
ABBREVIATIONS & DEFINITIONS

CEMP	Construction Environmental Management Programme – THIS DOCUMENT .
Checklists	“Tick-box” guidelines to be utilised by the Contractor and ESM to assist with ensuring compliance with the specifications of the CEMP
Contractor	Any person or company carrying out construction work on the site. This includes bulk earthworks, services installation and any related civils construction. (The development of individual erven including the construction of dwellings, swimming pools, boundary walling and related infrastructure is not included in this CEMP).
Construction Footprint	Refers to the area disturbed or impacted by construction activities.
DWAF	Department of Water Affairs and Forestry
Developer	Heron Banks Development Company (Pty) Ltd
ECO	Representative of the Provincial Environmental Authority
Engineer	Engineer appointed to oversee all the construction activities on site
Environment	Includes the land, surface water, groundwater, rivers, wetlands, open water bodies, vegetation, rocks, atmosphere, animal life and micro-organisms, as well as the interrelationship between these elements. Also the physical, chemical, aesthetic and cultural properties of the foregoing that influence human health and well-being.
ESM	Environmental Site Manager
ESI	Environmental Site Instruction. An instruction issued in writing by the ESM to the Contractor in the ESI Book.
ESI Book	Environmental Site Instruction Book
Fines	Spot-fines issued by the ESM to individuals for non-compliance with the specifications of the CEMP.
HOA	Home Owners Association
LA	Landscape Architect
MS	Method Statement. Procedure drawn up by the contractor at the request of the ESM or Engineer detailing certain construction activities (see Specification 15).

OEMP	Operational Environmental Management Programme (This document will guide the environmental aspects of the development post construction - <u>i.e.</u> construction of dwellings & the general operation of the development).
Penalties	Fines issued by the ESM for activities, or lack of action, on the part of the Contractor to ensure that the specifications of the CEMP are upheld.
PPC	Personal Protective Clothing
PPE	Personal Protective Equipment
Procedures	Detailed actions to be carried out to ensure compliance with the corresponding environmental specification.
RE	Resident Engineer (i.e. representative of the Engineer on the site)
SAHRA	South African Heritage Resource Agency
SI	Site Instruction (as issued in writing by the Engineer)
Site	The site will be referred to as the development known Heron Banks Golf and River Estate, formally the Remainder of Farm Grootfontein No. 328 and Subdivision 1 and 2 of the Farm De Rust No. 370 / portions of the farms Grootfontein, De Rust and Erf 1295, Sasolburg, as well as the neighbouring properties, river, wetlands and roads).
Site CEMP File	File available on site containing CEMP Specifications and Appendices providing additional information and utilised for record keeping purposes.
Site Establishment Plan	Plan drawn up by the Contractor and submitted for approval to the ESM prior to establishing or commencing works on site (see Specification 2).
Solid waste	Includes construction debris, debris unearthed during excavation, chemical waste, excess cement/concrete, wrapping materials, timber, tins & cans, drums, wire, nails, food and domestic waste (plastic packets & wrappers).
Specifications	Environmental parameters to be followed to ensure sound environmental practice on site.
Works	All construction operations and incidental works on the site and Public Open

Space, as well as those carried out in the surrounding area but still form part of the development of the site, such as water, sewerage connections and road or entrance upgrading. Works could include, but are not limited to, site clearance, demolition operations, rubble removal, wind or erosion stabilisation, road construction, installation of services (including stormwater, potable water, waterborne sewerage, electrical and telecommunications reticulations). (The construction of dwellings is not dealt with in this CEMP).

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Ref: 2004/48 CEMP

<p><u>SPECIFICATION:</u></p> <p>Environmental Education</p>	<p><u>CEMP REF:</u></p> <p>1</p>
<p><u>OBJECTIVES:</u></p> <p>To achieve environmental awareness among construction site personnel of the procedures to be followed to comply with the CEMP.</p>	
<p><u>GOALS:</u></p> <p>Ensure that every site employee receives basic environmental awareness training within one week of commencing work on the site.</p>	
<p><u>RESPONSIBILITIES:</u></p> <p>The Contractor is responsible for making Environmental Appointments to ensure that the specifications of the CEMP are complied with. (Appendix 2)</p> <p>The Contractor is responsible for ensuring that all of his staff, sub-contractors and workers receive basic environmental awareness training within their first week. A record of the names & dates of personnel receiving this training is to be maintained. (Appendix 3)</p> <p>The ESM must be available, if necessary, to provide environmental induction training to site management staff.</p> <p>The ESM shall monitor the contractor's compliance with the requirement to provide sufficient environmental awareness training to all site staff.</p> <p>The ESM shall check that the content of the environmental training is appropriate & is of a sufficiently high standard, & recommend adjustments where necessary.</p>	
<p><u>PROCEDURES:</u></p>	

