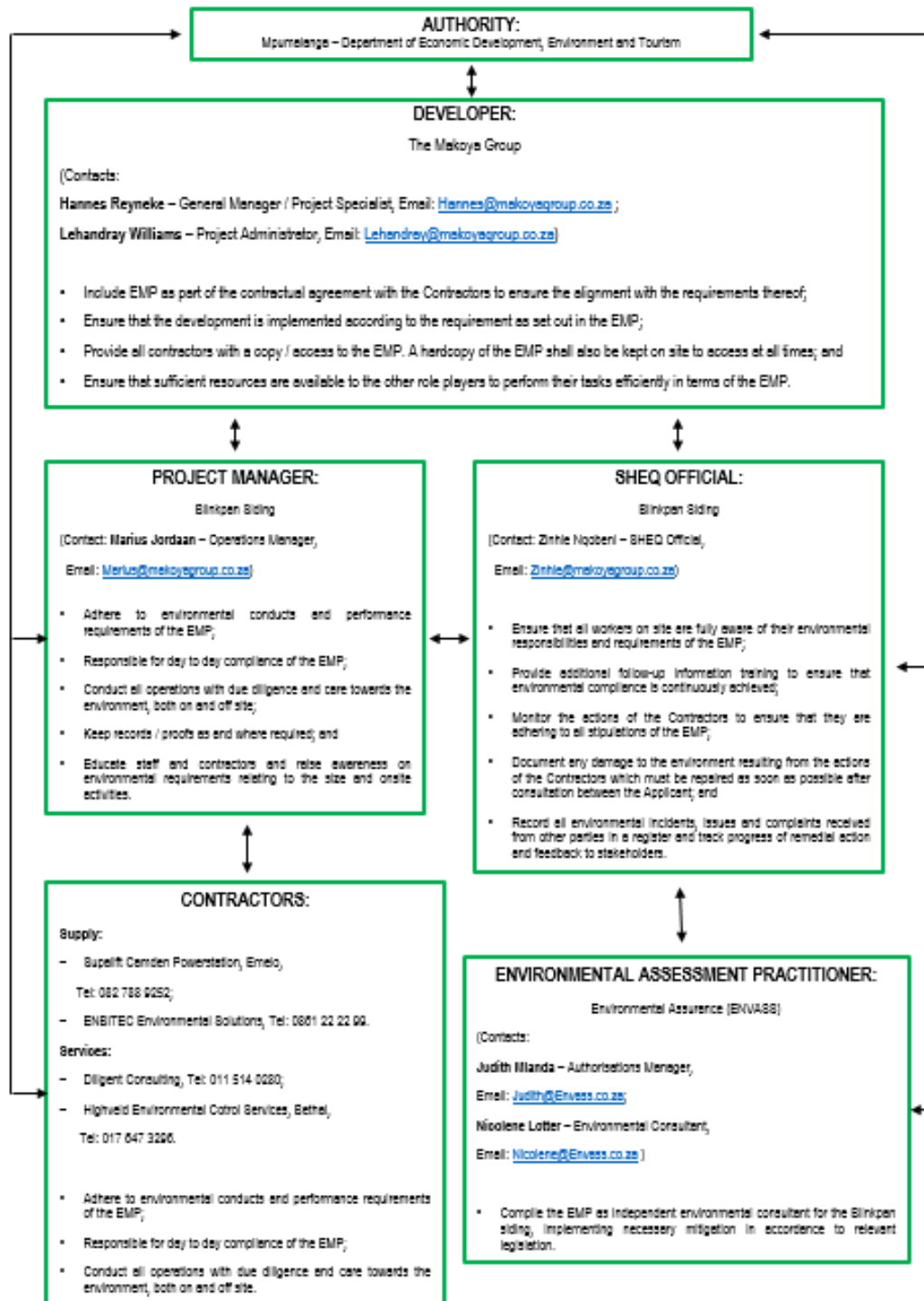


Figure 3: Organisational structure for environmental management

Table 4: Roles and responsibilities of the role-players

ROLE-PLAYER	RESPONSIBILITIES
Authority	<p>The MDEDET is the designated authority responsible for authorising this EMP. MDEDET has overall responsibility for ensuring that the Applicant complies with the conditions of Environmental Authorisation and the EMP.</p> <p>MDEDET shall also be responsible for approving any amendments to the EMP (if required). MDEDET may also perform random site inspections to check compliance with the EMP.</p>
Applicant	<p>The Applicant is the Developer and has overall responsibility for compliance with the EMP as it is a fundamental component of the authorisation requirements for the project.</p> <p>The Applicant/Developer must:</p> <ul style="list-style-type: none"> ✓ Ensure that relevant authorisations and permits are obtained prior to the commencement of operation on site; ✓ Ensure compliance with the EMP and conditions of Environmental Authorisation as issued by MDEDET; ✓ Ensure that the professional team and the Contractors are appropriately briefed and that their appointment includes environmental requirements as relevant; ✓ Ensure that he/she is kept fully informed of the performance of the project against the requirements of the EMP; ✓ Ensure that appropriate action is taken where consistent incidents of non-compliance are taking place; ✓ Ensure that any corrective action required by the authorities is implemented; ✓ Give written notice to MDEDET prior to the commencement of operation on site; and ✓ Provide all Contractors with a copy / access to the EMP (as part of the tender contract documentation). A hardcopy of the EMP shall also be kept on site to access at all times.
SHEQ Official	<p>The SHEQ Official is responsible for:</p> <ul style="list-style-type: none"> ✓ Facilitation and monitoring of EMP requirements and EA conditions; ✓ Education of staff and contractors and to raise awareness on environmental requirements relating to the site and onsite activities; ✓ Record keeping of environmental incidents/issues on site; ✓ Upkeep of complaints register; ✓ Providing additional follow-up information training to ensure that environmental compliance is continuously achieved; ✓ Monitoring the actions of the Contractors to ensure that they are adhering to all stipulations of the EMP;

	<ul style="list-style-type: none"> ✓ Documenting any damage to the environment resulting from the actions of the Contractors which must be repaired as soon as possible after consultation between the Applicant; ✓ Record all environmental incidents, issues and complaints received from other parties in a register and track progress of remedial action and feedback to stakeholders;
