ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPr) FOR THE PROPOSED CONSTRUCTION OF THE ENGONYAMENI CEMENT MANUFACTURING FACTORY IN A CLOSED CIRCULIT MILL ON THE FARM UMLAZI LOCATION NO. 4676 – FT AT ENGONYAMENI, ETHEKWINI METROPOLITAN IN KWAZULU – NATAL.

ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPr)

Report prepared for

ISIPHEPHELO INDUSTRIES (PTY) LTD

Prepared by

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A. ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP) WHO PREPARED THE ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPr):

1. (1) An EMPr must comply with section 24N of the Act and include -

(a) Details of -

(i) the EAP who prepared the report:

Business name of EAP:	**Mondli Consulting Services**		
Physical address:	**6 Joseph Avenue, New Era House, Suite 9, Durban North**		
Postal address:	**P O Box 22536, Glenashley**		
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(ii) The expertise of the EAP (including curriculum vitae)

Name of representative of the EAP	Education qualifications	Professional affiliations	Experience at environmental assessments (years)
M. Mthembu	**Diploma in Nature Conservation** **Masters Degree (Environmental Management Dissertation)** **Bachelor of Laws (LLB)**	**Society of South African Geographers (Membership No. 28/09)**	**Has been involved in environmental and conservation field for over 20 years.** **Conducted EIAs for over 15 years including Strategic Env. Assessment.** **Has been involved in the review and commenting on development**

			projects impacting on the environment.
H. Ngcobo	**Bachelor of Science Honours degree in Agriculture & Masters degree in Commerce.**		**Over 6 years' experience in monitoring and inspection of environmental projects.**

(B) A DETAILED DESCRIPTION OF THE ASPECTS OF THE ACTIVITY THAT ARE COVERED BY THE EMPr AS IDENTIFIED BY THE PROJECT DESCRIPTION;

The environmental management programme covers mainly aspects that directly relates to the construction of the Engonyameni Cement Manufacturing Factory in a closed-circuit Mill. The raw materials (including, slag, clay, lime and fly ash) are conveyed to a raw bin mill for grinding, homogenizing, preheating blending raw materials of different compositions to produce the desired result. The final product is stored in dispatch silos. Cement extracted from the silos is conveyed to automatic electronic packers where it is packed in 50kgs bags and also dispatched in bulk handling trucks.

The conventional plant consists mostly of mobile units which contain modern features that prevent any land vibrations and improved environmental impact. The production hours will vary as per demand and other economic factors. The whole process takes place within an enclosed environment, and not generating any dust nor dust deposit.

The site was previously cultivated and is currently vacant without anything on it. The developer intends utilising the site for the manufacturing of cement in a closed-circuit mill.

The EMPr covers aspects like environmental awareness, issues of spillage, soil erosion, soil and water contamination, vegetation and groundcover, solid waste, air pollution and dust, stockpiling, heritage objects, invader plants, health and safety, stormwater, indigenous plants, visual impact, traffic and noise. These aspects are described and covered in detail throughout the EMPr.

(C) A MAP AT AN APPROPRIATE SCALE WHICH SUPERIMPOSES THE PROPOSED ACTIVITY, ITS ASSOCIATED STRUCTURES, AND INFRASTRUCTRE ON THE ENVIRONMENTAL SENSITIVITIES OF THE PREFERED SITE, INDICATING ANY AREAS THAT SHOULD BE AVOIDED, INCLUDING BUFFERS;

See the attached map as **Appendix A (1)(i) of the Basic Assessment Report.**

(D) A DESCRIPTION OF THE IMPACT MANAGEMENT OUTCOMES, INCLCUDING MANAGEMENT STATEMENTS, IDENTIFYING THE IMPACTS AND RISKS THAT NEED TO BE AVOIDED, MANAGED AND MITIGATED AS IDENTIFIED THROUGH THE ENVIRONMENTAL IMPACT ASSESSMSNET PROCESS FOR ALL PHASES OF THE DEVELOPMENT INCLUDING -

The main aim and objective of the monitoring exercise is to ensure the appraisal of environmental performance in line with the Environmental Authorisation (EA) if applicable, EMPr, 2014 EIA Regulations as amended and National Environmental Management Act (NEMA) No. 107 of 1998 as amended. The Department of Economic Development, Tourism and Environmental Affairs is responsible for ensuring the compliance to NEMA in the Province of KwaZulu - Natal. EMPr is also meant to provide objective feedback to Isiphephelo Industries (Pty) Ltd during project construction and beyond, by making appropriate recommendations for remedial interventions where appropriate.

