

KROONVLEI WILDERNESS ESTATE

DRAFT ENVIRONMENTAL MANAGEMENT PLAN

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DRAFT ENVIRONMENTAL MANAGEMENT PLAN

PROPOSED DEVELOPMENT OF KROONVLEI WILDERNESS ESTATE

ON PTNS R/1, 2, R/6 AND 7 OF THE FARM ZUURVLEI 403 KR

MODIMOLLE MUNICIPALITY WATERBERG DISTRICT OF LIMPOPO PROVINCE

REF: 12/1/9/1-W6

1. INTRODUCTION

1.1 Background

The Applicant, Messrs Habitat Nouveau (Pty) Ltd (represented by Mr. W. Schreuders) and Goss Trust (represented by Mr. Rudo Goss), applied to the Designated Officer: Limpopo Development Tribunal for the establishment of a Land Development Area for private resort / wilderness estate purposes on the property known as Portions R/1, 2, R/6 and 7 of the farm Zuurvlei 403 KR, in terms of the Provisions of and Regulations & Rules to the Development Facilitation Act, 1995 (Act 67 of 1995).

The activity comprises the proposed development of Kroonvlei Wilderness Estate on a total land development area of 1 889 hectare with a development footprint of about 11 hectare, consisting of 61 x Private Lodges, 4 x Corporate Lodges, 3 x Manager's Residences, 1 x Clubhouse, 1 x Entrance Gate, a Cultural Village and Staff Accommodation. The rest of the farm Zuurvlei, being about 1 878 hectare, will remain undeveloped and will be managed as a private nature reserve.

The proposed development is located between Bela-Bela and Modimolle at coordinates of approximately 28° 11' 45" South latitude and 24° 41' 10" East longitude, in the Modimolle Municipal Council area of the Waterberg District, Limpopo Province

The provision of services for the proposed private resort will include electrical reticulation, water reticulation, fire protection and roads. Each development portion will have its own French drain and septic tank sewage system.

As part of their planning process, the Applicant appointed *I.W. Terblanche & Associates, Environmental Assessment Practitioners*, to attend to the environmental requirements with regard to an environmental impact assessment for the Kroonvlei Wilderness Estate project.

The Environmental Assessment Practitioner completed a site assessment that investigated the baseline environment and identified opportunities and constraints associated with the development of a wilderness estate, prior to the submission of an environmental Basic Assessment report to the Competent Authority.

The environmental impact assessment for the proposed wilderness estate, per the requirements of the EIA Regulations derived from the Environment Conservation Act (Act 73 of 1989), as amended and the EIA regulations of 2010 included comprehensive public participation, specialist studies and the submission of the environmental Basic Assessment report in March 2012. The primary environmental regulatory authority (Competent Authority) in this case is the Limpopo provincial Department of Economic Development, Environment and Tourism.

It is anticipated that the EIA process will culminate in the issuing of environmental authorisation by the Competent Authority, which will authorise the proposed development subject to certain conditions.

An Environmental Management Plan [EMP] is a vital tool in ensuring that the environmental controls identified by the Environmental Assessment Practitioner [EAP] are properly understood, clearly formulated and included in the development specifications and that its application can be monitored and corrective action taken when necessary.

1.2 Terms of Reference

The purpose of an EMP is defined in the Integrated Environmental Management (IEM) Guideline Series (Department of Environment Affairs, 1992) as: *“a plan that organises and co-ordinates mitigation, rehabilitation and monitoring measures in order to guide the implementation of the proposal”*. The objectives of this EMP are thus to:

- prescribe the best practicable control methods to abate the environmental impacts associated with the development and management of Kroonvlei Wilderness Estate;
- monitor and audit the performance of construction personnel in applying such controls.

2. ENVIRONMENTAL POLICY AND LEGISLATION

2.1 Environmental Policy Statement

The policy statement that follows is formulated to support both the development (construction) and operational phases of the proposed wilderness estate.

The development / construction phase covers the period of infrastructure- and civil services development from the establishment on site by appointed contractors, leading up to the sale of individual erven for further development.

The operational phase is regarded as the period after completion of infrastructure development, when development on specific erven takes place after these erven had been sold to individual developers.

