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ACRONYMS

LEDET	Limpopo Dept of Economic Development, Environment & Tourism
EMPR	Environmental Management Programme
I&AP	Interested and/or affected party (i.e. the public, adjacent landowners and the property owner)
ROD	Record of Decision
EA	Environmental Authorisation

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**ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPR) FOR WATER SUPPLY
INFRASTRUCTURE FOR THE FOLLOWING CLUSTERS: TSHAMAHANSI, SEKURUWE,
SEEMA, PHAFOLA, MAALA PEREKISI, WITRIVIER & MILLENNIUM PARK**

MOGALAKWENA MUNICIPALITY AREA, LIMPOPO

DESCRIPTION OF THE PROJECT COMPONENTS

- Pipeline stream crossings where the pipes are smaller than 350 mm diameter
- Reservoirs larger than 250 m³ within 5km from Witvinger Nature Reserve
- Portion of the pipeline where the pipes are larger than 400 mm diameter

TSHAMAHANSI - CLUSTER

Dithokeng pipeline-stream crossing to Malepeteke
Dithokeng pipeline-stream crossing connect to Mokaba tank
Magongoa B - Elevated tank 305m³
Dithokeng dam wall pipeline-stream crossing to Magongoa A
Tshamahansi B - Steel tank 1.1 MI
Tshamahansi C - Steel tank 1 MI
Tshamahansi A - Steel tank 640m³
Pipeline - 400mm diameter 2.2km connect to existing supply

SEKURUWE- CLUSTER

Groot Sandsloot pipeline-stream crossing
Tributary of Groot Sandsloot pipeline-stream crossing Alt B

SEEMA- CLUSTER

Mogalakwena pipeline-stream crossing

PHAFOLA- CLUSTER

Thwathwe pipeline-stream crossing

1. DEFINITIONS

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1.1 DEFINITIONS

1.1 DEFINITIONS

For the purpose of this manual, the following definitions apply:

Audit

A systematic and, wherever possible, independent examination to determine whether activities and related results conform to planned arrangements and whether these arrangements are implemented effectively and are suitable to achieve the organisation's policy and objectives.

Continual improvement

Process of enhancing the environmental management programme to achieve improvements in overall environmental performance in line with the organisation's environmental policy.

Documentation

Any written information describing, defining, specifying, certifying or reporting activities, requirements, policy or results.

Environment

Surroundings in which the organisation operates, including air, water, land, natural resources, flora, fauna, humans, and their interaction.

NOTE: Surroundings in this context extend from within an organisation to the global system.

Environmental aspect

Element of an organisation's activities, products or services that can interact with the environment. NOTE: A significant environmental aspect is an environmental aspect that has or can have a significant environmental impact.

Environmental impact

Any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organisation's activities, products or services.

Environmental management Programme

A guideline document or directive, forming part of the overall management system, outlining the mitigation, monitoring and institutional measures to be taken during the;

- project implementation phase,
- project construction phase, and
- project operational phase,

to avoid or control adverse environmental impacts – also including the actions needed to implement these measures.

Environmental objective

Overall environmental goal, arising from the environmental policy, that an organisation sets itself to achieve, and which is quantified where practicable.

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Environmental performance

Measurable results of the environmental management system, related to an organisation's control of its environmental aspects based on its environmental policy, objectives and targets.

Environmental policy

Statement by the organisation of its intentions and principles in relation to its overall environmental performance which provides a framework for action and for the setting of its environmental objectives and targets.

Environmental target

Detailed performance requirement, quantified where practicable, applicable to the organisation or parts thereof, that arises from the environmental objectives and that needs to be set and met in order to achieve those objectives.

Hazard

A source or a situation with a potential for harm in terms of human injury or ill-health, damage to property, damage to the work place environment, or a combination of these.

Hazard Identification

The process of recognising that a hazard exists and defining its characteristics.

Incident

Undesired event that has the potential to lead to an accident.

NOTE: Term "incident" includes both accidents as well as no-loss incidents, called "near-misses".

Inspection

Examination or measurement to verify whether an item or activity conforms to specified requirements, using the techniques of quality control.

Interested party

Individual or group concerned with or affected by the environmental performance of an organisation.

Mitigation measures

Mitigation measures encompass all actions taken to eliminate, offset or reduce potentially adverse environmental impacts to acceptable levels (World Bank, 1999:1).

Occupational Exposure

Occupational Exposure of adult workers who may be exposed to EMF under controlled conditions, in the normal course of and intrinsic to their particular employment. These workers will have been made aware of the potential risks of exposure and they will be able to take appropriate precautions.