The monitoring deals with conformance and non-conformance measured against EMPr and EA where appropriate. Any non-compliance observed during the construction period will be followed by an immediate remedial intervention. The environmental audit and monitoring will primarily focus on evaluating the measure of compliance with statutory requirements within the project site.

The identified impacts and risks will be managed and mitigated throughout the following phases of development:

(i) planning and design;

Impact

Congestion and overcrowding by project technicians.

(ii) Pre-construction activities;

Environmental awareness and partnerships

Impact

Ignorance of the EMPr principles resulting in environmental degradation.

Impact

Non-compliance to the EMPr document resulting in environmental degradation.

Impact

Ignorance about environmental issues resulting in degradation of the receiving environment.

(iii) construction activities;

(a) **The storage facility**

Impact

Environmental pollution that may result in soil contamination and environmental pollution in case of leakages and spills.

(b) Solid waste and littering

Impact

The possible pollution of the environment.

(c) Concrete mixing

Impact

Soil contamination.

(c) **Chemical materials**

Impact

Environmental pollution relating to soil and surface water.

(e) Management of water, sediments and stormwater

Impact

Soil erosion and surface water pollution.

(f) Air pollution

Impact

Air pollution and nuisance.

(g) Noise control

Impact

Noise pollution to the village / settlement, passing local people and passersby.

(h) Earthworks and Soil

Impact

Soil erosion and invader plant species growing after earthworks.

(i) Vegetation / Groundcover

Impact

Soil erosion, and disturbance of vegetation.

(j) Health and safety

Impact

Unhealthy and unsafe environment.

(k) Construction camp

Impact

The unsuitable location can result in environmental degradation.

(l) Traffic Management

Impact

Congestion and increased traffic flow can result in noise and air pollution.

(m) Heritage impact

Impact

Impact on heritage resources, graves, and places to which oral history is attached.

(n) Visual impact

Impact

Nuisance to the neighbouring households and the public.

(iv) rehabilitation of the environment after construction and where applicable post closure; and

(a) Clearing construction site

Impact

Environmental and site pollution.

(b) Signing off

Impact

Environmental pollution and degradation left on site after construction.

(c) Landscaping

Impact

Soil erosion.

Impact

Possibility of soil contamination.

(v) where relevant, operation activities;

Impact

Environmental pollution and possible degradation.

Impact

Ground water contamination

(F) A DESCRIPTION OF PROPOSED IMPACT MANAGEMENT ACTIONS, IDENTIFYING THE MANNER IN WHICH THE IMPACT MANAGEMENT OUTCOMES CONTEMPLATED IN PARAGRAPH (D) WILL BE ACHIVIED, AND MUST, WHERE APPLICABLE, INCLUDE ACTIONS TO -

(i) avoid, modify, remedy, control or stop any action, activity or process which causes pollution or environmental degradation;

(i) planning and design;

How impact management outcomes will be achieved

The project planners are expected to be considerate and ensure that their activities are not detrimental to both social and physical environment. The environmentalist is already involved to ensure all designs reflect environmental principles.

The technicians working on site must be sensitized about possible environmental impacts, in order to be considerate at all times when working on site. Therefore, the Municipality, Builder and the environmentalists and all affected stakeholders must be involved during this phase.

The project must ensure sustainable development in balancing social, economic and environmental aspects.

Responsible party

Applicant and the Environmental Control Officer (ECO).

(ii) Pre-construction activities;

Impact

Ignorance of the EMPr and EA principles; resulting in environmental degradation.

Environmental awareness and partnerships

How Impact management outcomes will be achieved

This EMPr will be discussed with all interested and affected parties and contractors to ensure that awareness of events and activities that have a negative impact on the environment are understood and adhered to. This will be done by educating the stakeholders about the environment, and the crash course for the contractor.

Responsible party

ECO and the Applicant

Impact

Ignorance about environmental issues resulting in degradation of the receiving environment.