Prior to camp establishment a workshop shall be held to discuss the environmental issues and procedures to be complied with during the work contract. Attendees shall be the Developer, the Main Contractor, Site manager, foremen and ESM, as well as all appointed site officers (i.e. Health & Safety Officer, Fire Officer & Environmental Officer).

(Appendix 2)

All employees of the Contractor, including sub-contractors and their employees, that spend more than 1 day a week or four days in a month on site, are required to attend an Environmental Awareness Training course within one week of commencing work on site. This training course shall cover all aspects related to the CEMP.

If it is agreed that the ESM, or other outside consultant, is to undertake Environmental Awareness Training, the Contractor is responsible for setting aside a suitable time for this to be undertaken. Accurate attendance registers of these sessions shall be kept by the Contractor and filed in Appendix 3.

Ad hoc or additional training shall be undertaken by the Contractor if required to by the ESM, for specific activities that may potentially impact the environment, or if the work is

being undertaken in sensitive environments.

Environmental signage is to be displayed on the site including – “no smoking”, “fire hazards”, etc.

A basic outline of the Environmental Awareness Training to be given to workers is provided in [Appendix 3](#) in the form of a “Do’s and Don’ts” poster, which shall also be displayed in the site camp or office.

RECORDS AND DOCUMENT CONTROL:

Records of Environmental Appointments – [Appendix 2](#).

Records of Environmental Awareness Training – [Appendix 3](#).

<p><u>SPECIFICATION:</u></p> <p>Site Establishment and Demarcation</p>	<p><u>CEMP REF:</u></p> <p>2</p>
<p><u>OBJECTIVES:</u></p> <p>Minimise negative environmental impacts by reducing the construction "footprint".</p>	
<p><u>GOALS:</u></p> <p>Ensure that the Site Establishment and Fire Prevention Plans (Appendix 4) are adhered to. Ensure that the Minimum Requirements Checklist (Appendix 8) is implemented. Demarcate "No-Go" areas prior to commencing demolition &/or earthworks operations. Erect site boundary fence prior to construction commencing. Make all construction workers aware of the restrictions on "no-go" areas Ensure that no transgression into these "no-go" areas occurs.</p>	
<p><u>RESPONSIBILITIES:</u></p> <p>The Contractor is to ensure that the necessary site demarcation is put into place and is maintained for the duration of the contract. Workers & machine operators must be informed of the locations and implications of "no-go" areas, including penalties. The Contractor is to prepare a Site Establishment Plan & complete the Minimum Requirements Checklist.</p>	
<p><u>PROCEDURES:</u></p>	

Prior to Site & Campsite Establishment

Submit a **Site Establishment Plan** (Appendix 4) to the ESM for approval prior to work commencing on site. The plan should indicate the locations of construction infrastructure including the campsite and its contents and layout, wash areas (workshop washing and paint/cement cleaning pits), batching area, toilets, stores, site office, material & topsoil stockpile areas and "no-go" areas to be demarcated.

Submit a **Fire Prevention Plan** (Appendix 4) to the ESM for approval prior to work commencing on site. The plan should describe what fire prevention and protection measures will be applied on the site, including a list of fire fighting equipment available.

Ensure that all the stipulations of the **Minimum Requirements Checklist** are implemented and signed off by the ESM. (Appendix 8).

Demarcation of "No-Go" Areas

All "no-go" areas shall be demarcated with temporary fencing that is to remain in place for the duration of the contract. "No-Go" areas must include, but are not limited to:

- Wetlands on site that are to be retained
- The river banks
- The graveyard on site

The minimum requirement for temporary fencing is wooden or metal posts at 3m centers

with 2 plain wire strands tensioned horizontally at 300mm and 900mm from ground level.

Danger tape is to be zigzagged between the two wire strands.

Any additional "no-go" areas specified by the CCT/ESM during the contract are to be demarcated in a similar fashion, & added to the Site Establishment Plan in Appendix 4.

All trees or other natural features to be retained and protected are to be indicated on the Site Establishment Plan and clearly demarcated.

