



Environmental
Management
Group (Pty) Ltd.

EMPr FOR:
PROPOSED CATTLE
FEEDLOT ON PORTION
38 OF THE FARM
STERKFONTein 424-IR,
MEYERTON, GAUTENG
PROVINCE

River Valley Beef Feedlot

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Definitions:

Alien Vegetation: alien vegetation is defined as undesirable plant growth which shall include, but not be limited to; all declared category 1 and 2 listed invader species as set out in the Conservation of Agricultural Resources Act (CARA) regulations. Other vegetation deemed to be alien shall be those plant species that show the potential to occupy in number, any area within the defined construction area and which are declared to be undesirable.

Aspect: Element of an organisation's activities, products or services that can interact with the environment.

Auditing: A systematic, documented, periodic and objective evaluation of how well the environmental management plan is being implemented and is performing with the aim of helping to safeguard the environment by facilitating management control which would include meeting regulatory requirements. Results of the audit help the organisation to improve its environmental policies and management systems.

Built environment: Physical surroundings created by human activity, e.g. buildings, houses, roads, bridges and harbours.

Contamination: Polluting or making something impure.

Corrective (or remedial) action: Response required addressing an environmental problem that is in conflict with the requirements of the EMP. The need for corrective action may be determined through monitoring, audits or management review.

Degradation: The lowering of the quality of the environment through human activities, e.g. river degradation, soil degradation.

Ecology: The scientific study of the relationship between living things (animals, plants and humans) and their environment.

Ecosystem: The relationship and interaction between plants, animals and the non-living environment.

Environment: environment means the surroundings within which humans exist and that could be made up of -

- the land, water and atmosphere of the earth;
- micro-organisms, plant and animal life;
- any part or combination of the two points mentioned above and the interrelationships among and between them; and
- the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and well-being.

Environmental aspect: an environmental aspect is any component of a contractor's construction activity that is likely to interact with the environment.

Environmental impact: an impact or environmental impact is the change to the environment, whether desirable or undesirable, that will result from the effect of a construction activity. An impact may be the direct or indirect consequence of a construction activity.

Environmental authorisation: an environmental authorisation is a written statement from the National Department of Forestry, Fisheries and the Environment (DFFE) that records its approval of a planned development.

Hazardous waste: Waste, even in small amounts that can cause damage to plants, animals, their habitat and the well-being of human beings, e.g. waste from factories, detergents, pesticides, hydrocarbons, etc.

Land use: The use of land for human activities, e.g. residential, commercial, industrial use.














Mitigation: Measures designed to avoid, reduce or remedy adverse impacts

1. Introduction and background:

1.1. Scope:

Environmental Management Group (EMG) (Pty) Ltd, as independent environmental managers and impact assessors has been appointed by **River Valley Beef Feedlot (PTY)** to compile and submit an Environmental Management Programme (EMPr) under the National Environmental Management Act No 107 of 1998, for the **proposed cattle feedlot development** in Meyerton, Gauteng Province as part of the Environmental Authorisation Process.

This document is compiled in accordance with the Integrated Environmental Management (IEM) philosophy which aims to achieve a desirable balance between conservation and development (DEAT, 1992). IEM is a key instrument of the National Environmental Management Act [NEMA] (Act No. 107 of 1998). NEMA promotes the integrated environmental management of activities that may have a significant effect on the environment, while IEM prescribes a methodology for ensuring that environmental management principles are fully integrated into all stages of the development process. It advocates the use of several environmental management tools that are appropriate for the various levels of decision-making. One such tool is an EMP. The IEM guidelines encourage a pro-active approach to sourcing, collating and presenting information in a manner that can be interpreted at all levels. The basic principles underpinning IEM are that there be:

-  informed decision-making;
-  accountability for information on which decisions are taken;
-  accountability for decisions taken;
-  a broad meaning given to the term environment (i.e. one that includes physical, biological,
-  social, economic, cultural, historical and political components);
-  an open, participatory approach in the planning of proposals;
-  consultation with interested and affected parties;
-  due consideration of alternative options;
-  an attempt to mitigate negative impacts and enhance positive aspects of proposals;
-  an attempt to ensure that the 'social costs' of development proposals (those borne by society, rather than the developers) be outweighed by the 'social benefits' (benefits to society as a result of the actions of the developers);
-  democratic regard for individual rights and obligations;
-  compliance with these principles during all stages of the planning, implementation and decommissioning of the proposals (i.e. from 'cradle to grave');
-  and the opportunity for public and specialist input in the decision-making process.

The Environmental Impact Assessment Regulations that took effect in December 2014 regulate the procedures and criteria for the submission, processing, consideration and decision on applications for environmental authorisation of listed activities.

The general principles contained within this document apply to all **planning phase**, **construction phase**, and **operational phase** activities regarding the proposed development.

1.2. Project description:

River Valley Beef (Pty) Ltd proposed to develop a cattle feedlot which will host 3 000 units. The proposed development is situated on portion 38 of the farm Sterkfontein 424-IR in Meyerton, Gauteng which falls within the jurisdiction of Midvaal municipality. Existing infrastructure located on the proposed development site include a structure which will be constructed into a store for feed.

The proponent has requested the expertise if a suitable service provider to conduct the process to obtain the necessary permits (Environmental Authorisation (EA) and water use license (WULA) to capacitate the new development. EMG was appointed to conduct a Basic Assessment Report (BAR) for the proposed development and in so doing obtain EA and WULA.

The site's topography is described as an undulating plain. The study area's downwards leaning slope favours the proposed development as runoff from the proposed feedlot can easily be channelled through a network of stormwater channels into the two-phase organic waste management system. Organic waste produced by the proposed development's operation will be a mixture of manure and soil, forming a biodegradable by-product. Healthy feedlot cattle produce manure equivalent to 5-6% of their body weight per day. The proposed cattle feedlot production scheme aims to introduce new cattle every four months with a starting weight of 250 kg and an exit weight of 500 kg. Calculated as the average between the two weight classes, each LSU will produce 562.5 kg manure per month.

This report deals with the planning and construction phase of the **cattle feedlot** in Meyerton and **associated infrastructure**.