How Impact management outcomes will be achieved

- The main contractor and relevant stakeholders will have to be familiar with the contents of the Environmental Management Programme (EMPr) to be able to comply with the aforementioned document during all project phases.
- The building contractor and all personnel that will be involved in the construction phase of this project will be taken through a crash course on environmental awareness and EMPr.

Responsible party

ECO and the Applicant

Impact

Noncompliance to the EMPr document; resulting in environmental degradation.

How Impact management outcomes will be achieved

- The EMPr will be signed by the contractor on site.
- All stakeholders including employees of the contractors on site need to be familiar with the contents of the EMPr and the construction protocol.
- The EMPr document must be available on site at all times.
- The EMPr document must be available on site at all times to ensure monitoring by organs of state with jurisdiction on site.

- This EMPr will be discussed with stakeholders to ensure that awareness of activities that have a negative impact on the environment are clarified. In terms of this project site the critical aspects will be around safeguarding watercourse, removal of ground cover, soil erosion, soil contamination, dust, noise and safety aspects.

Responsible party

ECO and the Applicant

(iii) construction activities;

(a) The storage facility

Impact

Environmental pollution likely to result in soil contamination and environmental pollution in case of leakages and spills.

How Impact management outcomes will be achieved

- This will be mitigated by constructing a storage facility that is roofed and properly paved to store all the contractor's tools and materials during construction phase.
- The storage facility will prevent direct sun which may cause certain materials to explode, and rain from flushing materials that may later contaminate the soil and surface water. The storage facility will also help in safe storage preventing accidental falling of uncontained materials and liquids that may not have been sealed safely.
- The liquid materials must be tightly closed and sealed to prevent spillage in case of accidental falling.

Responsible party

Site Engineer or Builder / Contractor / Safety Officer / ECO.

(b) Solid waste and littering

Impact

The possible pollution of the environment resulting from litter and waste.

How Impact management outcomes will be achieved

- All waste streams must be separated and stored within a designated waste collection / storage area.
- Disposal of waste will be done through removal by the Municipality, once a week.
- Solid waste must be disposed of at the nearest disposal site, and hazardous waste disposed at a permitted hazardous landfill site that is authorized to accept such material
- Solid waste must be disposed of in an environmentally acceptable manner during construction to minimize pollution of the environment and health hazard.

- Rubbish drums and refuse plastic bags will have to be made available for litter during the day, to be cleared and disposed of at the municipal disposal site at appropriate intervals as advised by the Environmental Control Officer.
- All construction spoil must be disposed of at the municipal disposal site.
- No burning of refuse must take place on site.
- The developer will explore recycling of waste on site in conjunction with the local people.

Responsible party

Site Engineer or Builder / Contractor and Applicant.

(c) Concrete mixing

Impact

Soil contamination.

How Impact management outcomes will be achieved

- All concrete mixing that is “not ready mixed” must be carried out on wooden boards in a lined bunded area so that cement slurry does not escape out of the area. This will also prevent contamination of the soil.
- At the end of each day's construction operations cement spoil and rubble must be collected and placed in appropriate containers for later disposal.

Responsible party

Site Engineer or Builder / Contractor.

(d) Chemical materials

Impact

Environmental pollution including soil and surface water.

How Impact management outcomes will be achieved

- Chemical materials like paint, turpentine, solvents, cement and the like must be stored appropriately in line with the provisions of Hazardous Substances Act (Act 15 of 1973).
- These must not be allowed to pose risk to the surrounding environment, and such storage areas must be located outside of the 1:100-year floodline of a river / watercourse or such storage must not be closer than 150 metres from the water course / river.
- Access to these areas must be controlled, and temporary bunds must be constructed around chemical or diesel storage areas to contain possible spillages.

- Any spill must be reported to the relevant authorities as soon as possible i.e. eThekwini Municipality, Department of Water and Sanitation and the KZN Department of Economic Development, Tourism and Environmental Affairs.
- Oil leaks from heavy machinery and vehicles must not be allowed to contaminate soil and the environment. This must be done by properly servicing the machinery to prevent unnecessary oil leaks, as well as preventing any servicing of vehicles and machinery on site.
- In case of oil leak that contaminate the soil, such soil must be removed and disposed of appropriately as advised by the ECO.

Responsible party

Site Engineer or Builder / Contractor / ECO / Safety Officer.