Establishment of the Site

Where possible erect permanent development boundary fences as per approved drawings, prior to commencing with construction activities. (i.e. along the eastern edge of the POS and the southern boundary of the site along Valley Road).

Undertake alien clearing along these alignments where access and sightlines are restricted. (see [Specification 12](#) for details regarding clearing procedures).

If the specified boundary fencing cannot be erected, then temporary fencing is to be erected along these cadastral boundary lines. Should an alternative alignment be preferable for some reason, written permission must be sought from the ESM.

All construction activity is to be restricted to within the site boundaries, as well as all plant, labour and materials. Any deviation from this requires written permission from the ESM, who will consult with CCT where necessary.

No unauthorized entry, stockpiling, dumping or storage of equipment or materials (imported or excavated) in "no-go" areas, or outside site boundaries is permitted.

Should no alternative means of completing specified work be available other than to utilise "no-go" areas, permission to enter these demarcated areas must be provided in writing by the ESM.

Establishment of the Campsite

The campsite is to be established in the southern half of the site away from the Vaal River as close to Minnaar Street as possible, as approved by the Engineer and Environmental Site Officer. The location of the site must be in accordance with the approved Site Establishment Plan. Any deviation from this requires written permission from the ESM.

The campsite is to contain at a minimum the following:

- Stores (including materials and **fuels stores**)
- Areas for storing vehicles, plant & equipment
- Ablution facilities ○ Waste containment facilities ○ Sheltered eating area

No vehicle washing facilities may be established on the site or in the campsite.

The campsite is to be fenced off and secured.

Moving of campsite facilities or temporary fencing shall only be undertaken with the written permission of the ESM.

RECORDS AND DOCUMENT CONTROL:

The Site Establishment Plan & Fire Prevention Plan is to be filed in [Appendix 4](#).

The completed & signed off Minimum Requirements Checklist is to be filed in [Appendix 8](#).

<p><u>SPECIFICATION:</u></p> <p>Demolition Works</p>	<p><u>CEMP REF:</u></p> <p>3</p>
<p><u>OBJECTIVES:</u></p> <p>Demolish specified structures with the minimum amount of environmental and social disturbance, while maintaining a high standard of safety.</p> <p>Practice environmental due diligence by ensuring that all waste material is disposed of in an environmentally responsible manner.</p>	
<p><u>GOALS:</u></p> <p>Carry out demolitions works according to specifications, while achieving a “no-incident” record during the operations.</p>	
<p><u>RESPONSIBILITIES:</u></p> <p>The Engineer is to quantify the extent of the demolitions operations, provide the engineering specifications and standards, and monitor the achievement of these criteria.</p> <p>The Contractor is to:</p> <ul style="list-style-type: none"> ○ obtain the necessary permits before commencing work (file in Appendix 4). ○ submit Method Statements to the ESM & Engineer as may be required. Demolition work may only commence once the MS have been approved. ○ carry out the demolitions work as per engineering & environmental specifications. He is also responsible for notifying the RE &/or the ESM if these cannot be met, or if deviations from the specified procedures might have to be undertaken. ○ appoint a Demolitions Officer to oversee the work (recorded in Appendix 2). 	
<p><u>PROCEDURES:</u></p>	

Demolition Operations

Appoint a Demolitions Officer to oversee the work in accordance with the OH&S Act (records to be filed in Appendix 2).

Obtain authorization from the South African Heritage Resources Agency (in terms of the National Heritage Resources Act 25 of 1999) for all buildings older than 60 years.

Obtain the required demolition permit from the Local Authority in terms of the National Building Regulations. This is applicable to all demolition of buildings irrespective of age.

Submit a Method Statement outlining the environmental procedures (including noise and dust mitigation, disposal of hazardous materials & safety issues) to be undertaken during demolition works is to be issued to the ESM. Demolition work may only begin once the Method Statement has been approved by the ESM.

Hazardous building materials such as asbestos or lead are to be identified prior to any demolition commences & they are to be dealt with in accordance with the Occupational Health & Safety Regulations. A Method Statement outlining the disposal procedure is to be submitted for approval to the ESM and Engineer. The same applies to demolitions

work that requires explosives.

Municipal & other services are to be identified & isolated prior to demolitions proceeding. Safety regulations are to be strictly adhered to throughout the demolition work process, including the appointment of a safety officer and the issuance of the correct PPC & PPE.

The demolition site is to be maintained in a neat, tidy and safe condition, and cordoned off and clearly demarcated as a "No-go"/ safety hazard area.