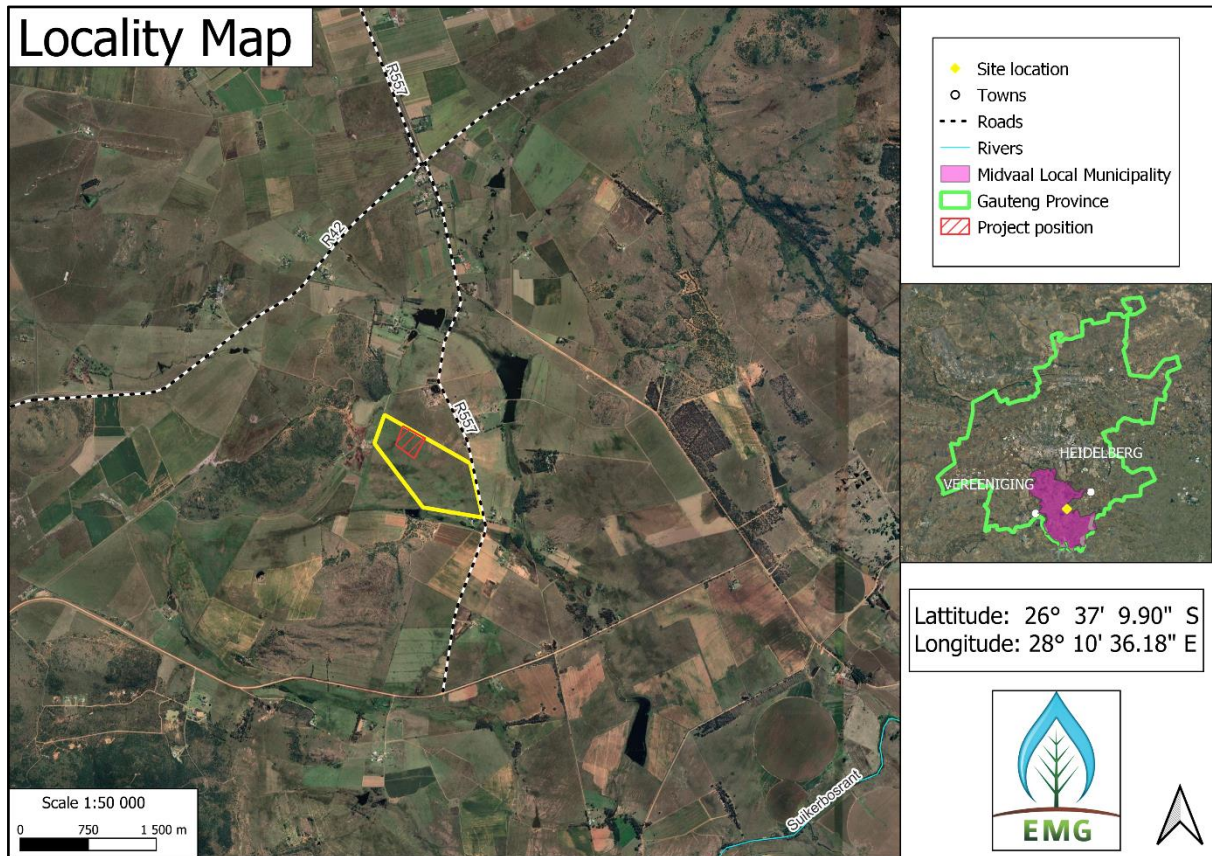


Figure 1 Locality map illustrating the locality of the proposed cattle feedlot development in Meyerton, Gauteng.

Feedlot water management

The supply of cool, clean, good-quality water is essential for high-density cattle production. The water requirement for cattle is calculated as: 20 litre per LSU per day: 20 litre x 3000 x 365 days = 21 900 m³ / year.

Drinking water will be supplied in a trough and placed off the ground. This ensures keeping the water clean and free of livestock secretions. Water abstracted from one existing borehole will satisfy the water supply need. The operational activities for the proposed feedlot facility will require authorisation in terms of Section 21 of the National Water Act. The proponent is in the process of submitting a water use license application to the Department of Water and Sanitation (DWS). Mortalities will be immediately removed from the feedlot and given to the local Lion farm.

Feedlot waste management:

Organic waste produced by the proposed development's operation will be a mixture of manure and soil, forming a biodegradable by-product. According to Font-Palma (2019), healthy feedlot cattle produce manure equivalent to 5-6% of their body weight per day. The proposed cattle feedlot production scheme aims to introduce new cattle every four months with a starting weight of 250 kg and an exit weight of 500 kg. Calculated as the average between the two weight classes, each LSU will produce 562.5 kg manure per month. The concentrated quantities of manure resulting from high-density livestock farming often lead to the proliferation of unwanted pest insects such as flies. To mitigate this, probiotics will be introduced into the livestock feed and will be sprayed onto the feedlots to limit the proliferation of unwanted pests.

The feedlots will be cleaned each month which involves the mechanical removal of manure. The collected waste will be transported to a temporary storage/drying area lined by an impenetrable material, preventing seepage into the ground. Manure stockpiles will be covered with a 50% shade net until dry. The dried manure will be used as fertiliser on the surrounding cultivated fields.

Stormwater management:

The River Valley Beef Feedlot Pty cattle feedlot pens have been designed to utilise the natural slope to allow feedlot runoff to be directed into a stormwater channel that runs along the northern and southern boundary of the proposed site. The runoff from the stormwater channel will then be directed to a sedimentation pond in the eastern region of the proposed site.

A stormwater layout plan has been compiled and is attached (see Appendix I). The mentioned stormwater layout plan will conform to industry best practice design. The stormwater network will redirect runoff from the feedlots into a sedimentation pond, trapping solid waste before entering the evaporation pond (waste lagoon). Both the sedimentation pond and waste lagoon will be lined by an impenetrable material, preventing seepage. The accumulated solids within the sedimentation pond will be cleaned when it reaches 70% capacity. Waste from the sedimentation pond will be transported to the temporary waste storage area to dry out and




eventually used as fertiliser. The water within the evaporation pond (waste lagoon) will dry naturally and eventually be used as fertiliser in the surrounding cultivated fields.

Dimensions of the sedimentation pond and waste lagoon are as follows:




Sedimentation pond: (W)716.1 m x (L)39.5 m x (D)1.5 m.

Waste lagoon: (W)48.1 m x (L)158.7 m x (D)1 m.

In order to ensure that the feedlot drainage operates sufficiently, the following need to be considered in the design:

-  Stormwater channels that have sufficient capacity to avoid overflow in “normal” rainfall and maintenance conditions;
-  Stormwater channels shouldn’t be impeded by excessive sedimentation of vegetation growth;
-  Significant scouring of stormwater channels should not occur.

The following **monitoring recommendations** must take place to ensure that the feedlot drainage system continues to work effectively:

-  Visual monitoring of sediment depth and vegetation growth in the stormwater channel;
-  Visual monitoring of scouring and damage to the stormwater channel during maintenance operations;
-  Records must be kept of the date of cleaning operations and of any repairs or maintenance.

2. Role players and responsibility matrix:

In order for the EMP to be successfully implemented, all the role players involved in the project need to co-operate. For this to happen, role players must clearly understand their roles and responsibilities in the project, must be professional, form respectful and transparent relationships, and maintain open lines of communication.