Organisation

Company, corporation, firm, enterprise, authority or institution, or part or combination thereof, whether incorporated or not, public or private, that has its own functions and administration.
NOTE: For organisations with more than one operating unit, a single operating unit may be defined as an organisation.

Qualified Personnel

Characteristics or abilities gained through education, training and/or experience which enables an individual to carry out a specific task in accordance with specific requirements.

Risk

The combination of predicted frequency and consequences of a specified undesired event occurring due to the realisation of a hazard.

Risk Assessment

The overall process of estimating the magnitude of risk and deciding whether or not the risk is tolerable.

Safety

Freedom from unacceptable risk or harm.

Site (also “The Site”)

All physical locations where contractors & sub-contractors will be performing tasks related to the tender/project allocated to them

Tolerable Risk

A risk that has been reduced to a level that can be endured by the organisation having regard to its legal obligations and its own Occupational Health & Safety policy.

Work Instructions

A document which sets out how a particular task is to be done, what is required and how it shall be recorded.

2. EMPR BACKGROUND, PURPOSE & OVERVIEW

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2.1 BACKGROUND

2.2 SCOPE & OBJECTIVES OF THE EMPR

2.1 BACKGROUND

TEKPLAN ENVIRONMENTAL was commissioned by WSM LESHKA CONSULTING ENGINEERS (on behalf of the Mogalakwena local municipality) to compile an Environmental Management Programme that would outline the,

- mitigation,
- monitoring and
- institutional measures,

to be taken during the planning & construction, to avoid and/or control adverse environmental impacts that could result.

The implementation of the EMPR by the contractors of the Mogalakwena local municipality will assist in minimising and managing the environmental impacts associated with the project.

This EMPR was developed to be a practical, flexible working document and is based on actual on-site analyses of prevailing circumstances and activities undertaken at the Site.

2.2 SCOPE & OBJECTIVES OF THE EMPR

It is essential to develop measures to eliminate, offset or reduce impacts on the environment during the implementation and operational phases of a project. The integration of such measures to protect the environment during the implementation and operational phase of a project, can be done by clearly defining environmental requirements within an Environmental Management Programme (or EMPR) (World Bank, 1999:1).

EMPR's provide a link between 1) the predicted environmental impacts (that will be induced by a certain development/project), and 2) implementation and operational activities.

Generally an EMPR performs the following functions;

- it outlines the anticipated environmental impacts of a project/activity,
- it outlines the measures to be taken to mitigate these impacts,
- it outlines responsibilities for mitigation of impacts.

Definition of an "Environmental Management Programme (EMPR):

An EMPR is a guideline document/directive outlining the mitigation, monitoring and institutional measures to be taken during project implementation, construction and operation to avoid or control adverse environmental impacts, as well as the actions needed to implement these measures (World Bank, 1999:1).

Definition of "mitigation measures":

Mitigation measures encompass all actions taken to eliminate, offset or reduce potentially

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adverse environmental impacts to acceptable levels (World Bank, 1999:1).

The objectives of the EMPR are:

- to identify and manage the potential environmental aspects (impacts) that could result from the project at the SITE;
- to ensure that the environmental performance of all employees as well as suppliers and/or contractors, over which the company has control or can be expected to have an influence over, at least meet minimum environmental requirements when undertaking their activities;
- to establish and maintain a programme of remedial actions to address degradation of the environment that has resulted from past activities;
- to continually evaluate the effectiveness of the EMPR and make improvements where necessary.

3. ENVIRONMENTAL MANAGEMENT PROGRAMME:

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- 3.1 BACKGROUND
- 3.2 ENVIRONMENTAL MANAGEMENT PROGRAMME
- 3.3 MONITORING & REPORTING
- 3.4 CONCLUDING REMARKS

3.1 BACKGROUND

The applicant is of intention to:

Construct various water supply pipelines that will feed of the bulk water supply as well as reservoirs to supply water to the villages in the following clusters;
Tshamahansi, Sekuruwe, Seema, Phafola, Maala Perekisi, Witrivier & Millennium Park

The following activities will have the greatest impact on the environment:

- Stream crossings of the pipeline where the pipes are smaller than 350 mm diameter
- Reservoirs larger than 250 m³ within 5km from Witvinger Nature Reserve
- Portion of the pipeline where the pipes are larger than 400 mm diameter

Focus will be on the following clusters:

TSHAMAHANSI - CLUSTER

Dithokeng pipeline-stream crossing to Malepeteke
Dithokeng pipeline-stream crossing connect to Mokaba tank
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SEKURUWE- CLUSTER

Groot Sandsloot pipeline-stream crossing
Tributary of Groot Sandsloot Alt-B pipeline-stream crossing

SEEMA- CLUSTER

Mogalakwena pipeline-stream crossing

PHAFOLA- CLUSTER

Thwathwe pipeline-stream crossing

3.2 ENVIRONMENTAL MANAGEMENT PROGRAMME

3.2.1 INTRODUCTION

Mitigation seeks to find better ways of doing things, minimise or eliminate negative impacts, enhance project benefits and protect public and individual rights. The applicant/proponent has a responsibility to avoid or minimise impacts, and programme for managing impacts.

This report serves to prescribe measures to reduce, limit, eliminate or compensate for impacts, to acceptable/insignificant levels. The term 'mitigate' means to 'allay, moderate, palliate, temper, intensify'. In environmental terminology this term is used as follows:

- mitigation of a negative impact;
- to reduce the significance of an impact;
- mitigation/optimisation of a positive impact;

Hereunder the potential to mitigate each of the negative impacts identified will be discussed. Certain mitigation measures will be proposed and an indication will be given of how these proposed mitigation measures will influence the significance and status of each identified impact. Recommendations are arranged in order of sequence i.e. Planning/construction and Operational phases.

Mitigation should permeate through all stages of the development process. It is also essential that the mitigation programme be monitored during the construction and operational phases, to ensure compliance.

The stipulations of this report should be conveyed to contractors and persons responsible for construction. This report should be issued as a stand alone document to all parties involved with the planning, implementation and operation of the proposed project.

3.2.2 WHAT IS AN EMPR?

It is essential to develop measures to eliminate, offset or reduce impacts on the environment, to acceptable levels before the implementation and operational phases of a project commence. The integration of such measures to protect the environment during the implementation and operational phase of a project, can be done by clearly defining environmental requirements within an Environmental Management Programme (or EMPR) (World Bank, 1999:1).

EMPR's provide a link between 1) the predicted environmental impacts (that will be induced by a certain development/project), and 2) implementation and operational activities.

Generally an EMPR performs the following functions;

- it outlines the anticipated environmental impacts of a project,
- it outlines the measures to be taken to mitigate these impacts,
- it outlines responsibilities for mitigation of impacts.

Definition of an "Environmental Management Programme" (EMPR):

An EMPR is a guideline document/directive outlining the mitigation, monitoring and institutional measures to be taken during project implementation, construction and operation

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to avoid or control adverse environmental impacts, as well as the actions needed to implement these measures (World Bank, 1999:1).

Definition of “mitigation measures”:

Mitigation measures encompass all actions taken to eliminate, offset or reduce potentially adverse environmental impacts to acceptable levels (World Bank, 1999:1).

3.2.3 GEOGRAPHIC SCOPE OF THIS EMPR

This EMPR shall apply to all areas that will be affected by activities that will be undertaken as part of the project.

3.2.4 TIME FRAME OF THIS EMPR

This EMPR shall apply to all actions that will be undertaken between the date of issuing of the Environmental Authorisation (Record of Decision) and the date of completion of construction.

3.2.5 EMPR TO INFORM PLANNING

During planning and design, the proponent and its planning consultants and contractors, should take into account the recommendations of this EMPR so that it is positively utilised on a pro-active basis to aid in the mitigation of impacts.

3.2.6 EMPR TO CONTRACTORS

The stipulations of this mitigation programme (EMPR) should be conveyed to contractors prior to the commencement of construction. Contractors should acknowledge receipt thereof in writing (this can be achieved by including this EMPR as an annexure to the tender documents).

3.2.7 INCORPORATE RECOMMENDATIONS INTO CONSTRUCTION CONTRACTS

Construction-phase mitigation guidelines and clauses should be written into contract documents as specifications, in addition to the minimum requirements as set out in the SABS Standardised Specification for Civil Engineering Construction.

Additional clauses should be added as necessary in response to specific impacts that may be identified during the detailed design stage.

3.2.8 EMPR MONITORING

Implementation of this EMPR (adherence to this EMPR) should be monitored to ensure compliance. There should also be penalties for non-compliance.

3.2.9 NOTIFYING THE PUBLIC

Adjacent landowners and the public at large, shall be informed of the fact that construction activity will take place at the site (personal letters of notification and advertising in the written media, should be used as the means of notification).