Dust and noise generated demolition works is to be kept to a minimum and continually monitored.

Crushing operations

Should crushing operations be required the following must be ensured: ○

Positioning of the crusher plant is to take cognizance of noise nuisance. ○

Pre & post- crush stockpiles are to be managed to minimise dust.

General

Demolition and crushing operations are to be carried out during normal working hours. If any work is planned outside these hours permission must be sought from the CCT, & a letter-drop to neighbouring residents undertaken, informing them of the dates, times & nature of work:

RECORDS AND DOCUMENT CONTROL:

Appointment of Demolitions Officer to be recorded in Appendix 2.

Copies of demolition permit approvals are to be filed in Appendix 4.

Copies of hazardous waste disposal receipts are to be filed in Appendix 4.

Method statements are to be filed in Appendix 7 of the Site CEMP File.

<p><u>SPECIFICATION:</u></p> <p>Construction Activities & Works</p>	<p><u>CEMP REF:</u></p> <p>4</p>
<p><u>OBJECTIVES:</u></p> <p>Minimise the impact of construction activities on the immediate and surrounding natural and social environment.</p> <p>Prevent contamination of the ground, groundwater, river, dams, wetland, downstream properties and surrounding environment from construction activities.</p>	
<p><u>GOALS:</u></p> <p>Institute the following at the commencement of construction works:</p> <p>Procedurally correct cement/concrete batching works & Sufficient and functional equipment washing facilities.</p>	
<p><u>RESPONSIBILITIES:</u></p> <p>The Engineer is to monitor the technical aspects of the construction process and liaise with the ESM where activities could have a detrimental effect on the environment.</p> <p>The Contractor is to carry out the construction works according to the environmental specifications, as well as other applicable specifications and laws. He is to provide the necessary materials, equipment & training to comply with CEMP procedures.</p> <p>The ESM must be available to assist the Contractor in providing environmental awareness training, and finding environmentally viable solutions to construction impacts.</p>	
<p><u>PROCEDURES:</u></p>	

Construction Times

Construction works shall take place at the following times:

- 7h00 to 18h00 Monday to Friday
- No work on public holidays

If work outside of these hours is planned, permission from the CCT must be sought, the ESM notified, and details of approvals recorded in [Appendix 4](#). Depending on the type & duration of work being undertaken, letter drops to surrounding residents may be required.

Site Works (Preparation, clearing and stabilisation)

Site clearing is to be limited to only the area necessary for the carrying out of the specified works (i.e. the road box-cut)

Topsoil (the top 150mm) is to be stockpiled in discrete areas and retained for future landscaping efforts. Location of these stockpiles is to be approved by the ESM and indicated in the site Establishment Plan ([Appendix 4](#)).

Topsoil stockpiles shall not exceed 1m in height and 2m in width, and shall be protected

from wind erosion and runoff by covering with a suitable fabric approved by the ESM.

Once earthworks are complete, the disturbed areas are to be stabilised with mulch, straw or other method approved by the ESM.

Cleared indigenous vegetation can be stockpiled for possible reuse in later rehabilitation or landscaping, or as a brush pack for erosion prevention.

Stockpiles of vegetation are only to be located in areas approved by the ESM, and may not exceed 2m in height. Methods of stacking must take cognizance of the possible creation of a fire hazard.

No burning of stockpiled vegetation is permitted.

Road Works

Concrete for catchpits, manholes, kerbs or other structures associated with road construction is to be mixed on mortar-boards (dugga-boards), on the sub-base of the road, or in the campsite at a dedicated site approved by the ESM.

Should concrete/cement mixing by front-end loader be required – permission must be given by the ESM in writing and the location indicated on the Site Establishment Plan.

Prime application, should it be required, is to be undertaken utilising gas for heating. If fires are necessary for this operation, written approval must be given by the ESM.

Boards and plastic lining is to be utilised during premixing operations to protect civil installations & landscaping. Any residue to be removed the same day.

Batching and Mixing Areas

No mixing of concrete or cement directly on the ground is permitted.

Mortar (dugga) boards are to be provided to prevent spillage from concrete mixing.

Cement/concrete batching & mixing work areas are to be kept clean at all times and the area is to be lined with plastic to prevent ground contamination, and bermed with sand or bricks to prevent runoff. Visible remains and aggregate shall be physically removed and immediately disposed of as solid waste.