All personnel shall be required to commit themselves to the following policy:

- adherence to the requirements of the EMP for the proposed wilderness estate development;
- management of all construction and operational activities so as to minimise the risk of pollution of ground and surface water, the air and the soil;
- management of all construction and operational activities so as to minimise the nuisance and disruption to humans working or residing in the area;
- adherence to the environmental legislation relevant to the location and nature of the work being conducted;
- compliance with the monitoring and auditing programmes contained in the EMP, to ensure its accountable and transparent implementation.

2.2 Relevant Environmental Legislation

Cognisance shall be taken of, but not limited to, the following pieces of legislation during the development phase of the proposed wilderness estate:

- Environment Conservation Act (Act 73 of 1989)
- National Environmental Management Act (Act 107 of 1998)
- National Heritage Resources Act (Act 25 of 1999)
- National Water Act (Act 36 of 1998)
- Occupational Health and Safety Act (Act 85 of 1993)

3. RESPONSIBILITY LINKAGES

Essentially, the responsibility for the application of the EMP for the proposed development begins with the Applicant, who shall nominate a Project Manager and Environmental Control Officer to assume this task within his or her portfolio.

With the Project Manager and Environmental Control Officer roles being particularly important, these are now described in more detail.

3.1 Role of the Project Manager

The Project Manager (PM) is responsible for ensuring that on-site activities during the development / construction phase are undertaken in accordance with the requirements of the EMP. The Project Manager shall thus need to ensure that:

- environmental requirements are adequately covered in tender and contract documents;
- appropriate corrective action is identified if non-compliance occur or unforeseen environmental issues arise that require environmental management action;
- corrective action is implemented as required;
- appropriate records and information regarding compliance with the EMP requirements are maintained and made available to the Environmental Control Officer;
- instructions as required by the Environmental Control Officer are issued to the relevant Contractor.

3.2 Role of the Local Environmental Control Officer

The Environmental Control Officer (ECO) is responsible for ensuring that the requirements of the EMP are implemented. Whereas the Project Manager (PM) has overall responsibility for the development of the proposed wilderness estate, the focus of the ECO is on the environmental aspects of the development / construction phase. The ECO shall, thus:

- undertake ongoing monitoring of development activities through regular site inspections;
- record important findings of the site inspections;
- advise the PM on environmental matters during development;
- monitor the implementation of specific elements of the EMP by Contractors;
- advise the PM on actions or issues impacting on the environment, provide appropriate recommendations to address these and confirm the issuing of subsequent site instructions;
- ensure that the PM has a copy of the EMP.

4. ENVIRONMENTAL SPECIFICATIONS

4.1 Site-specific Controls: Pre-Construction Phase

The Pre-Construction Phase refers to the period following final project planning and tender phase, leading up to, but not including, the establishment on site by the appointed contractor.

4.1.1 General

The Project Manager (PM) must:

- make provision on the Construction Site Meeting Agenda for environmental issues;
- maintain professional conduct at all times;
- advise the Applicant and other Interested and Affected Parties of the construction schedule (i.e. the extent and duration of the construction works) as soon as it is approved.

4.1.2 Environmental site management and rehabilitation plan

The following specifications are preparation actions ahead of the Construction and Rehabilitation phases.

The PM must:

- ensure that a Safety Officer (SO) and Environmental Control Officer (ECO) are appointed before the commencement of construction;
- draw up and submit for approval a Construction Schedule;
- indicate that site rehabilitation will immediately be executed upon completion of the civil engineering related Works;
- inform the ECO of any changes to the approved Construction Schedule as submitted;
- make provision for environmental monitoring and auditing and ensure that the ECO has access to the site at all times.

4.2 Site-Specific Controls: Construction Phase

The Construction Phase covers the period of infrastructure- and civil services development, from the establishment on site by appointed contractors, leading up to the sale of individual erven for further development.

4.2.1 Employment

Unemployment, resulting in poor quality of life, is prevalent in the Bela-Bela and Modimolle regions.

Mitigation

- i. A local employment policy must be emphasised during the development / construction phase of the proposed wilderness estate to alleviate the present high rate of unemployment in the region.
- ii. Equitable distribution of jobs and gender sensitivity must be emphasised.

4.2.2 Site establishment

The Contractor's camp is defined as the demarcated area where the Contractor will establish offices, workshops, living quarters and storage facilities and forms a discrete part of the construction site.

Site establishment could result in the loss of natural vegetation, including rare and endangered species, if the site is located in a densely vegetated area.

Site establishment could also lead to soil erosion if the site is located on sloping ground. The proposed development area consists mainly of undulating to hilly ground.