Contractors	<p>The Contractors are required to:</p> <ul style="list-style-type: none"> ✓ Be conversant with the requirements of the EMP; ✓ Brief staff about the requirements of the EMP; ✓ Bear the costs of any damages/ compensation resulting from non-adherence to the EMP or written site instructions; ✓ Comply with all applicable legislation; ✓ The Contractor will conduct all activities in a manner that minimises disturbances to and impacts on the environment. <p>The Contractors are deemed not to have complied with this EMP if:</p> <ul style="list-style-type: none"> ▪ There is evidence of contravention of clauses within the boundaries of the property and adjacent areas during the Operational Phase; ▪ If environmental damage ensues due to negligence; ▪ The Contractors fail to comply with corrective or other instructions issued by the Local Authority, or the Applicant within a specified time; ▪ Failure to take any reasonable measure to protect the environment if there is a perceived or identified environmental risk associated with an activity that has not been defined in the EMP; and ▪ The Contractors fail to respond adequately to complaints from the public. <p>Application of a penalty clause will apply for incidents of non-compliance as per the Schedule of Fines in Annexure 3. Such fines will be paid by the Contractors to the Applicant and will be used in rehabilitation and/ or landscaping.</p>

3.4 Environmental awareness and training

The applicant shall ensure that the operational team and all sub-contractor/s are familiar with the EMP requirements and have a basic level of environmental awareness training. The Applicant shall undertake basic environmental awareness induction training prior to the start of operation activities on site. Topics to be covered by the training should include:

- ✓ What is meant by “environment”?
- ✓ Why the environment needs to be protected and conserved.
- ✓ How operation activities can impact the environment.
- ✓ What measures can be taken to mitigate against these impacts.
- ✓ Prevention of pollution and litter control and the minimisation of disturbance to sensitive areas.
- ✓ The need for a “clean site” policy also needs to be conveyed to employees.

- ✓ Worker conduct on site which encompasses a general regard for the social and ecological well-being of the site and adjacent areas. Workers need to be made aware of the following general rules of behaviour:
 - No alcohol/drugs to be present on site.
 - No firearms permitted on site or in vehicles transporting staff to /from site, (unless used by security personnel).
 - Bringing pets on site is forbidden.
 - No harvesting of firewood from the site or from areas adjacent to it.
 - Workers are to make use of facilities provided for them, as opposed to ad-hoc alternatives (e.g. the use of surrounding bush as a toilet facility is forbidden; cooking fire in designated area only).
 - Driving under the influence of alcohol is prohibited.
 - Leaving the designated work and recreation area is forbidden.
 - No workers shall be permitted to live on site.
 - No plant or animal is to be harmed or disturbed in any way.
 - Should any bones be unearthed, the operations manager is to be contacted immediately. The bones are to be undisturbed until the go-ahead is given from the relevant Authority.