Location of mixing and batching works outside of the campsite area is to be approved by the ESM, and indicated on the Site Establishment Plan.

Bulk cement silos & batching storage areas are to be lined with plastic or concrete, & screened & contained, by fencing such as ready-fence panels, to ensure that no windblown cement dust or water contamination occurs.

Work Areas

Bricklayers & plasterers are to minimize any cement spill or runoff in their work area, & ensure that the work area is cleaned of all cement spillage at end of each work day.

Both used & unused cement bags are to be stored in weatherproof containers so as not to be affected by rain or runoff.

Should work be undertaken in areas where services have been completed, stormwater catchpits are to be closed with hessian/bidum or other suitable pervious material to prevent sand and contaminants from entering the stormwater system.

The Contractor is to ensure that all reasonable measures are taken to limit erosion and

sedimentation from construction activities. Erosion protection measures could include cut-off drains and/or berms.

Equipment Cleaning Areas & Activities

No washing of vehicles or equipment is permitted on site.

All wastewater resulting from batching of concrete is to be collected in conservancy tanks, cleaning pits or sumps, to be disposed of as contaminated water. (see Specification 5)

Plastic or concrete lined cleaning pits are to be installed to facilitate washing of all cement & painting equipment. The size & number of pits must be sufficient to handle expected outputs from concrete batching, cement mixing & painting. A functional, non-leaking, water point must be installed at each pit. (Disposal of contaminated water - see Spec 5).

Contaminated soil resulting from concrete/cement spills is to be removed immediately after the spillage has occurred and placed on the appropriate rubble stockpile.

No contaminated runoff is to be permitted to enter the stormwater system.

Ready-mix trucks are not permitted to clean chutes at the work site. Cleaning into foundations, or dedicated cleaning pits or sumps is permitted.

RECORDS AND DOCUMENT CONTROL:

Details of any incidents are to be recorded in [Appendix 4](#).

<p><u>SPECIFICATION:</u></p> <p>Waste Management</p>	<p><u>CEMP REF:</u></p> <p>5</p>
<p><u>OBJECTIVES:</u></p> <p>Reduce the amount of waste produced by construction activities. Prevent pollution of surrounding natural and residential areas. Promote the reuse and recycling of materials.</p>	
<p><u>GOALS:</u></p> <p>Institute regular daily work area clean-ups, and weekly site clean-ups. Reduce materials wastage. Institute efficient waste management practices by employing good-housekeeping rules.</p>	
<p><u>RESPONSIBILITIES:</u></p> <p>The Contractor is to institute and enforce an effectively functioning waste management system for the duration of the contract. The ESM is to regularly evaluate that the waste management practice is adequate and advise on procedures for optimum efficiency.</p>	
<p><u>PROCEDURES:</u></p>	

Solid Waste Management:

A construction refuse collection structure shall be erected immediately on the commencement of construction work. The minimum requirement for a refuse collection structure is as follows:

- 4 Ready-fence panels (3m x 1.8m) with shade cloth or hessian attached to the panels, one panel being movable to provide access. The structure shall have a roof (ready fence panel, or similar) to contain waste materials in windy conditions. The floor of the structure shall be lined (with DPC plastic or similar) to prevent ground contamination from leachate such as cement powder residue.
- If construction refuse skips are utilised, they are to be covered with shade cloth (or similar) to ensure the containment of waste.

Refuse bins with lids shall be provided for household waste (lunch litter) and placed in eating areas, and any other areas where deemed necessary to control littering.

Refuse bins are not permitted to overflow and are to be emptied regularly.

Recycling shall be instituted where possible – 44 gallon drums in the campsite for glass and tins as a minimum. Cardboard, paper (other than cement bags) and boxes shall be separated from other refuse and a separate structure be built for this purpose.

No littering of any kind is permitted on site. Any accumulation of litter must be cleaned up immediately by the Contractor or responsible party.

Building rubble is to be kept separate from other construction waste. Rubble is to be kept clean of brick ties, plastics, papers and cement bags at all times.

Accumulation of large stockpiles of rubble and waste is not permitted. Waste is to be removed at regular intervals (at least once a week).

Building rubble stockpiles and refuse structures shall be positioned to permit easy access by rubble removal trucks.

All waste is to be disposed of at an approved landfill site.

No burning or burying of waste is permitted on site.

Wastewater Management:

The disposal of wastewater produced construction works or cleaning pits (established as per Specification 3) is to be carried out as follows:

- The top 60% of the wastewater may be disposed down the sewerage system, with approval from the Engineer.
- The remaining water and sludge must be disposed of a registered landfill site with solid waste.