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3.2.10 RECOMMENDED ENVIRONMENTAL IMPACT MANAGEMENT MEASURES

3.2.10.1 PLANNING PHASE MITIGATION GUIDELINES

3.2.10.1.1 Implementation recommendations

During planning and design the proponent and its consultants and contractors, should take into account the recommendations of this Environmental Management Programme, so that it is positively utilised on a pro-active basis to aid in the mitigation of impacts.

3.2.10.1.2 Incorporate recommendations into construction contracts

Construction phase mitigation guidelines and clauses should be written into contract documents as specifications, in addition to the minimum requirements as set out in the SABS Standardised Specification for Civil Engineering Construction.

Additional clauses should be added as necessary in response to specific impacts that may be identified during the detailed design stage. These conditions should be adhered to by all contractors and their compliance should be monitored on a continual basis.

3. 2.10.1.3 The destruction of vegetation during initial investigations

Mitigation:

When visiting the site during the planning phase, use should be made of existing access roads.

3. 2.10.1.4 Uncertainty amongst local residents about who will benefit from the project

Mitigation:

Effective dissemination of the intentions of the proponent should take place throughout the area. Ongoing consultation with the community/local residents should take place. Prior to employment of individuals the proponent should liaise with the community/local residents. The Ward Councilors of the Municipality can assist the contractors with the consultation process.

3.2.10.2 CONSTRUCTION PHASE MITIGATION GUIDELINES

3.2.10.2.1 Impacts on the physical environment

a.) Vegetation

Mitigation:

A survey to verify the occurrence of Protected trees should be undertaken before site

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clearing is to commence. An application for a license to damage/destroy Protected trees (in terms of Section 15(1) of the National Forests Act no 84 of 1998) should be submitted to the Department Agriculture, Forests & Fisheries and the license should be issued before any Protected trees may be damaged or removed.

Any large trees should be retained where possible to limit the impact on the direct environment.

Aloes and succulents should be replanted in the adjacent vicinity of the construction area. Large aloes can be replanted in such a manner as to screen the construction area.

b.) Earthworks

Mitigation:

- All excavation activities for any purpose whatsoever, should be preceded by selective stripping and stockpiling of vegetative (humus) and soil materials in the order of their horizons as found on site, for the purpose of replacement in the appropriate horizon order, after the completion of construction. These activities should include;
 - ☞ trenching for the installation of services,
 - ☞ foundations,
 - ☞ access road construction,
 - ☞ site clearance,
 - ☞ borrow pits,
 - ☞ yards or laydown areas or any other areas affecting the natural environment.
- Replacement and rehabilitation should be progressive with the construction and not left until the end. Temporary topsoil stockpiles should be seeded, or protected in a manner acceptable to the environmental planner, so as to avoid erosion by rain or wind.
- Stockpiled topsoil and subsoils should be protected from contamination e.g. by fuel spillages etc.

c.) Vehicular access and movement of construction vehicles

Damping down of unsurfaced roads should take place to limit dust - route planning should be done. Posting of relevant traffic signage should take place in order to inform motorists of the turning movements of construction vehicles.

The access of all construction and delivery vehicles to construction areas should be strictly controlled, especially during wet weather, to avoid compaction and damage to the topsoil structure. Adverse impacts from construction traffic can be minimised by good planning by the contractor and controlled site activities. Construction routes to be clearly defined and signed. Working hours should be controlled by site engineer.

d.) Contractors' yards

Material delivery and storage areas should be demarcated in co-ordination with the

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contractor. Materials storage and contractors yards should not be sited in areas of sensitive soils, wherever practically possible, i.e. alluvial soils, drainage lines or vleis, steep slopes, rocky outcrops and those susceptible to erosion. Site activities should be properly managed and located not closer than 200m to streams/drainage channels.

e.) Rehabilitate compacted soils

Soils that have been compacted by construction activity shall be deep ripped to loosen compacted layers and graded evenly. Topsoil shall be re-spread upon completion of construction activities.

f.) Toilet facilities

Adequate sanitary facilities and ablutions must be provided for construction workers to avoid them using the bush. This is essential to avoid pollution and attraction of vermin and flies (which could become a nuisance or a health hazard).

g.) Waste handling

Contractors should remove all waste generated by themselves during construction and it should be disposed of at a suitable solid waste disposal venue – “dumping in the bush” should not take place. No materials or pollutants, etc. shall be dumped on site, adjacent thereto, or in any other place. Waste material will be in designated areas and not remain on site for a period longer than 90 days before it is disposed off. Burning of waste on-site is prohibited.