4. OPERATIONAL PHASE

Section 4 provides the management measures and controls to mitigate the impacts during the operational phase of the Blinkpan siding during arrival, stockpiling and despatch of the coal.

4.1 *Stormwater and erosion management*

- Existing stormwater diversion channels must be retained and maintained.
- Roads infrastructure must be maintained to ensure that there are no changes to surface water runoff and erosion is not initiated.
- Existing drainage infrastructure must be kept clean and clear of waste and debris.
- If necessary, drainage channels shall be suitably designed to ensure that erosion and/or silt retention does not occur.
- All runoff generated within the site office and maintenance areas must be collected in a formalised stormwater infrastructure system and shall be managed accordingly.
- All stormwater infrastructure on site shall be maintained and kept clean throughout operational period;
- Use of bunds or traps to ensure full containment of hydrocarbon and other hazardous materials are mandatory;
- Fuel and oil spills shall be treated immediately by appropriate mop-up products (refer to SOP Hazardous material management).
- Any contaminated material is disposed of in an appropriate manner and the potential risk associated with such spills is limited;
- Immediate reporting of any polluting or potentially polluting incidents so that appropriate measures can be implemented;
- Exposed surfaces shall be kept to a minimum to minimise the volume of dirty run-off generated;
- All operational areas shall be kept clean by regular washing or sweeping and such waste material generated is disposed of accordingly;
- All equipment shall be well maintained and fully operational at all times.
- Any surface runoff generated which has a high suspended solid content shall be collected at the point source in an appropriate containment facility, then be allowed to settle before discharged into the environment.

- All water discharged to the environment shall first be cleared of hydro-carbons and subsequent release into the environment shall be within the allowable limits as per DWA General Limits.
- Removal of spills, rainwater and waste produced during clean-up of the bunds – shall be done in accordance to relevant specifications.
- All sumps shall be inspected regularly and maintain in working order.
- Existing stormwater diversion channels are to be retained when rehabilitation of siding area is to be undertaken in future in order for stormwater to be diverted away from rehabilitated areas.
- The capacity of the pollution control dams have to be increased in order to be able to retain the run-off from a storm as required by GN704 Regulations.
- The 1,5mm HDPE membrane in the pollution control dams have to be relined and regularly maintained once pollution control dams have been enlarged.
- Pollution control dams must to be monitored on regular basis to determine whether the structures provided are sufficient.

4.2 Water use and management

4.1.1 Water conservation management measures

- The minimisation of loss or waste of water, and the efficient and effective use of water shall be maintained on site at all times.
- All hoses shall be fitted with trigger-gun spray nozzles to limit water wastage.
- Dry sweeping shall be undertaken in preference to washing of areas and equipment wherever possible.
- Vehicles may not be washed on site.
- The Applicant shall be responsible for ensuring that there is access to clean drinking water for all employees on site. If water is stored on site, drinking water and multi-purpose water storage facilities shall be clearly distinguished and demarcated.

4.3 Waste management

All waste generated during the operational phase shall be managed in accordance with the requirements of the National Environmental Management: Waste Act, 2008 (Act 59 of 2008) Waste Classification and Management Regulations, 2013 (GNR: 634 – 635) and Makoya Supply Chain Holdings operating standard for waste management.

Makoya Supply Chain Holdings will take all responsible measures to:

- ✓ Avoid the generation of unnecessary and excessive waste and where such generation cannot be avoided to minimise the toxicity and amounts of waste that are generated;
- ✓ Reduce, re-use and recover waste;
- ✓ Where waste must be disposed of, ensure that the waste is treated and disposed of in an environmentally sound manner;
- ✓ Manage the waste in such a manner that it does not endanger health or the environment or cause a nuisance through noise, odour or visual impacts;
- ✓ Prevent any employee or any person under his or her supervision from contravening the waste Act;
- ✓ Minimise and prevent littering on site and the surrounding areas;

- ✓ All waste bins must be cleaned regularly;
- ✓ All waste removed from site must be disposed of at a permitted waste disposal site;
- ✓ Waste disposal certificates of landfill sites will be kept on file;
- ✓ Contaminated soil must be disposed of at a permitted waste disposal site, or be removed and the area rehabilitated;
- ✓ Hazardous waste will be removed by an accredited licensed disposal company or by the Applicant's contracted waste disposal company.