No washing of vehicles is permitted on site or in the campsite.

Ablution Facilities:

Sufficient ablution facilities shall be provided –1 toilet per 20 workers maximum. Should any deviation from this be necessary written permission from the ESM shall be required.

Location of toilets is to be approved by the ESM, and indicated on the Site Establishment Plan, but shall be located within 100m of any work point and not within 50m of any water body or the river.

Chemical toilets are to be serviced weekly. The Contractor is to ensure that no spillage occurs, and that the contents are removed from site according to approved methods. All toilets are to be secured to prevent them from being blown over, and have properly closing doors.

Chemical toilets are to be emptied prior to temporary site closure for a period longer than 4 days.

No long drops are permitted.

No abluting anywhere on the work site or surrounding area is permitted – this is a finable offence.

Hazardous Waste:

Hazardous waste such as oil, diesel, petrol, chemicals, paints and solvents are to be disposed of separately from general waste and taken to an approved hazardous waste disposal site.

Hazardous waste materials are to be stored in secondary containers (e.g. secured collection drums) until disposal to hazardous waste.

Drip trays used to collect spillage from equipment, vehicles and plant must be regularly emptied into the appointed secondary container (which could also include diesel tank bunding if available on site) and replaced under the vehicle.

Waste Management Practice:

The Contractor shall delegate a specific waste management job description to an individual or team, if directed by the ESM.

Areas impacted by construction activities must be regularly maintained. This includes the cleaning of roads, pavements and the rehabilitation of impacted landscaped areas.

The contractor shall provide sheltered eating areas with waste containers in the campsite for all construction personnel.

RECORDS AND DOCUMENT CONTROL:

Details of any incidents are to be recorded in [Appendix 4](#). (Examples of incidents related to waste management could include overflowing waste containment areas, accumulation of rubble; incorrect or negligent disposal of the products of hydrocarbon spills; spillage of toilet cleaning chemicals etc.)

Copies of hazardous waste disposal receipts are to be filed in [Appendix 4](#).

Method statements are to be filed in [Appendix 7](#) of the Site CEMP File.

<p><u>SPECIFICATION:</u></p> <p>Water Resource Management</p>	<p><u>CEMP REF:</u></p> <p>6</p>
<p><u>OBJECTIVES:</u></p> <p>Reduce incidents of wastage of water on site.</p>	
<p><u>GOALS:</u></p> <p>To use water resources sparingly & recycle/reuse where possible.</p>	
<p><u>RESPONSIBILITIES:</u></p> <p>The Contractor is to ensure that water resource management is implemented. The ESM is to regularly audit water resource management practice on the site.</p>	
<p><u>PROCEDURES:</u></p> <p>Work site operations</p> <p>Leaking water taps and hosepipes are to be repaired immediately. Running water taps and hosepipes are not to be left unattended. Unused water standpipes are to be secured from leakage. Taps are to be attached to secured supports and used in preference to standpipes with no valve mechanism to open and close water supply. All hose and taps to be utilised during construction are to be fitted with the correct & appropriate plumbing fittings.</p> <p>Dust suppression measures</p> <p>Watering as a dust suppression measure is only to be undertaken as a last resort. It is preferable that sand stockpiles be covered rather than watered. If areas are to be watered this can only be undertaken in the early morning (before 10am) or late afternoon/evening (after 4pm) to reduce water loss through evaporation. Areas should preferably be hand-watered (haul/access roads or stockpiles) when conditions are very windy to target specific problem areas and reduce wastage.</p> <p>Abstraction</p> <p>Any abstraction from natural water sources such as stream, river, detention pond or groundwater will require a Method Statement for approval by the ESM and Engineer. Well point provisions also require a Method Statement approved by the ESM/Engineer, as well as approval from the DWAF.</p>	

RECORDS AND DOCUMENT CONTROL:

Copies of water use permit approvals are to be filed in Appendix 4.

Details of any incidents are to be recorded in Appendix 4.

Method statements are to be filed in Appendix 7 of the Site CEMP File.