(e) Management of water, sediments and stormwater

Impact

Soil erosion and ground water pollution.

How impact management outcomes will be achieved

- The stormwater drainage network system must be kept separate from the wastewater system.
- Stormwater must be in line with the design and adhere to all Engineers stipulations and approved by the Municipality.
- The site should be contoured to ensure free flow of run-off and to prevent surface ponding of water.
- Any soil stockpiles created are to be maintained as flat as possible, avoiding side slopes.
- Storm water leaving the premises shall not be polluted by any substance whether such a substance is a solid, liquid, gas vapour or any combination of these.
- After construction, the site must be graded or paved to ensure free flow of runoff and to prevent ponding of water.

Responsible party

Site Engineer or Builder / Contractor and the Applicant.

(f) Air pollution

Impact

Air pollution.

How impact management outcomes will be achieved

- It is important that the requirements of the atmospheric Pollution Prevention Act (APA) (Act No. 45 of 1965) and National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) be adhered to.
- Dust must be minimized by regularly spraying with water during construction

Responsible party

The Applicant and the Contractor / Site Engineer.

(g) Noise control

Impact

Noise pollution to the village / settlement and passing local people.

How impact management outcomes will be achieved

- Noise Control Regulations (Regulations 154, 10 January 1992) of the Environmental Conservation Act (Act No. 73 0f 1989) must be adhered to.
- Construction operations must be restricted to daylight period, Monday to Saturday, and must adhere to legally stipulated hours (7.00 – 18.00).
- The use of equipment that is less noisy must be encouraged.
- Workers using noisy equipment must be informed about the need to minimize noise and its impact on the general surrounding environment.
- The neighbouring households must be informed about noise possibilities.
- Noise levels to be in line with acceptable standards and prescripts i.e. should be 7 dB (A), and anything higher than 85 dB renders the area a noise zone.

Responsible party

The Applicant and Site Engineer or Builder / Contractor.

(h) Earthworks and Soil

Impact

Soil erosion.

How impact management outcomes will be achieved

- Measures to prevent excessive soil erosion will be implemented.
- Erosion control measures with special regard to sensitive areas like water supply points, and edges of slopes.
- Retention walls and landscaping will be done on project completion.
- Soil generated during digging of trenches must be backfilled immediately or at least within 48 hours.
- All soil left after construction must be removed.
- No soil must be left in heaps after the construction.

- Any excessive soil that was unable to be used or backfilled will have to be taken to the municipal disposal site or disposed of in an environmentally acceptable manner as per the advice of an environmental control officer.

Responsible party

- Site Engineer or Builder / Contractor and Applicant / ECO.

(i) Vegetation / Groundcover

Impact

Soil erosion, and disturbance of riparian vegetation.

How impact management outcomes will be achieved

- Planting of grass and ground cover.
- Should any area be left bare during construction, it must be planted with suitable ground cover to prevent possible soil erosion.
- It is critical to keep and maintain the grass cover after all earthworks operations.
- Ensure buffers are in place with regard to Ezimbokodweni River and riparian areas.

Responsible party

The Applicant and ECO

(j) Health and safety

Impact

Unhealthy and unsafe environment.

How impact management outcomes will be achieved

- All requirements of the Occupational Health and Safety Act (Act No. 85 of 1993) must be complied with.
- Provision of mobile toilets placed some 150 metres away outside of the 1: 100-year floodline. These toilets must be regularly monitored on daily basis and sewerage sludge must be disposed of at a nearest registered Waste Water Treatment Works.
- Fire extinguishers must be kept at appropriate points, not only during construction phase, but even during operational phase for immediate action in case of fire.
- Assurance must be made that the staff on site are familiar with fire procedures, and the use of fire equipment.
- In line with Health Requirements the mobile toilets will have to be provided on site during construction, to cater for human excrement.
- Such toilets facilities must be located outside of the 1: 100-year floodline or, must not be placed closer than 150 metres from the water course / river. These toilets

must be monitored on daily basis and sewerage sludge must be disposed of at a nearest registered Waste Water Treatment Works.
- The site will have to be kept clean and free of litter by continuously disposing waste at the municipal disposal site.

Responsible party

Site Engineer or Builder / Applicant and the Contractor.

(k) Construction camp

Impact

The unsuitable location is likely to result in environmental degradation and surface water pollution.