Table 1: Functions and Responsibilities of Project Team

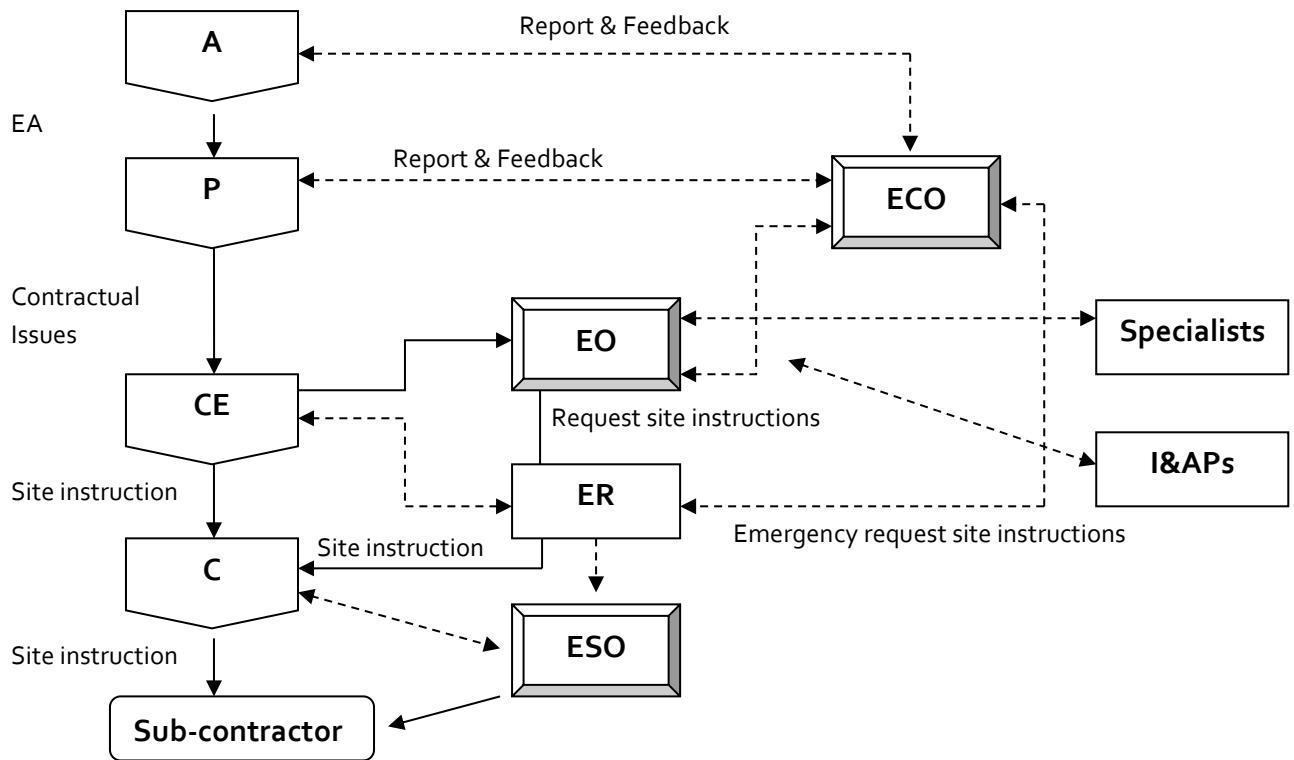
Key	Function	Responsibility
P	Proponent	Proponent is ultimately accountable for ensuring compliance to the EMP. The ECO must be contracted by the Proponent (full time or part time depending on the size of the project) as an independent appointment to objectively monitor implementation of relevant environmental legislation, conditions of the EMP for the project. The Proponent is further responsible for providing and giving mandate to enable the ECO to perform responsibilities. The developer must ensure that the ECO is integrated as part of the project team.
CE	Consulting Engineer	Contracted by the developer to design and specify the project engineering aspects. Generally, the engineer runs the works contract. The CE may also fulfil the role of Project Manager on the proponent’s behalf (See PM).

PM	Project Manager	<p>The Project Manager has over-all responsibility for managing the project, contractors, and consultants and for ensuring that the environmental management requirements are met.</p> <p>The CE may also act as the PM. All decisions regarding environmental procedures must be approved by the PM. The PM has the authority to stop any decommissioning activity in contravention of the EMP in accordance with an agreed warning procedure.</p>
ER	Engineers Representative	<p>The consulting engineer's representative on site. Has the power/mandate to issue site instructions and in some instances, variation orders to the contractor, following request by the EO or ECO. The ER oversees site works, liaison with Contractor and ECO.</p>
EO/EM	Environmental Officer / Environmental Manager	<p>Appointed by the Consulting Engineers as their environmental representative on site. The EO is not independent but must rather act on behalf of the consulting engineers with the mandate to enforce compliance under the project contract, which must include the EMP.</p> <p>The EO has the directive to issue non-conformance and hazard certificates. Further, in terms of accepted industry practice the EO could issue the equivalent of a "cease works" instruction only in exceptional circumstances where serious environmental harm has been or is about to be caused i.e. in cases of extreme urgency and then only when the ER is absent.</p> <p>The EO must form part of the project team and be involved in all aspects of project planning that can influence environmental conditions on the site. On certain types of projects, such as linear developments (fences, pipelines, etc), the EO must also be the liaison between the contractor and landowners.</p> <p>The EO must attend relevant project meetings, conduct daily inspections to monitor compliance with the EMP, and be responsible for providing reports and feedback on potential environmental problems associated with the development to the project team and ECO.</p> <p>The EO must convey the contents of this EMP to the Contractor site team and discuss the contents in detail with the Contractor as well as undertake to conduct an induction and an environmental awareness training session prior to site handover to all contractors and their workforce.</p> <p>The EO must be suitably experienced with the relevant qualifications and preferably competent in construction related methods and practices.</p>
ECO	Environmental Control Officer	<p>An independent appointment to objectively monitor implementation of relevant environmental legislation, conditions of Environmental Authorisations (EA's), and the</p>

		<p>EMP for the project. The ECO must be on site prior to any site establishment and must endeavour to form an integral part of the project team.</p> <p>The ECO must be proactive and have access to specialist expertise as and when required, these include botanists, ecologists, etc. Further, the ECO must also have access to expertise such as game capture, snake catching, etc.</p> <p>The ECO must conduct audits on compliance to relevant environmental legislation, conditions of EA, and the EMP for the project. The size and sensitivity of the development, based on the EIA, will determine the frequency at which the ECO will be required to conduct audits. (A minimum of a monthly site inspection must be undertaken).</p> <p>The ECO must be the liaison between the relevant authorities and the project team. The ECO must communicate and inform the developer and consulting engineers of any changes to environmental conditions as required by relevant authoritative bodies. The ECO must ensure that the registration and updating of all relevant EMP documentation is carried out.</p> <p>The ECO must be suitably experienced with the relevant environmental management qualifications and preferably competent in construction related methods and practices.</p> <p>The ECO must handle information received from whistle blowers as confidential and must address and report these incidences to the relevant Authority as soon as possible.</p> <p>On small projects, where no EO is appointed, the ECO must convey the contents of this EMP to the Contractor site team and discuss the contents in detail with the Contractor as well as undertake to conduct an induction and an environmental awareness training session prior to site handover to all contractors and their workforce.</p>
C	Contractor	<p>The principle contractor, hereafter known as the ‘Contractor’, is responsible for implementation and compliance with the requirements of the EMP and conditions of the EA’s, contract and relevant environmental legislation. The Contractor must ensure that all sub-contractors have a copy of and are fully aware of the content and requirements of this EMP.</p> <p>The contractor is required, where specified, to provide Method Statements setting out in detail how the management actions contained in the EMP will be implemented.</p>
ESO	Environmental Site Officer	<p>The ESO is employed by the Contractor as his/her environmental representative to monitor, review and verify compliance with the EMP by the contractor. This is not an independent appointment; rather the ESO must be a respected member of the contractor’s management team.</p> <p>Dependent on the size of the development the ESO must be on site one week prior to the commencement of construction.</p>





		The ESO must ensure that he/she is involved at all phases of the construction (from site clearance to rehabilitation).
A	Lead Authority	The authorities are the relevant environmental department that has issued the Environmental Authorisation. The authorities are responsible for ensuring that the monitoring of the EMP and other authorisation documentation is carried out, this will be achieved by reviewing audit reports submitted by the ECO and conducting regular site visits.
OA	Other Authorities	Other authorities are those that may be involved in the approval process of an EMP. Their involvement may include reviewing EMP's to ensure the accuracy of the information relevant to their specific mandate. Other authorities may be involved in the development, review or implementation of an EMP. For example, if a specific development requires a water use licence for the relevant national authority, then that authority should review and comment on the content of the particular section pertaining to that mandate.
EAP	Environmental Assessment Practitioner	The definition of an environmental assessment practitioner in Section 1 of NEMA is <i>“the individual responsible for the planning, management and coordination of environmental impact assessments, strategic environmental assessments, environmental management plans or any other appropriate environmental instruments introduced through regulations”</i> .

