

# **ENVIRONMENTAL MANAGEMENT PLAN**

(Compiled in terms of Regulation 8(j) of the Environmental Impact Assessment Regulations promulgated in the Government Notice No. 30 of 2012)

## **1 INTRODUCTION**

The purpose and intent of an Environmental Management Plan (EMP) is that it provides guidelines, processes and procedures that can ensure that the environment (biophysical and social) is not detrimentally affected by the proposed project. This includes strategies for monitoring the impacts at the site.

## **2 PLANNING AND DESIGN**

### **2.1 Contractor Requirements**

The Contractor must be made aware of the issues and impacts surrounding the proposed development sites. The Contractor must also be provided with a copy of the EMP and the EMP must form part of any tender documents.

Method statements from the Contractor will be required for specific sensitive actions. A Method Statement forms the baseline information on which sensitive area work takes place and is thus considered a “living document” in that modifications can be negotiated. The Contractor (and, where relevant, any subcontractors) must also sign the Method Statement, thereby indicating that the works will be carried out according to the approved methodology. Changes in the methodology must be reflected by amendments to the original approved Method Statement.

### **2.2 Conservation Management of Sensitive Areas**

All identified sensitive landscapes and features must be included in the planning, management, use and rehabilitation of the site.

A management plan addressing the conservation of sensitive fauna and flora to be incorporated as part of the area(s) to be conserved in their natural state (i.e. natural landscaping) must be compiled before commencement of construction. This is to be done by a qualified and experienced ecologist. Protected vegetation and naturally sensitive areas to be marked in a prominent manner prior to construction in order to identify areas or vegetation that should be protected.

A strategic Rehabilitation Plan addressing rehabilitation during and after construction should also be provided for.

## **2.3 Waste Management**

During the construction phase, the Contractor must make provision for the appropriate removal of waste from the site to a permitted waste disposal facility. The accumulation of construction waste materials on site must be avoided.

## **2.4 Appointment of an Environmental Control Officer (ECO)**

An independent ECO should be appointed, acting on behalf of the local authority to ensure that the EMP is complied with. The ECO should ideally be appointed during the planning phase and his/her responsibilities will include:

- Auditing of compliance with the EMP (the frequency of audits will be determined during the planning phase);
- Writing of auditing reports and submitting it to relevant parties;
- Liaison with relevant authorities;
- Liaison with contractors regarding environmental management;
- Reviewing of the complaints register that is to be kept on site during the construction phase;
- Liaison with interested and affected parties when complaints need to be addressed;
- Limiting construction activities to the construction areas;
- Waste management;
- Legal compliance with all relevant environmental legislation;
- Compliance with the conditions of the Record of Decision.

The ECO shall have the right to investigate the site at any time during the development phases and unexpected visits will be permitted. Weekly/Monthly auditing reports shall also be made available to all the relevant parties.

## **3 SITE ESTABLISHMENT**

### **3.1 Construction Camp**

The construction camp must preferably be located at an area of low environmental sensitivity, and include the actual Broadcasting Base Station area – i.e. on site.

### **3.2 Complaints Register**

A complaints register must be kept on site by the Site Manager. All complaints, issues and concerns shall be incorporated in feedback reports to the DEA. Where a complaint requires corrective action, this must be communicated to the relevant parties to ensure that the

complainant is satisfied. Interested and Affected Parties must be notified when construction activities are to commence.

### **3.3 Stripping of Topsoil**

Topsoil that is removed during the construction process must be stockpiled in a designated area. This area must be located upslope and away from any natural storm water channels. The topsoil must be used for any rehabilitation after the construction period.

### **3.4 Provision of Services**

Chemical toilets must be provided for construction workers. These must be removed from site on a daily basis.

### **3.5 Staff Awareness**

Staff must be made aware of their responsibilities to ensure that impacts such as fire, safety and potential pollution are taken care of. This must include an induction program. The movement of construction workers must be controlled and access to adjacent areas must be prohibited.

Poaching of all types of wildlife and the collecting of veld products should be strongly prohibited and be penalised with spot fines.

### **3.6 Involvement of the ECO**

The ECO should be involved in any decisions that are taken on site. This should include the approval of the site layout plan and activities that are to be undertaken during the construction phase.

## **4 CONSTRUCTION**

### **4.1 General Conditions**

The contractor and sub-contractors that are appointed to undertake the works need to comply with the requirement of this EMP as well as any conditions laid down by the DEA.