How impact management outcomes will be achieved

- Located at a distance of 150 metres away from any watercourse.
- As mentioned above adequate provision for sanitation must be made in the form of mobile toilets, to cater for human excrement from residents of the construction camp. These must be emptied on regular basis.
- The construction camp must be fenced with one access control point.

Responsible party

Site Engineer or Builder / Contractor and the Applicant.

(l) Traffic Management

Impact

Congestion and increased traffic flow.

How impact management outcomes will be achieved

- Vehicles must adhere to the speed limit of 40 kms per hour during construction.
- Construction vehicles must be properly marked with “construction vehicle” signs, and drivers must be given clear work instructions.
- No construction vehicles must obstruct entrances to any neighbouring households.
- Pointsmen to be used to direct traffic flow to and from the site.

Responsible party

Site Engineer or Builder / Contractor.

(m) Heritage impact

Impact

Impact on heritage resources that may be identified during earthworks.

How impact management outcomes will be achieved

- Amafa must be contacted if any heritage objects are identified during earthmoving activities, and all development must cease until further notice.
- Amafa must be contacted if any graves or heritage objects are identified during construction and the following procedure is to be followed:
  - Stop construction
  - Report finding to local police station
  - Report to Amafa to investigate
- No activities are allowed within 50 m of a site which contains rock art.

Responsible party

Site Engineer or Builder / Contractor and the Applicant.

(n) Visual impact

Impact

Nuisance to the community.

Landscape intrusion.

How impact management outcomes will be achieved

- Stick to principles of sustainable development that avoids emotional environmental outcry.
- The project site must be shielded by a net during the construction phase.
- Indigenous tree species must be planted around the Facility to reduce the impact of landscape intrusion.

Responsible party

Site Engineer or Builder / Contractor. They must take care to reduce this impact, and avoid the emotional outcry associated with irresponsible development.

(iv) rehabilitation of the environment after construction and where applicable post closure; and

(a) Clearing construction site

Impact

Environmental and site pollution.

How impact management outcomes will be achieved

- Proper housekeeping.
- Once the construction phase is completed all material on site associated with construction must be removed from the property, and everything referred to, as waste must be disposed of at the landfill site.
- No on site burning or burial of waste material must be done on site.

Responsible party

Contractor / *ECO* / Applicant

(b) Signing off

Impact

Environmental pollution and degradation left after construction.

How impact management outcomes will be achieved

- EMPr has to be signed off by the contractor on site.

Responsible party

Contractor / ECO

(c) Landscaping

Impact

Soil erosion.

How impact management outcomes will be achieved

- Landscaped area, planted with grass and ground cover.
- Eradication of invader evasive species on site.
- On completion of the facility indigenous tree species planted.
- All bare areas must be planted with grass cover to minimize soil erosion.

Responsible party

Applicant and ECO.

(d) Closure

Impact

Possibility of soil contamination.

How impact management outcomes will be achieved

- Contaminated soil must be cleaned, removed and disposed of at the nearest landfill site.
- Decommissioning must be done within the legal framework; under the supervision of an environmentalist and full knowledge of the Department of Economic Development, Tourism and Environmental Affairs should the facility be decommissioned.
- Any signs of soil erosion must be addressed during and after the decommissioning phase.
- Contaminated material must be cleaned, removed and disposed of at the nearest landfill site.
- The area must be cordoned off with a danger tape and “no smoking” signs conspicuously displayed around the site during decommissioning.
- All services equipment must be mapped e.g. electrical pipes, stormwater and water pipes to avoid damage.
- Contaminated soil after laboratory tests must be stockpiled and disposed of at the nearest landfill site.

Responsible party

Applicant and the ECO.

(v) where relevant, operation activities;

(a) Spillage

Impact

Environmental pollution and possible degradation.

How impact management outcomes will be achieved

- Standard operating procedure to deal with possible spillage.

Responsible party

Applicant.

Impact

- Water contamination

How impact management outcomes will be achieved

- Ensure spillage plan is in place.

Responsible party

Applicant.

(b) Solid waste

Impact

Environmental pollution and possible degradation.