2.1. Recommended formal environmental communication channels:



3. Objectives of the EMP:¹

The specific objectives of this EMP are to:

-  To provide explicit operational guidelines and environmental monitoring requirements during the construction phases so that activities are done in environmentally responsible and sustainable manner.
-  To benefit the host communities, minimise the impacts on the environment and to ensure the health and safety of the community by creating a development that eliminates unacceptable health hazards and ensures public and animal safety.
-  To enable proponent and its contractors to use resources efficiently and effectively during the project lifecycle in order to reduce wastage and thereby reduce associated negative environmental impacts. In addition, the aim is also to handle waste streams responsibly and apply the 'reduce, re-use and recycle' principle, wherever possible
-  To leave areas disturbed by construction in a rehabilitated, stable, non-polluting and tidy condition.







4. Activities covered by the EMP:

4.1. Planning stage:

The project planning stage consists of layout design surveying and ensuring that all plans and required contracts, permits/ licenses and agreements are set in place.


4.2. Construction phase:

The construction phase will start after the relevant authorizations are granted. The construction phase involves earthwork, structure development, service provision and finishing. The construction phase will start after the relevant authorizations are granted. This phase includes:







-  Establishment of construction camp and equipment yards
-  Transportation of construction material and other resource inputs;
-  Use of construction equipment on site;
-  Storage of input materials and disposal of waste generated;
-  Physical clearance for the purpose of feedlot construction;
-  Rehabilitation of the disturbed areas through:
 - Demolition/removal of any unwanted construction fences and infrastructure;
 - Top-soiling and re-vegetation of areas disturbed by construction.

5. Identification of environmental aspects and impacts:






The contractor shall identify likely aspects before commencing with any construction activity. Examples of environment aspects include:

-  Waste generation

¹ The implementation of the EMP is not an additional or "add on" requirement. The EMP is legally binding through NEMA.

-  Storm water discharge
-  Chemical use operations
-  Energy use operations
-  Water use operations
-  Use of natural resources
-  Noise generation

Thereafter the contractor shall programme his work in such a way that each cause and effect of a construction activity is also identified, and the activity planned so as to prevent any impacts from happening. If prevention is not practicable, or in the event of mishap or misapplication, the contractor shall provide plans and measures for the engineer's approval, which will limit and contain the magnitude, duration and intensity of the impact. The contractor shall demonstrate that he is capable of carrying out any repair and reinstatement of the damaged environment. Listed below are some environmental impacts that could adversely alter an aspect of the environment through usual construction activities:

-  Pollution of atmosphere, soil or water
-  Destruction or removal of fauna and flora and effect on biological diversity
-  Deformation of the landscape
-  Soil erosion
-  Effect on the built environment

6. Legal requirements:

6.1. General:

Construction activities will be according to the best industry practices, as identified in the project documents. This EMP, which forms an integral part of the contract documents, informs the contractor as to his duties in the fulfilment of the project objectives, with particular reference to the prevention and mitigation of environmental impacts caused by construction activities associated with the project. The contractor should note that obligations imposed by the EMP are legally binding in terms of environmental statutory legislation and in terms of the additional conditions to the general conditions of contract that pertain to this project. In the event that any rights and obligations contained in this document contradict those specified in the standard or project specifications then the latter shall prevail.

6.2. Statutory and other applicable legislation:

The contractor is deemed to have made himself conversant with all legislation pertaining to the environment, including provincial and local government ordinances, which may be applicable to the contract.




6.3. Administration of Environmental Obligations

6.3.1. Appointment of an environmental Site Officer (ESO)

For the purposes of implementing the conditions contained herein, the contractor shall submit to the engineer for approval the appointment of a nominated representative of the contractor as the ESO for the contract. The request shall be given, in writing, at least fourteen days before the start of any work clearly setting out reasons for the nomination, and with sufficient detail to enable the engineer to make a decision. The engineer will, within seven days of receiving the request, approve, reject or call for more information on the nomination. Once a nominated representative of the contractor has been approved, he/she shall be the ESO and shall be the responsible person for ensuring that the provisions of the EMP are complied with during the life of the contract. The engineer will be responsible for issuing instructions to the contractor where environmental considerations call for action to be taken. The ESO shall submit regular written reports to the engineer, but not less frequently than once a month. The engineer shall have the authority to instruct the contractor to replace the ESO if, in the engineer's opinion, the appointed officer is not fulfilling his/her duties in terms of the requirements of the EMP or this specification. Such instruction will be in writing and shall clearly set out the reasons why a replacement is required.

6.3.2. ESO Administration

Before the contractor begins each construction activity, the ESO shall give to the engineer a written statement setting out the following:

-  The type of construction activity.
-  Locality where the activity will take place.
-  Identification of the environmental aspects and impacts that might result from the activity.

- 🔗 Methodology for impact prevention for each activity or aspect.
- 🔗 Methodology for impact containment for each activity or aspect. Emergency/disaster incident and reaction procedures.
- 🔗 Treatment and continued maintenance of impacted environment.

The contractor may provide such information in advance of any or all construction activities provided that new submissions shall be given to the engineer whenever there is a change or variation to the original.

The engineer may provide comment on the methodology and procedures proposed by the ESO, but he shall not be responsible for the contractor's chosen measures of impact mitigation and emergency/disaster management systems. However, the contractor shall demonstrate at inception and at least once during the contract that the approved measures and procedures function properly.

6.4. Communication Procedures on site

Each of the books described below must be available in duplicate, with copies for the Engineers Representative (ER), Environmental Site Officer (ESO) and Environmental Controlling Officer (ECO) or alternatively an agreement could be reached to use a single system. These books should be available to the authorities for inspection or on request. Contractor's meeting minutes must reflect environmental queries, agreed actions and dates of eventual compliance. These minutes form part of the official environmental record.

6.4.1. Site instruction entries

The Site Instruction Book entries will be used for the recording of general site instructions as they relate to the works on site. It will also be used for the issuing of stop work orders for the purposes of immediately halting any particular activities of the contractor in lieu of the environmental risk that they may pose.

6.4.2. ESA diary entries

The purpose of these entries will be to record the comments of the ESA as they relate to activities on the site.