<p><u>SPECIFICATION:</u></p> <p>Dust, Noise and Lighting Control</p>	<p><u>CEMP REF:</u></p> <p>7</p>
<p><u>OBJECTIVES:</u></p> <p>Minimise dust, noise generation and light pollution from construction activities.</p>	
<p><u>GOALS:</u></p> <p>Comply with all Occupational Health & Safety regulations. Undertake to minimize dust generation without excessive water usage. Create awareness around construction activities that could potentially cause noise or dust disturbance, or light pollution to the surrounding residential area.</p>	
<p><u>RESPONSIBILITIES:</u></p> <p>The Contractor is to take all reasonable measures to minimise dust and noise generation on site, by implementing appropriate dust suppression and noise control measures where such impacts are unavoidable.</p> <p>The Contractor is to advise the ESM should construction activities be expected to cause excessive dust, noise or light pollution. A Method Statement may be required by the ESM.</p> <p>The Contractor is to maintain an incident record with regard to issues arising out of dust and noise generation. Should these issues escalate, detailed monitoring of noise and wind conditions by the Contractor may be called for by the ESM.</p> <p>The ESM has the authority to issue a stop works order for inadequate dust and noise control measures, & shall maintain a complaints register.</p> <p>The Engineer may be requested to, in consultation with the Contractor and ESM, to revise a particular construction specification to limit either dust, noise or light generation.</p>	
<p><u>PROCEDURES:</u></p>	

Dust – generated by works

Removal of vegetation is to be avoided until such time that soil stripping is required.

Should construction work in such stripped areas not be commencing within a short period of time (one week) the exposed areas shall be revegetated or stabilised.

Soil stabilising measures could include rotovating in straw bales (at a rate of 1 bale/ 20m²), applying chemical soil binders, mulching or brush packing the disturbed area, or creating windbreaks using brush, bales or shade cloth fences.

Sand stockpiles are to be covered with hessian, shade cloth or DPC plastic.

Stockpiles are to be located in sheltered areas and the usable/cut face orientated away from the direction of the prevailing wind for that season.

Excavating, handling or transporting erodible materials in high wind or when dust plumes visible shall be avoided.

If high winds prevail the ESM or Engineer shall decide whether water dampening measures or cessation of activities is required, and if necessary they shall have the authority to temporarily stop certain of the works until wind conditions become more

favourable.

Dust – generated by roads and vehicle movement

Vehicle speeds shall not exceed 40km/h along gravel roads or 20km/h on unconsolidated or non-vegetated areas. Dust plumes created by vehicle movement are to be monitored.

If access and haul roads are generating dust beyond acceptable levels dust suppression measures must be initiated. These include, but are not limited to the following: ○

Reduction of traveling speeds along the road. ○ Restriction of vehicle or plant usage.

○ Application of chemical soil binders. ○ Application of a suitable sacrificial road surfacing.

- If water is to be used for dust suppression, then only the critical areas should be watered. The use of water carts or hand watering is preferable. Overhead sprayers shall not be permitted in windy conditions, as the evaporation loss is too high. Watering is to be supervised to prevent unnecessary water wastage. Preferable watering times are early morning and late afternoon/ evening. Water restrictions are to be observed if in place

Noise

All noise and sounds generated by plant or machinery must adhere to SABS 0103 specifications for the maximum permissible noise levels for residential areas.

All plant and machinery are to be fitted with adequate silencers.

No sound amplification equipment such as sirens, loud hailers or hooters may be used on site except in emergencies.

No amplified music is permitted on site.

No noisy work is to be conducted over the weekends or public holidays, or outside of 07h00- 18h00 on weekdays.

If work is to be undertaken outside of normal work hours permission must be obtained from the ESM and Local Authority. Prior to commencing any such activity the Contractor is also to advise the potentially affected neighbouring residents. Dates, times and the nature of the work to be undertaken, is to be provided. Notification could include letterdrops, handing out of pamphlets at intersections, newspaper or radio adverts.

Lighting

Lighting on site is to be sufficient for safety and security purposes, but shall not be intrusive to neighbouring residents, disturb wildlife, or interfere with road traffic.

Should overtime/night work be authorised, the Contractor shall be responsible to ensure that lighting does not cause undue disturbance to neighbouring residents.

In this situation low flux and low frequency lighting shall be utilised.

RECORDS AND DOCUMENT CONTROL:

Copies of Council approval to work outside of normal working hours are to be filed in

Appendix 4.

Details of any incidents are to be recorded in Appendix 4.

Method statements are to be filed in Appendix 7 of the Site CEMP File.