How impact management outcomes will be achieved

- Waste Management plan in place.
- The facility has to provide at least 240 litre bins on site to be emptied at regular intervals.
- Solid waste generated from this facility should be disposed of in an appropriate manner at the municipal disposal site.
- Contaminated materials must be disposed of at a permitted hazardous landfill site**.**
- Chemical waste must be stored in appropriate containers and disposed of appropriately at a permitted landfill site which is authorized to accept the said material.

Responsible party

Site Engineer or Builder / Contractor and the Applicant.

(c) Health and safety

Impact

Unhealthy and unsafe environment.

How impact management outcomes will be achieved

- Health and Safety plan in place.
- Training on health and safety issues.
- All requirements of the Occupational Health and Safety Act (Act No. 85 of 1993) must be complied with.
- Fire extinguishers must be kept at appropriate points during operational phase.
- Assurance must be made that the staff on site are familiar with fire procedures and use of fire equipment.

Responsible party

Applicant

Where applicable include actions to:

(i) avoid, modify, remedy, control or stop any action, activity or process which causes pollution or environmental degradation;

As above

(ii) comply with any prescribed environmental management standards or practices;

As above.

(iii) comply with any applicable provisions of the Act regarding closure, where applicable; and

In case of closure the activity must be reported to the Department of Economic Development, Tourism and Environmental Affairs and Local Municipality, and such closure needs monitoring by an environmentalist as outlined above.

(iv) comply with any provisions of the Act regarding financial provisions for rehabilitation; where applicable;

Issues of rehabilitation on site will be done by Isiphephelo Industries (Pty) Ltd.

(G) THE METHOD OF MONITORING THE IMPLEMENTATION OF THE IMPACT MANAGEMENT ACTIONS CONTEMPLATED IN PARAGRAPH (F);

(i) planning and design;

Method of monitoring the implementation of impact management

Compilation of monthly reports.

(ii) Pre-construction activities;

Environmental awareness and partnerships

Method of monitoring the implementation of impact management

Monthly reporting to stakeholders.

Impact

Ignorance about environmental issues resulting in degradation of the receiving environment.

Method of monitoring the implementation of impact management

- Monitoring environmental performance against the Environmental Management Programme (EMPr) posted on the notice board inside the construction office.

(iii) construction activities;

(a) The storage facility

Impact

Environmental pollution likely to result in soil contamination and environmental pollution in case of leakages and spills.

Method of monitoring the implementation of impact management

- Monthly reporting and site photographs.

(b) Solid waste and littering

Impact

The possible pollution of the environment and water due to litter and waste.

Method of monitoring the implementation of impact management

- Monthly reporting and proof of disposal receipts from the disposal site.

(c) Concrete mixing

Impact

Soil contamination.

Method of monitoring the implementation of impact management

- Monthly reporting.

(d) Chemical materials

Impact

Environmental pollution including soil and water.

Method of monitoring the implementation of impact management

- Monthly reporting and Safety Officer reports.

(e) Management of water, sediments and stormwater

Impact

Soil erosion and water pollution.

Method of monitoring the implementation of impact management

- Monthly reporting.

(f) Air pollution

Impact

Air pollution.

Method of monitoring the implementation of impact management

- Site inspection and monthly reporting.

(g) Noise control

Impact

Noise pollution to the village / settlement and passing local people.

Method of monitoring the implementation of impact management

- Monthly reporting and information from the local leaders and community.

(h) Earthworks and Soil

Impact

Soil erosion and sedimentation.

Method of monitoring the implementation of impact management

- Site inspection and monthly reporting.

(i) Vegetation / Groundcover

Impact

Soil erosion, and disturbance of riparian vegetation.

Method of monitoring the implementation of impact management

- Site inspection and photographs.

(j) Health and safety

Impact

Unhealthy and unsafe environment.

Method of monitoring the implementation of impact management

- Monthly reporting, inspection and safety officer reports.

(k) Construction camp

Impact

The unsuitable location is likely to result in environmental degradation.

Method of monitoring the implementation of impact management

- Site inspection.

(l) Traffic Management

Impact

Congestion caused by delivery trucks.

Method of monitoring the implementation of impact management

- Site inspection and monthly reporting

(m) Heritage impact

Impact

Impact on heritage resources that may be identified during earthworks.

Method of monitoring the implementation of impact management

- Site inspection, monthly reporting done against the standing directives of Amafa.