Mitigation

- i. The PM shall allocate a suitable area on level ground to the Contractor for the erection of temporary site offices and for storing materials. No construction work may commence before the PM has approved the site establishment.
- ii. In choosing a site for the camp, the following additional factors have to be adhered to:
 - avoid water courses / wetland areas;
 - if possible, the camp must be located within the construction area;
 - an existing, disturbed area must be used where feasible.
- iii. The construction camp should only have one access route and where possible, existing roads and tracks should be used. Access road(s) must be upgraded to cope with heavy construction machinery and vehicles and must be maintained in an adequate condition so as to minimise dust and erosion.

4.2.3 Safety

The construction phase will result in increased traffic in the area, particularly from heavy construction vehicles, as well as in the disruption of normal traffic flow.

Open excavations / trenches for the installation of services, will pose a safety risk to people and game moving through the area.

Fuel stored on site have the potential to pollute groundwater resources and to impact negatively on vegetation.

The construction phase could pose a significant safety risk to workers on site.

Mitigation

Traffic

- i. Regulated traffic safety procedures must be strictly implemented. Traffic control and safety shall be done in accordance with the South African Traffic Safety Manual, with the relevant signs, flagmen, barriers, etc being provided where required.

- ii. Traffic control shall be done in liaison with local traffic officials.
- iii. The extent of roadside disruptions must be minimized where possible to allow traffic flow to continue normally.
- iv. Loads must be properly secured to prevent spillages along the road.
- v. The existing access to the development property must be used. No new access road to the property shall be constructed without the approval of Roads Agency Limpopo.

Excavations

- vi. Excavations must be demarcated with danger tape to prevent people or game from accidentally falling into open excavations.
- vii. Excavations must not remain open for extended periods of time.

Storage of Fuel

- viii. The Contractor shall ensure that the volume of fuel and oil on site is appropriate to the requirements and is stored and handled so as to avoid the risk of spillage.
- ix. All fuels, oils and chemicals shall be confined to specific and secured areas. These materials shall be stored in an area with a concrete or other impervious base, which is adequately bunded. The volume of the bund shall be two times the volume of the containers stored. Gas and fuel shall not be stored in the same storage area and generators used on site shall also be placed on a bunded surface.
- x. Any fuel tank used regularly for the re-fuelling of vehicles shall be located within a bund, which shall have a concrete base and brick walls. The fuel dispenser shall be suspended within the bunded area while not in use.
- xi. Polluted storm-water run-off from the concrete storage areas shall be collected, stored and disposed of at an approved waste disposal site. Contaminated soil shall also be removed, stored in a skip and disposed of at an approved waste disposal site.
- xii. Contractors shall position any equipment that may leak on watertight drip trays to contain any pollutants.
- xiii. Materials collected in these drip trays shall be collected and disposed of at an approved waste disposal site.

Safety on site

- xv. The Contractor must comply with all the Regulations as included in the Occupational Health and Safety Act (Act 85 of 1993).

- xvi. The Contractor must ensure that first aid/emergency facilities/procedures are in place and he must keep a list of all relevant emergency numbers in a readily accessible location on site.
- xvii. The Contractor must ensure that employees are issued with and make use of the necessary safety equipment when working in dusty, noisy and/or dangerous situations. Such equipment may include, but is not necessarily limited to hardhats, goggles, masks, earplugs, gloves, safety footwear and safety ropes as required.

4.2.4 Security

A large work force, a possible lack of proper control over employees and employees staying over-night on the Site of Works could have a significant negative impact on security in the area.

Mitigation

- i. The Contractor shall be responsible for the security of his employees, construction camp and equipment.
- ii. Strict access control must be maintained at the Site of Works.
- iii. No employee (apart from security staff) shall be permitted to reside on the Site of Works. Security staff present after hours must be provided with the necessary cooking, heating and ablution facilities.
- iv. A local employment policy must be followed, which will allow people having their own accommodation to be employed on the project. There will, thus, be no need for the Contractor to provide over-night accommodation to his employees.

4.2.5 Pollution /Waste disposal

The presence of a large work force on site during construction could lead to considerable environmental pollution through littering and the indiscriminate dumping of refuse and builders rubble.

Construction activities have the potential to result in noise and dust pollution.

A lack of proper ablution facilities on site during construction will lead to unhygienic conditions and a health risk and could result in the contamination of groundwater resources.

Re-fuelling of vehicles on the construction site and the improper storage of fuels, oils and chemicals could contaminate groundwater resources.