6.4.3. Training

The designated environmental site officer (ESO) must be conversant with all legislation pertaining to the environment applicable to this contract and must be appropriately trained in environmental management and must possess the skills necessary to impart environmental management skills to all personnel involved in the contract. The contractor shall ensure that adequate environmental training takes place. All employees shall have been given an induction presentation on environmental awareness. Where possible, the presentation needs to be conducted in the language of the employees. The environmental training should, as a minimum, include the following:

- 🔗 The importance of conformance with all environmental policies;
- 🔗 The environmental impacts, actual or potential, of their work activities;

- 💧 The environmental benefits of improved personal performance;
- 💧 Their roles and responsibilities in achieving conformance with the environmental policy and procedures and with the requirement of the Agency's environmental management systems, including emergency preparedness and response requirements;
- 💧 The potential consequences of departure from specified operating procedures;
- 💧 The mitigation measures required to be implemented when carrying out their work activities.

In the case of permanent staff, the contractor shall provide evidence that such induction courses have been presented. In the case of new staff (including contract labour) the contractor shall inform the engineer when and how he intends concluding his environmental training obligations.

7. Record keeping:

All records related to the implementation of this management plan (e.g. site instruction book and method statements) must be kept together in an office where it is safe and can be retrieved easily. These records should be kept for a minimum of two years and should at any time be available for scrutiny by any relevant authorities.

It is recommended that photographs are taken of the site **prior to, during and immediately after construction** as a visual reference. These photographs should be stored with other records related to this EMP.

7.1. Compliance and penalties:

The contractor shall act immediately when a notice of non-compliance is received, correct whatever is the cause for the issuing of the notice. Complaints received regarding activities on the construction site pertaining to the environment shall be recorded in a dedicated register, and the response noted with the date and action taken. Any non-compliance with the agreed procedures of the EMP is a transgression of the various statutes and laws that define the manner by which the environment is managed; therefore, any avoidable non-compliance, dependant on severity, shall be considered sufficient grounds for contact to be made with relevant provincial or national authorities. The responsible provincial or national authorities shall ensure compliance and impose penalties relevant to the transgression as allowed for within its statutory powers.















7.2. Report availability:




Copies of this EMP shall be kept at the construction site office and will be accessible to all senior contract personnel. All senior personnel working on the project shall be required to familiarise themselves with the contents of this document.

8. Environmental mitigation specifications for impacts:











8.1. Social environmental issues:

It is important to minimize any negative perception, by taking proactive measures to prevent any social conflicts or social gaps and to develop a positive attitude within the community of the project. The following management strategies are to be implemented:












-  Ensure that all site personnel have a basic level of environmental awareness training.
-  Training should be undertaken by a party such as the ECO who has sufficient expertise and knowledge of environmental issues.
-  Transparent fair recruitment and procurement practices. The contractor chosen should maximize the involvement of local communities in construction and support activities, to the extent possible, based on available skill levels. Whenever possible, training programmes that will benefit both construction stage skills requirements and long-term employment demand should be developed.
-  The recruitment selection process should seek to promote gender equality and the employment of women wherever possible.
-  Priority should be given to the local suppliers of goods and services, which meet requirements of project procurement as far as is possible. In order to optimize the opportunities for local businesses to supply goods and services to the project, the contractor will do a survey of the capabilities of the goods and services that are locally available that are of an acceptable standard and quality and a survey of the capabilities of local construction companies and identify opportunities for local suppliers.
-  A public complaint register and system to ensure that community complaints clearly investigated and adequate remedial taken should be instituted.
-  Adequate notification should be done to people residing close to where construction activities are taking place especially if they are to be affected by them. In addition, there should be a system of compensation for any damages to infrastructure that may occur.
-  It is the Contractor's responsibility to provide the site foreman with environmental training and to ensure that the foreman has sufficient understanding to pass this information onto the construction staff.
-  Environmental awareness posters should be erected on site.
-  The need for a "clean site" policy also needs to be explained to the workers.
-  Staff operating equipment (such as excavators, loaders, etc.) shall be adequately trained and sensitised to any potential hazards associated with their tasks.
-  Unsocial activities such as consumption or illegal selling of alcohol, drug utilisation or selling and prostitution on site shall be prohibited. Any persons found to be engaged in such activities should receive disciplinary or criminal action taken against them.
-  Secure the site in order to reduce the opportunity for criminal activity in the locality of the construction site.
-  Security personnel and skeleton staff must be supplied with adequate protective clothing, ablution facilities, water and refuse collection facilities, facilities for cooking and heating so that open fires are not necessary.

-  The site and crew are to be managed in strict accordance with the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993) and the National Building Regulations.
-  The contractor must ensure that all emergency procedures are in place prior to commencing work. Emergency procedures must include (but not be limited to) fire, spills, contamination of the ground, accidents to employees, use of hazardous substances and materials, etc.
-  Each worker should be required to abide by a Code of Conduct which will limit unsavoury activities in local towns and communities and restrict certain behaviours in the work sites and accommodation.


















8.2. Fencing:

-  Fencing of the campsite and construction area shall be suitably secured to prohibit access and promote the safety of persons.
-  No unauthorised pedestrian or vehicular access shall be allowed into fenced off-limits areas.
-  Fencing shall be kept neat at all times. The contractor shall be responsible for the maintenance of all fences.
-  If temporary fencing is removed temporarily for the execution of work, the contractor shall reinstate it as soon as practicable.
-  Breaches in the fencing must be repaired immediately.
-  The purpose of the fenced areas is to control construction and personnel activity within the designated areas and limit unauthorised access.
-  No fences or gates that provide access to the site/construction campsite may be cut, lowered, removed or damaged in any way.
-  Leave private gates as they are found (open or closed). Gates to adjacent properties or onto public roads must be closed at all times.
-  Open gates should be guarded to prevent animals from straying onto adjacent camps, roads or properties.
-  All unattended trenches/ excavations should be demarcated.


8.3. Clearing and grubbing:

-  Contractor shall at all times carefully consider what machinery is appropriate to the task while minimising the extent of environmental damage.
-  The topsoil is regarded as the top 300 mm of the soil profile irrespective of the fertility appearance.
-  Topsoil is to be stripped when it is in as dry a condition as possible in order to prevent compaction.
-  The topsoil, including the existing grass cover is to be shallowly ripped (only the depth of the topsoil) before removal. This is to ensure that organic plant material, and the natural seed base is included in the stripping process.
-  No stockpiling of vegetation for more than 1 week. Constant clearing of alien vegetation.
-  Soil stockpiles shall not be higher than 2.5 m or stored for a period longer than one year. The slopes of soil stockpiles shall not be steeper than 1m vertical to 2.5m horizontal.
-  No vehicles shall be allowed access onto the stockpiles after they have been placed.
-  Stockpiles shall not be allowed to become contaminated with oil, diesel, petrol, garbage or any other material, which may inhibit the later growth of vegetation.
-  The contractor shall apply soil conservation measures to the stockpiles to prevent erosion. This can include the use of erosion control fabric or grass seeding.
-  The works shall be cleared of alien vegetation as identified by the ESA. An effort must be made to remove the entire root system where after the plant shall be left to dry out on a hard surface that will not facilitate the germination of seed.
-  Burning of any material is not permitted under any circumstances.