4.3.1 Waste stream identification and classification

- a) All waste generated shall be classified into separate waste streams (i.e general waste, hazardous waste and recyclables);
- b) Waste shall not be mixed prior to classification and all waste types generated must be kept separate within suitable containers to prevent secondary contamination of clean soil or water routes;
- c) Classification of any hazardous waste shall be done in accordance with SANS 10234 requirements;
- d) Material safety data sheets shall be kept for any hazardous waste in accordance with SANS 10234 requirements;
 - Safety sheets must be prepared in accordance with SANS 10234 for the product that the waste originated from;
 - Safety sheets must be prepared in accordance with SANS 10234 reflecting the details of the specific hazardous waste/s or hazardous chemicals in the waste; and
 - All safety data sheets must be kept on file.

4.3.2 Waste management (collection, storage and handling)

- a) The central waste storage and transition area shall be surfaced and demarcated appropriately;
- b) Portable wheelie bins shall be placed throughout the site camp as well as at the remainder of the site and at all working areas in the field;
- c) Wheelie bins must be checked to ensure they are intact and not corroded or in any other way rendered unfit for the safe storage of waste;
- d) Adequate measures must be taken to prevent accidental spillage or leakage;
- e) Wheelie bins shall be colour coded and labelled to identify the waste stream for which it is intended;

Table 5: Colour coding for waste separation

Colour coding as follows:		
General Waste	White (Waste type labelling)	
Hazardous Waste	Red (Waste type labelling)	
Fluorescent tubes and E-Waste	Yellow (Waste type labelling)	
Scrap Metal	Green (Waste type labelling)	
Wood	Brown (Waste type labelling)	
Recyclables	Grey (Waste type labelling)	
Contaminated Coal	Black (Waste type labelling)	

- ✓ Signs with English wording.
 - ✓ Full descriptions of the waste are required to assist site and external personnel to handle the material safely.
 - ✓ Any unidentified wastes will be treated initially as hazardous and will be subject to the classification process outlined above.
 - ✓ All waste containers on-site (bins, skips, drums, etc.) will be clearly labelled to show which wastes can be disposed into them and which wastes they contain.
 - ✓ Any previous labelling will be removed or covered to avoid confusion.
- f) All portable wheelie bins and other containers shall be emptied at the central waste storage and transition area, a minimum of once a week as to avoid waste build up;
- g) The waste shall be removed (within 30 days) by a licensed waste service provider and shall be disposed of at a licensed waste landfill site and records of safe disposal (as required for hazardous wastes) shall be supplied to the Contractor. These records shall be kept on site.

4.3.3 Waste specific management measures

Hydrocarbons and hazardous waste

- All hazardous waste generated shall be kept separate and shall not be mixed with general waste;
- All hazardous waste shall be stored within a sealed drum on an impermeable surfaced area within the central waste storage and transition area;
- All hazardous waste shall have safety data sheets and such waste shall be disposed of as per the product Material Safety Data Sheet (MSDS);
- Hazardous waste shall be collected by a licensed waste service provider and be disposed of at a licensed landfill site with certificates of safe disposal;
- Certificates of safe disposal shall be acquired from the service provider for record purposes.
- The total quantity of hazardous waste stored at the site at any one time shall not exceed 35m³.
- All containers (skips) within the waste central waste storage/ transition area must be labelled, or where labelling is not possible, records must be kept, reflecting the following:
 - ✓ Date on which waste was first placed in the container;
 - ✓ Date on which waste was placed in the container for the last time and when the container was filled, closed, sealed or covered;

- ✓ Dates when, and quantities of waste removed;
- ✓ Proof of safe disposal by licensed contractor must be kept by the ESM.

Scrap metal

- Steel and any other scrap metals are to be collected and stored within the central waste storage/ transition area within a skip or other suitable container.
- Scrap metal material shall be collected by a licensed waste management company and taken to an approved and licensed local recycling company / scrap metal dealership.
- Documentary proof of delivery to the recycling facility will be maintained on site.

Timber

- Timber generated from various activities around the site will be collected and stored within the central waste storage/ transition area.
- The timber shall be kept free of any water (rain) and other hazardous leachate.
- The timber shall be collected and transported to a designated waste / recycle site.
- Documentary proof of delivery to the recycling facility will be maintained on site by the ESM.

Domestic waste

- All eating areas must be cleaned daily.
- All domestic waste generated shall be disposed of into bins.
- Bins shall be provided at all eating areas.
- Bins shall be emptied twice a week.
- No staff shall be allowed to deposit waste / litter anywhere on the site except into the bins provided.

Medical waste

- Any medical waste generated on site shall be appropriately stored.
- Medical waste shall be collected by a licensed waste service provider and be disposed of at a licensed landfill site with certificates of safe disposal to be kept onsite.