h.) Mixing cement

Where cement and concrete, etc. is mixed on site, this shall be done in specified areas on concrete aprons or on protected plastic linings and provision shall be made to contain spillage or overflows onto soils.

i.) Mixing of chemicals

The mixing of any solvents, asphalt, sealants, adhesives, paints, chemicals or other noxious materials shall only be undertaken in designated areas on concrete aprons that have spillage control channels and separate storage areas. The mixing of materials will not be permitted in the general areas of the site. All surplus or waste materials are to be removed from the site. All these operations shall only be allowed on site under strict observations of the manufacturers’ instructions.

j.) Stormwater and erosion control

Stormwater shall be diverted away from all construction or site areas in cut-off drains. Measures will be taken to reduce water velocity. Emphasis should be placed on in the management of stormwater. Exposed soil should be re-vegetated or covered to prevent soil erosion.

When soil is cleared of vegetation, management techniques to prevent water and wind erosion should be employed e.g. seeding of topsoil and subsoil and stockpiles, brush packing and contour channels/berms (to reduce water velocity and divert surface water runoff downslope). The area in general possesses a medium to high risk for erosion (especially if grass cover is removed for construction purposes). Congregation of storm water should be avoided.

k.) Surface water pollution

Adequate sanitary facilities and ablutions must be provided for construction workers to avoid them using the bush. Waste storage areas should be located away from drainage lines.

l.) Storage of fuel

If fuel is to be stored on site during construction, it shall be allocated to specific areas and safeguards shall be implemented to control and contain spillages for the complete extent of the time that the material is stored. The necessary firefighting equipment will also be maintained on site to deal with any fire incidents. All residues from spillages will be removed from the site by contractors and handled as hazardous waste.

m.) Silencing of plant

All equipment and vehicles on the site will be equipped with noise suppressing measures and kept in proper working order. Where working at the site noise levels must be within ambient noise level so as not to cause a nuisance to adjacent areas of residence.

Contractors should control site activities - working hours to be controlled by site engineer (06h00 to 17h00 daily, six days per week). Residents of adjacent properties should be informed if any unusually noisy activities are planned.

n.) Fires

No fires will be permitted on site without the authority of the project manager.

o.) Cleanliness

The site is to be maintained in a sanitary condition and all toilet facilities shall be maintained in good order. Food cooking will only be permitted in designated areas.

p.) Impact of air pollution – dust and smoke

Damping down of access roads and cleared areas should take place. Control over cooking fires by site foremen/engineer. Site clearing with the use of fire is prohibited.

q.) Visual impact of construction

Recommendations to reduce visual impacts include;

- All construction activities should be kept clustered on site at all times,
- Stockpiles of material should be kept in a neat and ordered fashion,
- Soil stockpiles can be used to screen excavation activities especially next to roads,
- Retain as many existing trees as possible (to screen the works),
- Unnecessary removing of bush from areas, which will not be utilized, should be avoided.

3. 2.10.2.2 Impacts on the biological environment

Existing indigenous trees should be retained where possible - excessive loss of vegetation should be avoided. Disturbance to sensitive areas like stream crossings and steep slopes should be minimized. During construction, the area that will be cleared for construction purposes, should be kept as small as possible, so as to minimise disturbances to the environment. Vehicular access should be restricted to essential areas only.

3. 2.10.2.3 Impacts on the social and socio-economic environment

a) Safety on site

Implementation of an Occupational Health and Safety management system is to be required of contractors. Safety measures and work procedures to be communicated to construction workers. First aid facilities to be on hand at all times. Medical screening of employees should take place. Wearing of PPE (Personal Protection Equipment) should be enforced at all times.

Contractors shall implement adequate and mandatory safety precautions relating to all aspects of the operation. Warning and advisory signage should also be implemented (also with regard to vehicular movement along public roads).

b) Clean construction camp

The construction camp should be kept in a neat and tidy condition. All litter and arisings from the construction camp shall be collected and removed on a continuous basis to avoid a build-up.

c) Cultural and/or archaeological sites

Any historical or archaeological relics unearthed on a site, during the course of construction, must be reported to the nearest South African Heritage Resources Agency Office (to comply with the National Heritage Resources Act, Act No. 25 of 1999), so that an assessment of the development site can be conducted and mitigatory action taken. If graves have to be moved, then the prescribed legal procedures, for doing so, should be followed. No activities will be allowed closer than 50 metres from any graves or historical areas without the knowledge of the ECO (Environmental Compliance Officer) and an archaeologist.

d) Optimisation of the local economy

Where appropriate, use should be made of labour intensive construction methods - local emerging contractors should be used as well as sourcing labourers from the nearby villages/towns.