Mitigation

Waste

- i. An integrated waste management approach must be followed based on best practices and must incorporate reduction, recycling, re-use and responsible disposal. Waste bins must be provided on site for the duration of the construction phase and all waste, including construction rubble, must be collected, stored and removed on a regular basis to the nearest approved municipal waste disposal site. No informal dumping sites shall be allowed in or around the project area.
- ii. All waste concrete (a non-hazardous waste) which can not be used on site as fill material, must be removed to the municipal waste disposal site. No waste material shall be dumped on site or at any informal waste disposal site.
- iii. The Contractor shall provide workers to clean up the site on a regular basis and the general cleanliness of the site shall form part of the Contractor's responsibility.

Noise and dust

- iv. The impact from noise and dust pollution will be limited since construction sites are sufficiently removed from the nearest residential areas. However, work areas must be sprayed with water when required to suppress dust.
- v. Vehicle speeds must not exceed 30 km/h on demarcated construction roads on the Site of Works or 20 km/h when traversing unconsolidated areas.
- vi. Activities such as blasting and piling shall only be undertaken with the necessary controls in place, as stipulated by the local Noise Control Regulations.

Ablution

- vii. The Contractor shall provide chemical toilets on site for the duration of the development phase, at a ratio of one toilet to every fifteen employees.
- viii. The contents of the chemical toilets must be emptied at a registered sewerage works.
- ix. All toilets shall conform to the requirements of the Local Authority and the locations on site shall be approved by the PM.

Fuels

- x. Fuel tanks used for re-fuelling shall be located within a bund, with concrete floor base and brick walls. Re-fuelling of vehicles shall take place on an impervious surface. All fuels, oils and chemicals shall be confined to secured areas with an impervious base, which is adequately banded.

Eating areas

- xi. Eating areas shall be restricted to the site offices and Contractor's camp. If employees are to eat elsewhere on the site, the Contractor shall, in consultation with the PM or ECO, designate places for eating in the work-areas.
- xii. The Contractor shall provide adequate water for washing, toilets and refuse bins at all these places and shall keep the eating-area clean at all times.

4.2.6 Archaeology

Estate development has the potential to impact negatively on heritage resources through the clearing of construction sites, the excavation of trenches for the installation of underground services and infrastructure development.

Mitigation

- i. Messrs R&R Cultural Resource Consultants conducted a **Phase 1 Heritage Impact Assessment** of the proposed land development area in March 2008.

Historical buildings and graves described in the Heritage Impact Assessment report fall outside the development areas and will not be affected by the proposed estate development. The Archaeologist states that from a heritage resources management point of view, there is no objection with regard to the proposed development.

The possible discovery of previously undetected heritage remains during the development phase must be reported to the Archaeologist, who will then comply with the necessary legal requirements.

4.2.7 Impacts related to the development of services

The development of superstructures and infrastructure services has the potential to have a significant long-term negative environmental impact, for example pollution from sanitation systems, negative visual impact of overhead power lines, negative impact from soil erosion as a result of the construction of internal road and water reticulation networks and the clearing of natural vegetation.

Mitigation

Superstructures

- i. The development of superstructures and other services will inevitably impact on the natural vegetation through the clearing of development sites. As much of the natural vegetation as possible must be maintained during development.

- ii. The results of the archaeological impact assessment indicate that it is unlikely for the proposed development to interfere with any significant cultural or heritage resources. Any chance finds of subsurface archaeological resources during development must be reported immediately to the Archaeologist for investigation. The Developer must stop all work in that specific area until further notice by the Archaeologist.
- iii. All superstructures must be located above the 1:100 year floodline of any water body or stream in compliance with the provisions of Section 144 of the Water Act, 1998 (Act 36 of 1998)

Sewage

- iv. The proposed estate development will not be incorporated into the Modimolle municipal sewage disposal network. Each development unit on the estate will provide for its own sewage disposal system, with the approval of the Municipality and Department of Water Affairs.

Supply of electricity and telephone services

- v. The high cost of underground electricity and telephone lines makes the use of aboveground lines inevitable.

Road network

- vi. Internal roads must be properly upgraded as mitigation against erosion and adequate storm water control measures must be implemented to the satisfaction of the Municipality.