Waste water

- Discharge of any waste water directly into the environment shall be prevented at all times.
- Biological Waste Water Treatment Plant
 - Check the screen daily for inorganic build up;
 - If any inorganic buildup are present, it should be removed using a rake and disposed of in the appropriate manner, in-line with hazardous waste disposal legislation;

- Weekly check-ups to ensure the electricity supply has not tripped, the blower motor is operational, the RAS pump is operational and cleaned, the ozone generator, polishing pump, and automatic heads on polishing filters are operational;
- The effluent discharged and sludge levels from the plant must be checked;
- 250g of biological powder must be added into the first chamber;
- Three-monthly check-ups by supplier are to be conducted.

Recyclables

- Wherever possible and practical, waste materials generated on site must be recycled;
- Recyclable materials includes the following:
 - ✓ Paper / cardboard
 - ✓ Metals
 - ✓ Glass
 - ✓ Plastic
 - ✓ Timber
- Separate containers (with appropriate colour coding) must be provided for recyclable materials.

4.4 Hazardous material handling and storage

- All fuels/flammables, including other hazardous substances shall be stored within a demarcated area.
- The hazardous storage area and perimeter must be free of vegetation and be well away from buildings or stored combustible materials.
- The rated capacity of a tank/container must be able to accommodate expansion of the product contained therein due to the rise in temperature during storage.
- All materials to be stored in accordance with the MSDS requirements.
- All hazardous substances shall be stored in containers with lids, which are kept firmly shut.
- All containers must be kept in such a condition as to be reasonably safe from damage and to prevent leakage there from.
- Flammable liquids in small quantities for e.g. paints, thinners, oils, etc. can be stored in a fireproof cabinet and marked with relevant fire prevention signs and have a copy of the MSDS posted up.
- The requirements of fuel storage and management as detailed in SANS 10089 part 1 and SANS 10131 must be implemented by the Safety Manger.
- All vehicles and equipment must be maintained in a good condition in order to minimise the risk of leakage and possible contamination of the soil or stormwater by fuels, oils and hydraulic fluids.
- All vehicles / plant requiring servicing, or which are on site as well as any static plant e.g. generators are to make use of a drip tray placed strategically to avoid incidental spillage of oils and fuels onto the ground.
- Drip trays shall be inspected at least weekly (daily, if affected by rainwater) and appropriate spill kits used to remove spillages.
- Drip trays shall be closely monitored during rain events to ensure that they do not overflow.
- All hazardous material spills must be cleaned up immediately.
- All hazardous materials must be classified (as detailed), recorded in register.
- Vehicles and machinery must be refuelled at designated refuelling areas only.

- Any person handling or using a hazardous substance must be made aware of the Personal Protective Equipment (PPE) Requirements and he/she shall use the prescribed PPE.
- Should decanting be necessary the spill precaution as recommended on the MSDS must be adhered to.
- Decanting of liquids will only be done over drip trays.
- When hazardous substances are decanting into other containers, all such containers must be labelled correctly.
- Containers into which decanting is being done must be of the same material as in which the original substance is contained.
- PPE as recommended on the MSDS must be used when decanting hazardous substances.
- The disposal of Hazardous Substances must comply with the Hazardous Substances Act.
- Ensure safe disposal certificates are obtained and kept on site.
- Ensure a reputable/approved waste removal contractor is appointed for the safe removal of all hazardous waste on a regular basis.

4.5 Dust control

- Generation of dust shall be minimised and dust nuisance for the surrounding agricultural and residential areas shall be kept to a minimum wherever possible.
- Dust from exposed soil surfaces shall be minimised at all times.
- Reasonable measures must be taken by the operations manager to ensure that any exposed areas and material stockpiles are adequately protected against the wind.
- Dust screens of a suitable height should be erected if required and possible.
- All exposed surfaces should be minimised in terms of duration of exposure to wind and stormwater.
- Potable water shall not be used for the dust suppression of stockpiles.
- Unpaved roads / tracks must be sprayed with recycled water / dust suppressant.
- The transportation of erodible materials onsite shall be covered at all times.
- Expansion of dust fallout monitoring network at the site at the nearest sensitive receptor.