Optimal benefit can be derived in the local economy by the preferential employment of local tradesmen and sub-contractors.

Sourcing of raw materials and construction materials should take place in the local and sub-regional economy.

e) Unsocial activities on site

Implementation of security on the construction site is necessary. Only authorised persons should have access to the site. The site needs to be properly secured for the duration of the construction period and strict control of labour implemented.

Prostitution, drinking, crime, vandalism etc. generally only arise where labourers are away from home. If the majority of the labour force is recruited locally, incidence of prostitution and other un-social activities could be reduced.

Transportation of labour to and from the site, should take place in an orderly manner to discourage loitering on adjacent areas and possible increase in crime.

3.2.11 OPERATIONAL PHASE MITIGATION GUIDELINES

The following section will address a range of mitigation actions that might manage the predicted impacts associated with the operation of the different components of the development.

3.2.11.1 The bio-physical environment

- Seeding of topsoil to prevent wind and water erosion should take place.
- Management techniques should be employed to prevent erosion e.g. seeding topsoil and subsoil and stockpiles, brush packing and contour channels/berms etc.
- When soil is cleared of vegetation, management techniques to prevent water erosion should be employed (e.g. reduction of water velocity and the diversion of surface water runoff down slope).

3.2.11.2 Alien species control

- Areas where construction has taken place shall be kept free of invaders/weeds.
- Regulation 15 of the Act on the Conservation of Agricultural Resources (as amended), Act No. 43 of 1983, determines that the establishment of declared weeds and invasive plants during and after development should be prohibited.

3.2.12 DECOMMISSIONING PHASE

Should the facility for any reason be closed, an Environmental Management Programme relating to the rehabilitation of the area shall be submitted to LEDET for approval.

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3.3 MONITORING AND REPORTING

The municipality and/or its appointed project engineer shall monitor compliance with the EMPR (above) - especially the following shall be monitored:

- Limiting of disturbance caused by construction activities (geographical area),
- Effective waste management,
- Minimisation of disturbance of biota,
- Legal compliance (including the stipulations of the Environmental Authorisation (Record of Decision)).

The proponent shall conduct inspections of the construction site on a weekly basis. The following persons shall attend such inspections

- the site engineer,
- the contractor &
- the municipality.

The proponent shall document the findings of his monitoring actions.

The proponent shall keep a documented complaints register. For the purposes of receiving complaints, the contact details of the proponent shall be clearly displayed at the main entrance to the site. The nature of complaints that are received shall be brought to the attention of LEDET and the contractor(s). The proponent shall give a suitable written response to complainants where required.

See enclosed pro-forma "complaints register" – under Appendices (section 5 of this document).

The proponent contractor shall document "environmental incidents" on an "Environmental Incident Report Sheet" (EIRS) within 1 day (24 hours) from the time that the incident has occurred.

See enclosed pro-forma "Environmental Incident Report Sheet" (EIRS) – under Appendices (section 5 of this document).

In an instance where an "environmental incident" is recorded, the proponent shall take appropriate action to correct the "environmental incident". Such action shall be in accordance with the nature and scale of the recorded incident. Such corrective action shall be implemented as soon as possible after the occurrence of the incident. "Corrective action" undertaken by the proponent shall also include the rehabilitation of secondary environmental disturbance/damage resulting from undertaking corrective action. The re-occurrence of an environmental incident shall be avoided through the implementing of suitable precautionary measures to prevent the recurrence of such.

Contractors shall report environmental incidents to the proponent during the weekly site visits. A course of action shall then be decided upon jointly (as a precautionary measure to avoid the re-occurrence of these types of incidents).

3.4 CONCLUDING REMARK

This document should be viewed as a dynamic document and additions should be made to it as other impacts/issues are identified during the course of the project. Where additions or alterations are made, the parties responsible for decommissioning, maintenance etc. should be informed of this in writing – such parties should acknowledge receipt of such additions/amendments in writing.

In conclusion it can be stated that several negative and positive impacts/effects can potentially arise from the proposed development. These can however be mitigated through the implementation of a number of mitigation measures (as contained in this Environmental Management Programme).

4. MAPS

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