8.4. Establishing office / camp sites:

-  All construction activities should be restricted to the authorised areas and no disturbance shall occur outside of these areas.
-  Vehicles will be maintained to such an extent as to not produce excessive noise and keep within the manufactures noise limitations.
-  Normal working hours for construction will be kept to (07:00 – 17:00).
-  In cases where facilities are linked to existing sewerage structures, all necessary regulatory requirements concerning construction and maintenance should be adhered to. The facilities must comply with the National Water Act requirements.
-  Adequate signage must be provided, and the area must be appropriated secured.
-  All formal documentation should be kept at the site office and be made available during monthly audits.
-  Choice of site for the Contractor's camp requires the Project Manager's permission and must take into account location of local residents.
-  The size of the construction camp should be minimized.
-  Adequate parking must be provided for site staff and visitors. This should not inconvenience or serve as a nuisance to neighbours.
-  The Contractor must attend to drainage of the camp site to avoid standing water and / or sheet erosion.
-  Suitable control measures over the Contractor's yard, plant and material storage to mitigate any visual impact of the construction activity must be implemented.
-  The contractor is responsible for providing all sanitary arrangements for his and the sub-contractors team. A minimum of one chemical toilet must be provided per 15 persons.
-  Sanitary arrangements must be to the satisfaction of the ECO. Toilets must be of the chemical type. The contractor must keep the toilets in a clean, neat and hygienic condition. Toilet paper dispensers must be provided in all toilets. It is the responsibility of the Contractor to ensure all toilets have been supplied with and have an available supply of toilet paper at all times.
-  Toilets provided by the contractor must be easily accessible and a maximum of 50 m from the works area to ensure they are utilised. All toilets will be located within the contractor's camp. Should toilets be needed elsewhere, their location must first be approved by the ECO.
-  The contractor must ensure that toilets are moved with the labour force.
-  The contractor must be responsible for the cleaning, maintenance and servicing of the toilets. The contractor must ensure that all toilets are cleaned and emptied before the builder's or other public holidays.
-  Toilets out on site must be secured to the ground and have a sufficient, operational locking mechanism at all times.


8.5. Waste management

-  The contractors must provide and maintain a method statement for "solid waste management". The method statement must provide information on the proposed


licensed facility to be utilised and details must be kept of record keeping for auditing purposes.


 Waste must be separated into recyclable and non-recyclable waste, and must be separated as follows:


- Hazardous waste: including (but not limited to) old oil, paint, etc.,
- General waste: including (but not limited to) construction rubble.


 Any illegal dumping of waste shouldn't be tolerated, this action will result in a fine and if required further legal action will be taken. This aspect must be closely monitored and reported on; proof of legal dumping must be able to be produced on request.


 Bins must be clearly marked for ease of management.


 All refuse bins must have a lid secured so that animals or humans cannot gain access.

 Sufficient closed containers must be strategically located around the construction site to handle the amount of litter, wastes, rubbish, debris, and builder's waste generated on the site.

 Subcontractor(s) contracts must contain a clause to the effect that the disposal of all construction-generated refuse / waste to an officially approved dumping site is the responsibility of the subcontractor in question and that the subcontractors are bound to the management activities stipulated in this EMP. Proof of this undertaking must be issued to the ECO.


 All solid and chemical wastes that are generated must be removed and disposed of at a licensed waste disposal site. The contractor is to provide proof of such to the ECO.


 Chemical containers and packaging brought onto the site must be removed for disposal at a suitable site.


 A skip, with a cover, must be used to contain refuse from campsite bins, rubble and other construction material.


8.6. Air quality:


The main sources of impact on air quality are mobilization of equipment, land clearing and earthworks. To ensure air quality characteristics of the project area are maintained near the baseline conditions, the following measures shall be done:


 Regular inspection and scheduled maintenance of all equipment to ensure that construction vehicles are in good condition, are utilising fuel efficiently and do not smoke.





 Periodically watering the bare surfaces and excavations during construction to keep the dust level down.

 Slowing down the vehicles, by enforcing speed limit of 30 km/h, carrying the construction materials to reduce dust generation.





 Properly wrapping the material truck containers with cover to avoid dust spreads on windy days and prohibiting transport of over loaded trucks.

 Providing and using the safety equipment such as dust mask for employees who work near the dusty location such as the heavy equipment operators.

 Optimization of working schedule and work to help to minimize several material vehicle mobilization trips.








-  Implement biofilters or vegetative buffers around the feedlot to help capture and absorb odorous compounds. Planting trees, shrubs, and other vegetation can help filter and neutralize odours.
-  Promptly remove and properly manage manure to minimize the contact with air. This can be achieved through frequent manure removal which reduces the production of odorous gases.
-  Keep the feedlot clean by regularly removing manure and waste materials. Cleaning pens assists in the prevention of the buildup of odour-causing compounds.
-  Use proper manure storage facilities such as lagoons to reduce odour emissions.

8.7. Fire control

-  The contractors must provide and maintain a **method statement** for "fires", clearly indicating where and for what, fires will be utilised plus details on the fuel to be utilised.
-  Fires will only be allowed in facilities especially constructed for this purpose within fenced Contractor's camps. Wood, charcoal or anthracite are the only fuels permitted to be used for fires. The contractor must provide sufficient wood (fuel) for this purpose.
 - Fires within the designated areas must be small in scale so as to prevent excessive smoke being released into the air.
-  The contractor must designate a smoking area for the labour force so as to prevent unanticipated incidents of veldt fires.
-  No wood is to be collected, chopped or felled for fires from private or public property as well as from no-go or sensitive areas within the site and any surrounding natural vegetation.










8.8. Noise and vibrations:

The primary noise sources will be vehicles and equipment utilized during the construction stage including graders, bulldozers, general purpose vehicles, etc. To manage the impact the following will be done:

-  Only well-maintained vehicles and equipment should be operated on-site, and all machinery should be serviced regularly during the construction stage.
-  Avoiding unnecessary simultaneous noisy activities.
-  No amplified music shall be allowed at the site.
-  Selecting 'quiet' construction equipment and working method and avoiding unnecessary revving and hooting.
-  Providing ear protection for activities that are likely to create noise in order to protect worker's health and safety.
-  In terms of noise impact for various increases over the ambient, the National Noise Regulations define an increase of 7dB as "disturbing". Noise levels during construction must therefore be kept within 7dB of the baseline data.
-  All construction vehicles must be in a good working order to reduce possible noise pollution.







8.9. Erosion control:























Construction activities will require the removal of vegetation cover, potentially resulting in soil erosion and subsequent impacts on surface water quality due to uncontrolled rainwater run-off or mechanical/wind action. The following measures are necessary to minimise impacts:













-  Clearance of vegetation should be restricted to authorised development area.
-  Appropriate drainage facilities must be constructed to make sure water runs smoothly downstream.
-  Areas where construction has been finished should immediately be rehabilitated up to relevant standards.
-  All structures of the stormwater management plan need to be inspected on a regular basis.
-  Topsoil layer will be kept for rehabilitating of disturbed areas and will be adequately stored to protect it from erosion.
-  Any obstruction within the stormwater management plan needs to be removed.
-  Surface water or storm water must not be allowed to concentrate, or to flow down cut or fill sloped routes without erosion protection measures being in place.
-  Ensure that storm water channels do not discharge straight down the contours. These must be aligned at such an angle to the contours that they have the least possible gradient.
-  To reduce the loss of material by erosion, the contractor must ensure that disturbance on site is kept to a minimum. The contractor is responsible for rehabilitating all eroded areas in such a way that the erosion potential is minimised after construction has been completed.