4.6 Noise and lighting control

- Hearing protection shall be issued to staff in work areas where noise levels exceed 85dB or as otherwise specified in the Health and Safety Plan.
- Should any complaints regarding noise be received from the adjacent community or staff, a baseline noise assessment and subsequent noise monitoring shall be conducted.
- Monitoring of noise (**if required**) shall:
 - ✓ Be performed weekly at agreed monitoring points;
 - ✓ Be done with a calibrated, integrating noise level meter and will be done according to the relevant SANS Standards; and
 - ✓ Noise monitoring data shall be recorded and captured in the Environmental Monitoring Database.
- All equipment and machinery are well maintained and equipped with silencers;
- Appropriate directional and intensity settings are to be maintained on all hooters and sirens;
- Hearing protection shall be issued to staff in work areas where noise levels exceed 85dB or as otherwise specified in the Contractor's Health and Safety Plan;
- Excessively noisy machinery must only be used during regular operating hours and not after hours where possible;

- If and where possible, excessively noisy activities shall not be conducted simultaneously.
- Any lighting nuisance complaints received from stakeholders shall be recorded in a complaints register. Every complaint shall be investigated and mitigating measures be implemented where possible.
- All artificial lighting to be positioned as such to prevent impeding on the eyes of any employee or create light pollution.
- Emergency lighting must be available for the safe evacuation of persons in indoor areas without natural lighting.

4.7 *Vegetation management*

- Unnecessary access areas outside of the development footprint must be avoided.
- No watercourse or stream shall be diverted or modified in any way without approval from MDEDET.
- Vegetation associated with sensitive areas may not be disturbed or removed.
- Care must be taken to avoid the introduction of alien plant species to the site and surrounding areas. Particular attention must be paid to imported material.
- Re-vegetation and rehabilitation of the cleared areas shall be undertaken once operation has been completed.
- No protected trees shall be removed without required permit in terms of the National Forest Act (Act 84 of 1998).

4.8 *Animal control*

- Wild animals encountered on site may not be trapped, captured, disturbed, injured or killed. The operations manager is to be notified immediately of animal encounters. Note: Animals may be trapped when such an animal (e.g. venomous snake) poses a hazard to staff or where the animal itself is in danger of being harmed by activities in the area.
- Venomous Snake encounters:
 - ✓ Operations Manager to be contacted immediately to advise on the capture and release of the animal;
 - ✓ Local conservation staff / reptile handlers to assist with capture and release (if required); and
- No dogs or cats may be brought to site.

4.9 *Safety and security*

- The site is to be fenced off to prohibit unauthorised access and/or the possibility of works occurring outside the border of the site.
- Such fencing must be accompanied by signage indicating the site and contractors, emergency numbers, and good practice safety and security signs.
- No temporary site camps or any works associated with the development will be allowed outside the footprint of the development area.
- No personnel, except for security staff, are allowed to stay/live on the site. Security staff is to be provided with accommodation and ablution facilities and communication equipment.
- Visitors are to complete the site visitor diary as well as a brief induction. The site visitor diary is to be kept at the office. Induction shall include an introduction to the site and project, the authorised and unauthorised accesses as well as good practice safety procedures i.t.o. OHSWA.
- All personnel working for, or on behalf of, the contractor as well as all visitors are to be outfitted with the required PPE.
- Ablution facilities and areas are to be clearly demarcated and clear signage to be erected.
- One chemical toilet is to be provided for every 10-15 site workers.
- Chemical toilets are to be serviced (emptied) twice a week.
- Potable water points are to be demarcated.
- Ensure potable water complies with the NWA general limit requirements for drinking water. If necessary potable water shall be treated prior to consumption. If no filtration system is available potable water will be supplied to all site workers on a daily basis.
- Eating areas are to be clearly demarcated and maintained.
- The potential fire hazards must be managed by ensuring that no fires are permitted on site and that the employees must be aware of the consequences of starting a fire on site to avoid damage to the neighbouring farms.
- Fire extinguishers are to be supplied to vehicles, site camp, security quarters, etc. Fire extinguishers are to be serviced on a six-monthly basis.
- The applicant must train safety representatives, managers and workers in workplace and site safety. All applicable safety standards and regulations, including for subcontractors must be enforced. Training should include emergency procedures.

4.10 Traffic management

- The Contractor must control the movement of all vehicles (construction and private) so that they remain on designated routes.
- Traffic control procedures should be implemented to prevent tie-ups in the operation of the project and allow general public to move as efficiently as possible.
- Road signs must be erected for extended traffic control problems.
- Road signs, speed limits and a following distance of 40m must be adhered to at all times.
- Where road signs are not erected, flagmen should be used for traffic control.
- Flagmen need to wear the required PPE.
- All traffic accommodation measures are to conform to the latest edition of the South African Road Signs Manual.
- All trucks will enter the site from the main road connecting to the R542.
- All trucks have to be weighed on the weighbridge on entrance and exit to the site.
- All trucks have to be checked by security on entrance and exit to the site.
- All truck drivers will drive on the left hand side of stockpiles.
- While trucks offload, their trucks will be checked for contamination. If found, trucks will be stopped, the incident reported to supervisor on duty and recorded. The truck will then leave the site the same way it came in to minimise more contamination.
- Headlights are to be switched on at all times.
- Reverse parking must be practiced at all times.
- Visitors to the site are to sign in, receive an induction and sticker by the SHEQ official and wear the required PPE when on site.