(n) Visual impact

Impact

Nuisance to the community.

Method of monitoring the implementation of impact management

- Site inspection and monthly reporting.

(iv) rehabilitation of the environment after construction and where applicable post closure; and

(a) Clearing construction site

Impact

Environmental and site pollution.

Method of monitoring the implementation of impact management

- Site inspection and monthly reporting.

(b) Signing off

Impact

Environmental pollution and degradation left behind after construction.

Method of monitoring the implementation of impact management

- Site inspection and reporting.

(c) Landscaping

Impact

Soil erosion.

Method of monitoring the implementation of impact management

- Site inspection and photographs.

Impact

Possibility of soil contamination.

Method of monitoring the implementation of impact management

- Site inspection, photographs and reporting.

(v) where relevant, operation activities;

(a) Spillage

Impact

Environmental pollution and possible degradation.

Method of monitoring the implementation of impact management

- Site inspection, photographs and reporting.

(b) Solid waste

Impact

Environmental pollution and possible degradation.

Method of monitoring the implementation of impact management

- Correct waste disposal method.

(c) Health and Safety

Impact

Unhealthy and unsafe environment.

Method of monitoring the implementation of impact management

- Sticking to OHS procedures.

(d) Monitoring procedures

Impact

Soil and water pollution.

Method of monitoring the implementation of impact management

- Regular site inspection and reporting

Where applicable include actions to:

(i) avoid, modify, remedy, control or stop any action, activity or process which causes pollution or environmental degradation;

(ii) comply with any prescribed environmental management standards or practices;

- As above.

(iii) comply with any applicable provisions of the Act regarding closure, where applicable; and

- Reporting to the Department of Economic Development, Tourism and Environmental Affairs.

(iv) comply with any provisions of the Act regarding financial provisions for rehabilitation; where applicable;

Removal of any alien plants in line with legal requirements. The applicant and the asset owner have an obligation to eradicate alien invader species that may infest the area after the earthworks on site. The Department of Economic Development, Tourism and Environmental Affairs is empowered to request this eradication programme as

provided in the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004), as well as the Alien and Invasive Species Regulations dated 2014.

(H) THE FREQUENCY OF MONITORING THE IMPLEMNETATION OF THE IMPACT MANAGEMENT ACTIONS CONTEMPLATED IN PARAGRAPH (F);

The method of monitoring the implementation of the impact management actions contemplated under (F) above. The monitoring for all the impacts will be done on monthly basis through monthly reporting, and project meetings.

(I) AN INDICATION OF PERSONS WHO WILL BE RESPONSIBLE FOR THE IMPLEMENTATION OF THE IMPACT MANAGEMENT ACTIONS;

Responsible persons:

- Mondli Consulting Services (Environmental Control Officer) – overall responsibility of environmental reporting, training and awareness and the overseer of the implementation of the whole EMPr.
- Contractor / Site Engineer or Builder (Isiphephelo Industries (Pty) Ltd) – responsible for all engineering or building related work on site, and project implementation.
- Isiphephelo Industries (Pty) Ltd – ensure adherence to the EMPr.
- EDTEA (Compliance Section) – inspections.

(J) THE TIME PERIODS WITH WHICH THE IMPACT MANAGEMENT ACTIONS CONTEMPLATED IN PARAGRAPH (F) MUST BE IMPLEMENTED;

(i) planning and design;

Time periods of implementation

Planning and commencement phase of the project.

(ii) Pre-construction activities;

Environmental awareness and partnerships

Time periods of implementation

Immediately after the issuing of the Authorisation.

Impact

Ignorance about environmental issues resulting in degradation of the receiving environment.

Time periods of implementation

- Immediately after the issue of the Authorisation.

(iii) construction activities;

(a) The storage facility

Impact

Environmental pollution that is likely to result in soil contamination and environmental pollution in case of leakages and spills.

Time periods of implementation

- For the duration of construction period.

(b) Solid waste and littering

Impact

The possible pollution of the environment.

Time periods of implementation

- For the duration of both construction and operational periods.

(c) Concrete mixing

Impact

Soil contamination.

Time periods of implementation

- During the concrete / construction phase of the project.

(d) **Chemical materials**

Impact

Environmental pollution including soil and water.

Time periods of implementation

- For the duration of the project.