Installation of rising- and gravity mains and internal reticulation pipelines

- vii. Water pipelines must be laid underground in pipeline trenches of approximately 600mm deep and about 300mm wide. Pipeline routes must follow the alignment of existing or new internal roads where feasible in order to minimise any possible negative environmental impact.
- viii. The use of excavated material for bedding and backfill must be maximised.
- ix. Where possible, that Contractor shall stockpile seed-bearing topsoil material alongside the trench, separate from other excavated material, for replacement upon completion of the backfill.
- x. When backfilled, pipeline trenches shall be left proud of the natural surface in order to allow for any consolidation of backfill material that might still occur after completion of the works. This will minimise the possibility of erosion along the pipeline route.
- xi. All surplus or unsuitable excavation material arising from trench excavations must be spoiled and neatly spread and levelled along the route of the pipeline so as not to interfere with future works or to disrupt the natural flow of storm-water runoff.

Waste disposal

- xii. All waste must be disposed of at an approved Municipal waste disposal site.

4.2.8 Vegetation and wildlife

Estate development has the potential to impact negatively on biodiversity through habitat destruction and the clearing of natural vegetation during the construction phase.

Mitigation

Vegetation

- i. No protected trees shall be removed or damaged during development, unless the required permits had first been obtained from the relevant authorities.
- ii. The use of suitable indigenous trees for landscaping must be emphasised during and after construction.
- iii. Suitable indigenous plants occurring in the development area must be relocated to a nursery for use in landscaping of disturbed areas after completion of construction.
- iv. Soil must be stripped in a phased manner in order to retain vegetation cover for as long as possible. The topsoil layer (the top 200 mm seed-bank material) must be stripped first and stockpiled separately for rehabilitation purposes. This material shall be stored in stockpiles not more than 2 metres high in order to maximise the viability of seed and soil organisms available in the material.

Wildlife

- v. Strict control must be exercised over workers to prevent snaring of game.
- vi. The maximum number of trees must be maintained during development to encourage birdlife in particular to adapt to the new environment.

4.3 Site-specific Controls: Rehabilitation Phase

The Rehabilitation Phase refers to the period of the project after the completion of the actual Works, the onset signalled by site cleanup, site rehabilitation, the withdrawal of the Contractor from site, and coinciding with the maintenance / operational period.

4.3.1 Site clean-up

Construction sites are often left in a state of pollution after completion of the Works.

Mitigation

- i. The Contractor must completely remove from site all construction plant, equipment, storage containers, temporary fencing, temporary services, fixtures and other temporary Works.
- ii. The Contractor must clear the site of all inert waste and rubble, including surplus rock, foundations and batching plant aggregates.
- iii. The Contractor must remove from site all domestic waste and dispose of it at a registered waste disposal site.

4.3.2 Topsoil, disturbed areas and re-vegetation

Disturbance of the natural vegetation and compaction of soil is inevitable at construction sites and needs to be addressed during the rehabilitation phase.

Mitigation

- i. Replace and redistribute stockpiled topsoil in all disturbed areas of the construction site. Replace topsoil to the original depth.
- ii. After topsoil placement is complete, spread available stripped vegetation randomly by hand over the covered areas.
- iii. Rip and / or scarify all disturbed areas of the construction site, including temporary access routes and roads, compacted during the execution of the Works.
- iv. Rip and / or scarify along the contour to prevent the creation of down-slope channels.

4.4 Site-specific Controls: Operational Phase

The Operational Phase for the proposed estate development is regarded as the period after completion of infrastructure development by the Applicant, when development on specific erven takes place after these erven had been sold by the Applicant to individual developers.

Individual developers must be provided with copies of the EMP and must adhere to the Construction Phase Controls during development of the erven.

There must be a signed agreement between the Applicant and new owners of the erven that they will adhere to the environmental control measures in the EMP.

4.5 Site-specific Controls: Decommissioning Phase

The proposed estate is a long-term development which is expected to be in place for many years and no decommissioning is currently foreseen. In the event that decommissioning does take place in future, it is recommended that a management plan be compiled at that time, taking into consideration the conditions on and around the various sites (erven) at that point in time. Waste material during decommissioning will mainly consist of non-hazardous concrete and steel waste / roofing material and no extra-ordinary management measures are foreseen in the event of possible future decommissioning.

Mitigation

- i. Non-hazardous concrete waste must be removed to a registered waste disposal site.
- ii. Waste steel and roofing material must be collected and sold, if it could not be used in other construction projects.
- iii. Construction sites must be properly rehabilitated and cleaned up after decommissioning, to the satisfaction of the Municipality and the Competent Environmental Authority.