4.11 Fire management

Fire prevention

- All workers (including sub-contractors) will be sensitized to the risk of fire – no smoking / no fire policy on site through the mandatory safety specific induction. Smoking is only allowed in designated smoking areas.
- The Applicant shall ensure that the basic fire-fighting equipment is available on site.
- No fire-fighting equipment will be removed without the authority of the Fire Fighting Co-ordinator.
- All fire hose reels and fire extinguishers will be mounted on walls or fixed structures.
- The centre of the hose reels will not be more than 1,5m above floor level.
- The carry handle of the fire extinguishers will not be more than 1 250mm from ground level, and the bottom of the extinguisher not to be lower than 150mm from ground level.
- The floor area directly below the equipment shall be demarcated as a “KEEP CLEAR AREA” (this excludes offices) and will be a red square 800mm wide and 500mm deep for each fire hose reel or fire extinguisher, with a yellow border line of 100mm surrounding the red square.
- Free access will be maintained to “KEEP CLEAR AREAS”.
- Symbolic signs, adhering to the requirements of SANS 1186-1:2003 Symbolic safety signs Part 1: Standard signs and general requirements, positioned conspicuously will indicate the location of all fire equipment.
- Signage shall also indicate the type of equipment e.g. Extinguishers, reels etc. and directional arrows.

- Where protective coverings are utilized, care will be taken that these covers do not obscure the identification signs.
- Extinguishers, hose reels, hydrants, fire trolleys or vehicles and stop valves or control panels must all be easily accessible in the event of an emergency. No stacking, storage or parking is allowed in front of any of these areas or equipment.
- The Applicant shall supply the site with tested and approved fire-fighting equipment (minimum 2 X 9kg fire extinguishers). All "hot" work areas (e.g. welding, gas cutting or cutting of metal) must have fire extinguishers readily at hand.
- Extinguishers located outdoors shall be in weatherproof cabinets with operating instructions facing outwards.
- The disposal of waste material by burning is prohibited.
- The Contractor shall be liable for all costs incurred by the organisations sub-contracted to extinguish all fires started by any person(s) under their control.
- The Contractor shall be liable for all costs incurred to remediate burnt areas.

Fire response and evacuation

- The Applicant shall take all reasonable and active steps to avoid increasing the risk of fire through their activities on site.
- The Applicant shall ensure that the basic fire-fighting equipment is to the satisfaction of the Local Fire Services.
- No fires for heating purposes shall be allowed.
- The disposal of any matter by burning is prohibited.
- No smoking will be allowed on site, except in designated smoking points.
- An Emergency Plan (including Fire Protection, Response and Evacuation Plan) is to be prepared by the Applicant and conveyed to all staff on the site. This shall identify:
 - ✓ a Fire Marshall for the site;
 - ✓ all potential fire hazards;
 - ✓ fire-fighting equipment to be provided on site;
 - ✓ procedure in case of a fire;
 - ✓ a fire evacuation route and plan; and
 - ✓ Emergency contact numbers.
- Key staff members will be trained to deal with the control of fire-fighting equipment on site and to assist with evacuations as required.
- All staff is to be familiar with the position of fire control equipment on site and response and evacuation procedures. This should be covered in the Contractor's H&S inductions for all new site staff.
- In the case of a fire occurring on site, the following actions are to be taken immediately:
 - Contact Local Fire Department/farm response unit.
 - Warn neighbours of potential danger.
 - All fire requirements shall be carried out as contained in the National Building Regulations SABS 0400.

4.12 Emergency management

Safety and emergency procedures, risk management and training

- The application of all occupational health and safety regulations must be ensured. This includes the distribution and use of protective clothing and equipment to at least include safety shoes, overalls, gloves, dust masks, and where appropriate ear muffs and eye/face protection shields.
- Handout and use of safety and protective equipment must be recorded. Staff who fails to use the protective equipment provided by site staff must not be allowed to work at the facility.
- Emergency procedures for fire, adverse conditions due to inclement weather, spillages, stoppage of operations due to refusal to work by employees, etc. must be included in the emergency procedures.
- All relevant fire-fighting equipment should be kept on site.
- All staff working on site shall be trained in all relevant aspects of the Occupational Health and Safety Act No. 86 of 1993 and relevant regulations promulgated under this act.
- The Site Manager shall be assigned as the Safety Coordinator for the facility and the Site Manager shall assign a person as deputy to act when appropriate.