### **4.2 Storage of Equipment**

No materials are to be stored overnight, except in the case that it will be safely locked away or when a security guard is appointed to stay on site during the night.

### **4.3 Vehicle Movement/Repairs**

The movement of heavy vehicles on public roads should be kept to the minimum and carefully planned not to cause any danger or a nuisance to other road users. No heavy vehicles may be permitted to move on site on weekends or after official work hours.

Special care should be taken to prevent spillages on site. Vehicles should be equipped with drip trays to prevent oil and fuel spillages. In the event of spillages, it should be reported immediately and cleaned as soon as possible.

Notices should be placed at visible locations near the construction site to warn the public of on-going construction activities and indicating that heavy vehicles may be using the road.

#### **4.4 Storage of Fuel, Cement, Dangerous and Toxic Materials**

No fuels, paints, cement, dangerous or any toxic materials are to be stored on site.

Where there have been oil/fuel leakages, contaminated soil must be removed and disposed of at an appropriately permitted site.

Cleaning of cement mixing and handling equipment should be done using proper cleaning trays and all empty cement containers should be removed from the site for appropriate disposal at a licensed commercial facility.

#### **4.5 Control of Noise**

Construction activities can cause environmental noise pollution. A noise nuisance is defined as meaning “any sound that disturbs or impairs or may disturb or impair the convenience or peace of persons”. This includes the use of power tools, movement of vehicles, etc. The following specific measures must therefore be adhered to:

- Limit construction times to the following hours:
  - 08:00 to 17:00 during the week (Monday to Friday);
  - 10:00 to 12:00 on Saturdays, and
  - No work allowed on a Sunday.
- The contractor must comply with all applicable occupational health and safety requirements.

#### **4.6 Safety and Security**

The contractor’s personnel must be adequately trained and informed regarding the tasks that they are expected to perform. This is required for their own safety as well as the safety of colleagues and other interested and/or affected parties in accordance with the Occupation Health and Safety Act. All excavated areas and/or holes should be clearly demarcated.

Adequate safety fencing needs to be provided around the site. This needs to be checked and maintained during the construction phase.

#### **4.7 Waste Management**

All domestic waste generated must be stored either in refuse bins or in a waste skip. If weather conditions are windy, nets should cover these bins or skips. The Contractor must

ensure that these containers are emptied on a daily basis. All litter shall immediately be deposited into refuse bins or the waste skip. No litter must be left at the construction site.

Construction waste must be removed from the site on a daily basis and disposed of at a registered waste disposal site. Contaminated construction waste must be dealt with separately. Soils that have been contaminated by diesel, petrol, oil or any other substance that may inhibit the growth of plants must be removed to a registered waste disposal site for hazardous waste. Only appropriate landfill must be used to replace the removed material.

The burning of waste on site shall be prohibited.

Waste skips must be provided within the boundaries of the construction site and not within any of the surrounding streets.

#### **4.8 Air Quality**

Dust generated by construction and earth moving activities and vehicle movement on site or temporary access routes must be mitigated. Vehicle movement must be restricted to a speed of not more than 30 km/hour.

Stockpiles need to be covered in windy conditions and topsoil kept moist if required.

#### **4.9 Sites of Cultural/Historical Significance**

Should any archaeological artefacts be exposed during excavation, work on the area where these artefacts are found should cease immediately and the Environmental Control Officer notified accordingly. The Environmental Control Officer then needs to call on the services of an archaeologist so that the findings can be examined. No artefacts should be removed or be interfered with prior to authorisation from the Namibian Heritage Council.

#### **4.10 Terrestrial Ecology**

The harming, maiming, hunting or poaching of wildlife in any form or manner shall be prohibited.

Prevent the harvesting, removal or destruction of indigenous plant species not associated with construction activities.

The removal and/or destruction of protected tree species is prohibited. Should this be necessary for construction purposes then the official guidelines should be followed.

Remove all exotic plant species from site.

The burning of vegetation on site is prohibited.

## **5. POST CONSTRUCTION**

### **5.1 Ripping of Compacted Soil**

All areas where soil has been compacted due to construction activities must be ripped in two perpendicular directions to a depth of 0.15m after cessation of construction activities.

### **5.2 Site Rehabilitation**

The site must be cleared of all construction equipment, waste and associated materials by the end of the construction phase of the development.

Areas that were cleared for construction purposes such as the construction site should be restored to its original condition.

Stockpiled topsoil and indigenous vegetation should be used for all rehabilitation purposes.

The rehabilitation plan must ensure that erosion by runoff water does not occur.

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