(e) Management of water, sediments and stormwater

Impact

Soil erosion and water pollution.

Time periods of implementation

- For the duration of the project and beyond.

(f) Air pollution

Impact

Air pollution.

Time periods of implementation

- For the duration of the project.

(g) Noise control

Impact

Noise pollution to the village / settlement and passing local people.

Time periods of implementation

- For the duration of the project and beyond.

(h) Earthworks and Soil

Impact

Soil erosion.

Time periods of implementation

- During the earthworks and construction phases of the project.

(i) Vegetation / Groundcover

Impact

Soil erosion, and disturbance of riparian vegetation

Time periods of implementation

- On project completion.

(j) Health and safety

Impact

Unhealthy and unsafe environment.

Time periods of implementation

- For the duration of the project and beyond.

(k) Construction camp

Impact

The unsuitable location is likely to result in environmental degradation.

Time periods of implementation

- During the project set up on site.

(l) Traffic Management

Impact

Congestion and increased traffic flow.

Time periods of implementation

- For the duration of the project

(m) Heritage impact

Impact

Impact on heritage objects that may be identified during earthworks.

Time periods of implementation

- For the duration of the project.

(n) Visual impact

Impact

Nuisance to the community.

Time periods of implementation

- For the duration of the project.

(iv) rehabilitation of the environment after construction and where applicable post closure; and

(a) Clearing construction site

Impact

Environmental and site pollution.

Time periods of implementation

- During project completion phase.

(b) Signing off

Impact

Environmental pollution and degradation left behind after construction.

Time periods of implementation

- On project completion.

(c) Landscaping

Impact

Soil erosion.

Time periods of implementation

- On project completion.

Impact

Possibility of soil contamination.

Time periods of implementation

- For the duration of the project

(v) where relevant, operation activities;

(a) Spillage

Impact

Environmental pollution and possible degradation.

Time periods of implementation

- For the duration of the project and beyond.

(b) Solid waste

Impact

Environmental pollution and possible degradation.

Time periods of implementation

- For the duration of the project and beyond.

(c) Health and safety

Impact

Unhealthy and unsafe environment.

Time periods of implementation

- For the duration of the project and beyond.

(d) Monitoring procedures

Impact

Soil and water pollution.

Time periods of implementation

- For the duration of the project and beyond.

Where applicable include actions to:

(i) avoid, modify, remedy, control or stop any action, activity or process which causes pollution or environmental degradation;

As above.

(ii) comply with any prescribed environmental management standards or practices;

- As above.

(iii) comply with any applicable provisions of the Act regarding closure, where applicable; and

- Reporting to the Department of Economic Development, Tourism and Environmental Affairs on project completion.

(iv) comply with any provisions of the Act regarding financial provisions for rehabilitation; where applicable;

- Monitoring after project completion.

(K) THE MECHANISM FOR MONITORING COMPLIANCE WITH THE IMPACT MANAGEEMNT ACTIONS CONTEMPLATED IN PARAGRAPH (F);

Monitoring and Auditing

- The Environmental Control Officer (Mondli Consulting Services) will monitor implementation and do environmental reporting.
- The main contractor / Site Engineer or Builder will ensure adherence to set technical specifications through project meetings.
- The planting of grass and indigenous trees will be supervised by the environmental control officer.
- The Department of Economic Development, Tourism and Environmental Affairs (Compliance Section) will do inspections as deemed appropriate.

(L) A PROGRAM FOR REPORTING ON COMPLIANCE, TAKING INTO ACCOUNT THE REQUIREMENTS AS PRESCRIBED BY THE REGULATIONS;

- Monthly report.
- Project meetings.
- Auditing.

(M) AN ENVIRONMENT AWARENESS PLAN DESCRIBING THE MANNER IN WHICH -

(i) the applicant intends to inform his or her employees of any environmental risk which is likely to result from their work; and

- This will be done through a short environmental course.
- Employees will be taken through the EMPr.

(ii) risks must be dealt with in order to avoid pollution or degradation of the environment; and

- There must be full compliance with all other relevant legislation relating to the Facility of this nature, in particular with regard to hazardous material if any, occupational health, safety and pollution.

(N) ANY SPECIFIC INFORMATION THAT MAY BE REQUIRED BY THE COMPETENT AUTHORITY

None.