5. EMERGENCY PROCEDURES

5.1 First Aid Procedures

- 5.1.1 The Contractor shall provide and maintain a suitable first aid kit on site and shall ensure that a qualified first aid practitioner is present during working-hours, in accordance with the Occupational Health and Safety Act (Act 85 of 1993).
- 5.1.2 The Contractor shall ensure that their staff know and can carry out the procedures for dealing with accidents and shall clearly define the emergency procedures to be followed for obtaining medical treatment and assistance in the event of serious injury.

5.2 Spills of Fuels and Chemicals

- 5.2.1 The Contractor shall keep the necessary materials and equipment on site to deal with ground spills of any fuels and chemicals present.
- 5.2.2 The clean-up of spills and any damage caused by a spill shall be for the relevant Contractor's account.

5.3 Emergency Advisory Procedure

- 5.3.1. The Contractor shall ensure that there is an emergency advisory procedure on site before commencing any operations that may endanger the lives of any personnel on site, or cause damage to the environment.
- 5.3.2. The Contractor shall ensure that all personnel are familiar with all emergency procedures to be followed. He must ensure that lists of all emergency numbers and contact people are regularly updated and that numbers and names are posted at relevant locations at all times.
- 5.3.3. Wherever work involves welding, gas cutting or cutting of metal, fire-fighting equipment shall be immediately available.
- 5.3.4. A member of staff must be appointed to be responsible for the installation and inspection of fire extinguishers. The PM shall receive copies of the inspection reports. A map must be drawn up to indicate the locations of fire extinguishers and they must be clearly visible and demarcated in accordance with legislation.

6. MONITORING AND AUDITING

In keeping with current environmental and associated legislation, all environmental management procedures and actions should be reviewed and refined on an on-going basis. This process is known as Monitoring and Auditing.

The ECO will undertake environmental audits for the duration of the construction phase as required.

The primary role of the ECO is to act as quality controller regarding all environmental concerns. In this respect, the ECO is to conduct periodic site inspections, attend site meetings, pre-empt problems and suggest mitigation and be available to advise on incidental issues that arise. The ECO is also required to conduct compliance audits.

The Contractor is answerable to the ECO for non-compliance with the Performance Specifications. Issues of non-compliance raised by the ECO must be taken up by the PM and resolved with the Contractor as per the conditions of his contract.

Decisions regarding environmental procedures, specifications and requirements which have a cost implication, must be endorsed by the PM and Applicant.

6.1 The Monitoring Procedure

Environmental Monitoring is the continuous evaluation of the status and condition of environmental elements.

To these ends, the ECO will monitor the site for compliance with the Performance Specifications. The aim is that each environmental management specification be checked by means of a system in which a score may be allocated for:

- Full compliance,
- Satisfactory performance,
- Unsatisfactory performance and
- No action.

Completed Monitoring Reports will be submitted to the PM and Contractor, who will attend to issues raised. The ECO will perform audits at appointed intervals. These reports must be kept on record and be made available upon request by the Applicant and any Environmental Authority requesting such.

All persons employed by the Contractor or his Sub-contractors must abide by the requirements of these Performance Specifications as they apply to the Works.

The Contractor will be informed via Monitoring and Auditing Reports as well as by means of direct instruction as to what corrective actions are required in terms of Environmental Compliance.

6.2 The Auditing Procedure

Environmental Auditing is the process of comparing the impacts predicted with those which have actually occurred during implementation. The Performance Audit will ensure that the monitoring was correctly undertaken and that compliance was achieved.

To these ends, the ECO will audit the project and its environmental management system for effectiveness.

Audits will be undertaken at intervals specified in the project EMP. Audit reports will be submitted to the PM and the Contractor, who will attend to issues. These reports must be kept on record and be made available upon request by the Applicant and any Environmental Authority requesting such.

A post construction environmental audit must be done on completion of the project and submitted to the Competent Authority.

6.3 Retentions

It is recommended that a retention system be implemented to motivate and compel the Contractor to adhere to the Environmental Performance Specifications for the duration of his contract.

Of importance is that the Contract specifies exactly how the retention system will operate, as well as how any funds resultant from retentions will be utilised.

All such funds must be used to improve *environmental* conditions on the site under development, either during or post-construction.

At the end of the Contract, all remaining environmental retention amounts will be paid out to the Contractor.

I. W. Terblanche
Environmental Assessment Practitioner

15-03-2012