8.10. Contamination of land:

Land contamination may occur as a result of fuel and oil leaks or spills and/or poor fuel, chemical and waste storage. The following measures are necessary to mitigate/ avoid the adverse effects of land contamination:





-  The storage areas shall be securely fenced and appropriately marked to indicate the goods in the storage. Material Safety Data Sheets should be kept for all hazardous materials on site.
-  All hazardous substances and stocks such as diesel, oils, detergents, etc., shall be stored in areas with impervious flooring such as concrete and properly bunded.
-  Drip pans, other impervious surface, shall be installed in such storage areas with a view to prevent soil and water pollution.
-  No vehicles may be serviced on site.
-  Dedicated impervious areas should be designated for concrete mixing and the spillage from concrete mixed should be cleaned immediately.
-  The waste management strategy on the construction site should be hinged on the waste hierarchy model of '*reduce, reuse and recycle*' waste in order to reduce the ultimate impact on the environment.








-  All used oils, grease or hydraulic fluids shall be placed in appropriate impervious containers and these receptacles will be removed from the site on a regular basis for disposal at a licensed disposal facility or sent for recycling/reuse with a registered facility.
-  Residues from machinery maintenance and other sources contaminated with hazardous waste should be stored in proper containers that avoid seepage to ground.
-  Spills should be cleaned up immediately by removing the spillage together with the polluted soil and by disposing of them at a recognised facility.
-  Adequate waste receptacles shall be made available, and all waste shall be adequately stored so that it does not pose a pollution risk.
-  General waste is to be disposed of through the municipal service. Any other waste will be disposed of through only licensed waste disposal facilities.
-  Volatile waste items such as plastic bags, cement bags, etc. should be temporarily stored in a suitable manner as to prevent it from being dispersed via wind.
-  All waste management strategies employed by the contractor should comply with environmental / waste management legislation.
-  Waste should be regularly removed from the site to a registered landfill.
-  The contractor should develop and comply to an on-site specific waste management plan.
-  No waste may be buried in an on-site waste pit.
-  Construction labourers should be sensitised to dispose of waste in a responsible manner and not to litter. Labourers should be informed during toolbox talks.
-  Chemical toilet facilities or other approved toilet facilities should be sited in such a way that they do not cause water or other pollution. The use of existing facilities must take place in consultation with the landowner/tenant.
-  Seepage into lower soil strata should be prevented by lining the stormwater network, waste lagoon, sedimentation pond and the temporary drying / storage area with an impermeable layer such as:
 -  Synthetic plastic sheets
 -  Concrete
 -  Clay
-  The organic breakdown of manure should be promoted by either introducing lime or composting bacteria to manure stockpiles.
-  The contractor must provide **method statements** for the "handling & storage of oils and chemicals", "fire", and "emergency spills procedures".
-  These substances must be confined to specific and secured areas within the contractor's camp, and in a way that does not pose a danger of pollution, even during times of high rainfall. These areas must be imperviously bunded with adequate containment (at least 1.5 times the volume of the fuel) for potential spills or leaks.
-  The surface area of the drip trays will be dependent on the vehicle and must be large enough to catch any hydrocarbons that may leak from the vehicle while standing.
-  The depth of the drip tray must be determined considering the total amount / volume of oil in the vehicle. The drip tray must be able to contain the volume of oil in the vehicle.
-  Spill kits must be available on site and in all vehicles that transport hydrocarbons for dispensing to other vehicles on the construction site. Spill kits must be made up of material/product that is in line with environmental best practice.

-  All spilt hazardous substances must be contained in impermeable containers for removal to a licensed hazardous waste site, (this includes contaminated soils and drenched spill kit material).
-  The contractors must provide and maintain a method statement for "cement and concrete batching". The method statement must provide information on proposed storage, washing & disposal of cement, packaging, tools and plants.
-  The mixing of concrete must only be done at specifically selected sites on mortar boards or similar structures to contain run-off into soils rocky outcrops, streams and natural vegetation.
-  Cleaning of cement mixing and handling equipment must be done using proper cleaning trays.
-  All empty containers must be stored in a dedicated area and later removed from the site for appropriate disposal at a licensed facility.
-  The visible remains either of concrete, solid, or from washings, must be physically removed immediately or disposed of as waste to a registered landfill site.
-  Materials such as fuel and oil must be sealed and stored in bermed areas or under lock and key, as appropriate, in well-ventilated areas.
-  Training on the handling of dangerous and toxic materials must be conducted for all staff prior to the commencement of construction.
-  In the case of pollution of any surface or groundwater, the Regional Representative of the Department of Water and Sanitation (DWS) must be informed immediately.
-  Storage areas must display the required safety signs depicting "no smoking", "No Naked lights" and "Danger". Containers must be clearly marked to indicate contents as well as safety requirements.
-  Fuel storage tanks on the site must be on an impervious surface that is bunded and able to contain at least 110% of the volume of the tanks. The filler tap must be inside the bunded area where possible and the bund wall must not have a tap or valve.
-  Fuel storage tanks must be placed so that they are out of the way of traffic, so that the risk of the tanks being ruptured or damaged by vehicles is minimised.








8.11. Surface and ground water quality:

Poor chemical storage and poor waste management practices may lead to the contamination of water sources. Sewage, sanitary effluent and manure runoff have the potential to adversely affect the quality of receiving water bodies unless properly managed. To eliminate the risk of contamination, the following measures have to be instituted:

-  Any effluents containing oil, grease or other industrial substances must be collected in a suitable receptacle and treated prior to discharge or removed from the site for appropriate disposal at a recognised facility.
-  A comprehensive stormwater management plan should be implemented that ensures all runoff from the feedlots are channelled into the two-phase treatment system.
-  The stormwater network should prevent the mixing of clean runoff with runoff from the feedlots via culverts, bunds or drains.
-  A baseline groundwater test should be conducted, and annual tests thereafter should be implemented to assess the possibility of groundwater pollution.

-  No pollution causing activity may occur near streams/rivers.
-  The contractors must provide and maintain a **method statement** for "dust control". The method statement must provide information on the proposed source of water to be utilised and the details of the licenses acquired for such usage.
-  Potable water must, wherever possible, not be used as a means of dust suppression, and alternative measures must be sourced. The use of 'grey' water must be investigated as an alternative. The contractor will be responsible to source this water and obtain the required approvals to utilise this water for the purpose of dust suppression.
-  Excessive dust conditions must be reported to the ECO.
-  All forms of dust pollution must be managed in terms of the Atmospheric Pollution Prevention Act, 1965 (Act No. 45 of 1965).
-  In the event of pollution caused as a result of construction activities, the contractor, according to section 20 of the National Water Act, 1998 (Act No. 36 of 1998) is responsible for all costs incurred by organisations called to assist in pollution control and/or to clean up polluted areas.
-  No wastewater may run freely into any naturally vegetated areas. Run-off containing high sediment loads must not be released into drainage channels.