The following requirements would be the minimum for the safety program:

- ✓ Orientation of new employees including safety training and emergency contingency planning.
- ✓ Accident reporting procedures for notification to the Employer and thereafter appropriate agencies.
- ✓ Thorough investigation and documentation of all accidents to ascertain the cause and future methods of preventing recurrence.
- ✓ Mandatory first aid instruction for all staff members.
- ✓ Regularly scheduled safety meetings.
- ✓ Fire prevention and fire-fighting instruction.
- ✓ Routine inspection and testing procedure for all safety and emergency equipment and protective devices, and routine walk through inspections conducted by the Operator through all areas to identify and correct potential unsafe conditions.
- ✓ Posting of safety bulletins and posters required by regulatory agencies and other materials concerning accident prevention and hazardous conditions.
- ✓ The Applicant shall abide by all local, provincial and national safety requirements.
- ✓ The Applicant shall provide for a first aid station and emergency medical response for injured staff.
- ✓ All plant/equipment failure must be repaired or replaced by the Applicant without any undue delay or adverse effect to the operation of the site.
- ✓ This includes all mechanical equipment and tools, safety and warning systems.
- ✓ The Operator will ensure that all equipment is maintained in a safe operating condition.

Accident and incident control and reporting

- All accidents must be recorded irrespective of the severity or seriousness of injuries and damage. Data about the accident must be provided within 24 hours after occurrence.
- Appropriate recording documents must be available on site and a person must be designated as the Health and Safety Officer.
- Appropriate authorities and law enforcement officers must be included in investigations into accidents.
- Steps to avoid recurrence of similar accidents must be identified and implemented. The steps must be recorded and monitored.
- Incidents must be recorded in an incident register noting the time, date and place where the incident occurred, who and what was involved, and a detailed description of the incident must be included in the report.
- Actions taken to address the occurrence of the incident, as well as the avoidance of recurrence of the incident must be recorded.

4.13 Restriction of working areas and protection of sensitive areas

- All activities shall be undertaken in accordance with the recommendations proposed by the visual, heritage and ecological specialist assessments.
- No activities shall be undertaken in sensitive areas identified in the various specialist assessments.
- All sensitive and no-go-areas must be demarcated.
- All private property outside of the construction areas (including any detour routes) as set out in the site layout plan shall be considered no-go areas.
- Any additional no-go areas may be declared at any time during the operation phase as deemed necessary and/or at the request of the authorities.

4.14 Security management

- The site should be secured and unauthorised access prohibited at all times.
- The site administration and maintenance areas to be fenced off to prohibit unauthorised access and/or the possibility of works occurring outside the border of the site.
- Fencing shall have adequate signage indicating the site and contractors, emergency numbers, and good practice safety and security signs.
- No personnel, except for security staff, are allowed to stay/live on the site. Security staff are to be provided with accommodation and ablution facilities and communication equipment.
- Staff and contractors are prohibited from special environments which may be prohibited from access or activities.
- No maintenance activities are to be undertaken outside of daylight hours.

4.15 Spillage Management

- Spill kits must be made available on site.
- If a volatile, flammable material is spilled, warnings must be issued immediately, sources of ignition controlled, and area ventilated.
- SHE personnel reporting to the scene must be equipped with generalized PPE, as appropriate with hazards. Reference must be made to the MSDS or any other applicable information.
- If there is an immediate danger to life or health (IDLH), the area must be evacuated.
- Floor drains or other means for environmental release are to be protected and absorbents must be placed around the drains if needed.
- Any spillages to the environment will be contained and cleaned immediately by means of available machinery as well as manual labour.
- Loose spill control materials should be distributed over the entire spill area, working from the outside, circling to the inside, reducing the chances of splash or spread.
- Surface where spill occurred must be decontaminated using a mild detergent and water, when appropriate.
- Polluted soil must be removed and disposed of in the Hazardous waste bins (red bins) provided or will be sent to worm farms to remedy the effects of the pollution and will be replaced with clean top soil.
- Ignition sources such as burners, motors, and other spark-producing equipment must be turned off immediately.
- All spillages must be reported to the shift manager or SHEQ official and all uncontrolled spillages recorded.
- Coal spillages in water trenches, evaporation ponds, soil surfaces or rail tracks will be removed from the area and either placed with contaminated coal or will form part of the stockpile surface.
- Contaminated coal must be stored in allocated areas/empty containers and when enough is accumulated, it would be sent back to the mines to be washed.