8.12. Water usage:

-  Any water that is used which does not emanate from Municipality supplies must be registered and authorised by the Department of Water Affairs prior to usage commencement.
-  The contractor shall promote responsible water use by all personnel.
-  The contractor is requested to notify the Department of Water Affairs in writing of the proposed commencement of construction and provide the department with a construction programme, prior to any work commencing in proximity of a watercourse.
-  The wash water (grey water) collected from the cleaning of equipment on-site should not be left standing for long periods of time as this promotes parasite and bacterial proliferation.
-  Grey water should be recycled:
 - Used for dust suppression;
 - Used (reused) to clean equipment.
-  Grey water that is not recycled should be removed on a regular basis.
-  Washing of personnel or any equipment should not be allowed on site. Should it be necessary to wash construction equipment these should be done at an area properly suited and prepared to receive and contain polluted waters.








8.13. Fauna and flora:


Fauna and flora are negatively impacted by the clearance of vegetation, noise from construction activities (disturbance) and gathering/ hunting of flora and fauna by workers. The following measures are necessary to mitigate impacts.

-  Clearance of vegetation should be restricted to the absolute minimum required to facilitate access and undertaken construction activities.









-  All removed plant material needs to be disposed of appropriately.
-  Ensure that all cables and connections from construction vehicles / machinery are insulated to reduce the likelihood of accidental personnel electrification.
-  Hunting/gathering/trapping of wild fauna by construction workers must not be permitted.
-  Localized habitat features such as nests, dens or burrow sites should be avoided as much as possible. In addition, care should be taken in working in areas of active nesting, spawning, and feeding areas.
-  All activities on site must comply with the regulations of the Animal Protection Act, 1962 (Act No. 71 of 1962).
-  All construction workers must be informed that the intentional killing of any animal is not permitted as faunal species are a benefit to society. Poaching is illegal and it must be a condition of employment that any employee caught poaching will be dismissed. Employees must be trained on how to deal with fauna species as intentional killing will not be tolerated. In the case of a problem animal e.g. a large snake, a specialist must be called in to safely relocate the animal if the ECO is not able to.
-  Environmental induction training and awareness must include aspects dealing in safety with wild animals into and on site. Focus on animals such as snakes and other reptiles that often generate fear by telling workers how to move safely away and to whom to report the sighting. Workers should also be informed where snakes most often hide so that they can be vigilant when lifting stones, etc.

8.14. Safety:







-  The Contractor shall be responsible for the protection of the public and public property from any dangers associated with the construction and operation of the road activities.
-  All work should be handled in accordance with the Occupational Health and Safety Act, 1993 and adequate safety precautions taken, and suitable sanitation facilities provided in line with the requirements of the Occupational Health and Safety Act. It is the duty of the contractor to ensure that all protective measures against accidents are done.
-  Any works/activities which may pose a hazard to humans and/or domestic animals are to be protected or cordoned off and, if appropriate, warning signage erected.
-  Appropriate security is to be provided at the site to protect equipment and provide for a safe construction site and work areas.
-  Any damage caused as a result of the construction activities shall be repaired to the satisfaction of the project manager and owner.
-  The site and crew are to be managed in strict accordance with the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993) and the National Building Regulations.
 - The contractor must ensure that all emergency procedures are in place prior to commencing work. Emergency procedures must include (but not be limited to) fire, first aid, chemical spills, contamination of the ground, accidents to employees, use of hazardous substances and materials, etc.
-  The contractor must ensure that lists of all emergency telephone numbers / contact persons are kept up to date and that all numbers and names are posted at relevant locations throughout the construction site.

-  The nearest emergency service provider must be identified during all phases of the project as well as its capacity and the magnitude of accidents it will be able to handle. The contact details of this emergency centre, as well as the police and ambulance services must be available at prominent locations around the construction site and the construction crew camps.





8.15. Historical archaeological and heritage impacts:

-  SAHRA and a qualified archaeologist be consulted immediately in the event of accidental archaeological exposure.
-  In the unlikely event of accidental archaeological exposure, all excavations should stop immediately.
-  No loose chance finds such as stone age artefacts (arrow heads, stone flake blades etc.) may be collected.
-  The on-site environmental representative should consult the appointed ECO regarding any such discoveries.
-  All construction debris/ waste should be removed from site and may not be deposited in on-site excavated waste pits.
-  No unauthorised excavations, post construction may be allowed. In terms of the National Heritage Act, 1999 (Act No. 25 of 1999), construction personnel must be alert and must inform the local heritage agency within 48 hours should they come across any signs of heritage resources.
-  Should any archaeological artefacts be exposed during site activities, work on the area where the artefacts were found must cease immediately and the ECO must be notified within 48 hours.
-  Under no circumstances must archaeological artefacts be removed, destroyed or interfered with.







8.16. Rehabilitation:

-  On completion of operations, all buildings, structures or objects on the camp/office site shall be demolished and removed.
-  On completion of operations, the areas shall be cleared of any contaminated soil, which must be dumped as per the waste management plan.
-  All infrastructure, equipment, plant, temporary housing and roads and other items used during the construction period will be removed from the site and rehabilitated if necessary.
-  Waste material of any description, including receptacles, scrap, rubble and tyres, will be removed entirely from the area and disposed of at a registered waste disposal facility. It will not be permitted to be buried or burned on the site.
-  Disturbed areas should be left in a safe and stable manner. Preventative measures may be necessary to construct adequate drainage structures including ditches and other structures to facilitate the movement of surface water.
-  Photographs of the camp and office sites, before and during the construction and after rehabilitation, shall be taken at selected fixed points and kept on record.






8.17. Manure management

-  Promptly remove and properly manage manure to minimize the contact with air. This can be achieved through frequent manure removal which reduces the production of odorous gases.
-  Keep the feedlot clean by regularly removing manure and waste materials. Cleaning pens assists in the prevention of the buildup of odour-causing compounds.
-  Use proper manure storage facilities such as lagoons to reduce odour emissions.
-  Dried manure should not be unutilised for more than four months. Unutilised manure stockpiles should be transported to the nearest landfill site.

8.18. Mortality management

-  Regular health checks: Conduct routine health checks to identify sick or stressed cattle early.
-  Quarantine protocols: Isolate new animals to prevent the introduction of diseases into the feedlot.
-  Vaccination: Follow a proper vaccination schedule to protect against common diseases.
-  Veterinary care: Have a veterinarian on-call to address health concerns promptly.
-  Regularly assess and cull animals that have chronic health issues or genetic defects to prevent the spread of problems within the herd.
-  Mortalities will be immediately removed from the feedlot and transported to mortality trenches where the bodies will be buried.

8.19. Handling of emergencies:

-  The contractor should identify all situations that can lead to emergency situations and provide response strategies. The situations should include fire, first aid and major chemical spill.
-  Contact details of all departments/ service providers to be contacted in case of an emergency shall be made available to employees.
-  Equipment for dealing with emergencies such as spill kits, firefighting equipment, first aid boxes etc. shall be made available and personnel properly trained in its use.
-  All staff on site should be informed and trained on how to handle emergency situations and emergency drills/ rehearsals should be conducted periodically to ensure that staff prepared.
-  All emergencies/ incidents should be reported and distributed to the relevant parties.

9. Method statements:

The Contractor shall submit written **Method Statements** to for all environmentally sensitive aspects of the work. It should be noted that Method Statements must contain sufficient information and detail to mitigate the potential impacts of the works on the environment. The Contractor will also need to thoroughly understand what is required of him / her in order to undertake the works. Work shall not commence until Method Statements have been put in place.