<u>SPECIFICATION:</u> Fire Protection	<u>CEMP REF:</u> 8
<u>OBJECTIVES:</u> Take all necessary precautions to reduce the risk of fire on the site. Put into place appropriate fire fighting equipment to deal with a fire.	
<u>GOALS:</u> Draw up and institute a Fire Protection Plan on the site.	
<u>RESPONSIBILITIES:</u> The Contractor is responsible for drawing up and implementing a Fire Protection Plan. The ESM is to audit adherence to the Fire Plan.	
<u>PROCEDURES:</u>	

Fire Prevention Plan

The Fire Protection Plan is to be submitted to the ESM with the Site Establishment Plan prior to the commencement of works on site, & filed in Appendix 4 of the Site CEMP File.

A Fire Protection Plan shall include the following:

- Appointment

- of a fire officer (to be recorded in Appendix 2).

- Identification of all potential fire hazards.

- Identification of fire fighting equipment to be provided on site.

- Details of training for site staff in fire fighting techniques, and frequency of fire drills.

The number of people to be trained is to be consistent with the size & nature of the site.

Fire fighting equipment

Basic fire-fighting equipment is to be placed at strategic locations on site (e.g. at the site office, flammable material store and watchman's container), and maintained in good working order to the satisfaction of the local fire authorities.

A fire evacuation route is to be clearly demarcated & kept clear of obstruction at all times.

Precautions

Emergency numbers are to be clearly displayed on the outside of the site office.

No open fires are permitted.

A braai facility will be permitted only in an area approved by the ESM. At no time is a braai fire in this area to be left unattended.

Smoking is prohibited near places where any readily combustible or flammable materials are present. Notices to be prominently displayed prohibiting smoking in such areas.

Welding, flame cutting and other hot work is only to be undertaken in places where the necessary safety precautions are in place (i.e. not near potential sources of combustion.

A fire extinguisher must be immediately accessible at such work sites).

All flammable materials are to be stored in a suitable, lockable storage area.

Combustible materials may not accumulate on the construction site.

Cooking is to be restricted to bottled gas facilities in a designated areas approved by the ESM. This facility is to be supervised and strictly controlled. Fire extinguishers must be readily available in these areas

RECORDS AND DOCUMENT CONTROL:

A copy of the Fire Prevention Plan is to be filed in Appendix 4.

Details of any incidents are to be recorded in Appendix 4.

<p><u>SPECIFICATION:</u></p> <p>Environmental Protection</p>	<p><u>CEMP REF:</u></p> <p>9</p>
<p><u>OBJECTIVES:</u></p> <p>Minimise disturbance to surrounding flora, fauna and waterbodies (including the stream and wetland).</p> <p>Limit the destruction of natural vegetation, habitats and other features (such as, but not limited to, rock, historical or archaeological features).</p>	
<p><u>GOALS:</u></p> <p>Protect the riverine habitat along the Vaal River, along with the wetland on site.</p> <p>Limit the amount of earthworks to only what is necessary to undertake the works.</p> <p>Retain as much of the existing habitats as possible to act as refuges and to allow escape routes for mobile fauna from construction areas</p>	
<p><u>RESPONSIBILITIES:</u></p> <p>The Contractor is to ensure that all natural features and vegetation identified by the ESM or LA are not damaged or disturbed by construction activity. These areas are to be clearly fenced off and demarcated.</p> <p>The Contractor is to inform all workers about protective measures to be undertaken when working with or near any of the demarcated natural environments or features.</p> <p>The ESM is to audit the effectiveness of protective procedures undertaken.</p>	
<p><u>PROCEDURES:</u></p>	

The Contractor shall not deface, paint, mark or damage any natural features (e.g. rock outcrops, tree trunks, historic buildings etc.) in or around the site.

No flora may be removed, damaged or disturbed, except in an approved search & rescue programme or if they fall within the road reserve boundary.

No flower picking is permitted.

Only plant material as specified in the approved Landscape Plan may be planted.

Trapping, poisoning & shooting of animals, & the collection of eggs is strictly forbidden.

No livestock is permitted on site. Domestic animals are to be kept under control.

All natural/special features are to be designated as "No-go" areas and require fencing or similar protection measures (e.g. danger taping), as determined by the ESM.

Construction activities close to wetlands must be undertaken during the winter months to avoid mortalities to amphibians

The wetlands and river banks are deemed special environments and shall be clearly marked on plans as "No go" areas. Method statements are to be approved by the ESM prior to any work commencing in these areas. Permission to access these areas must be provided in writing by the ESM.

No natural water sources (rivers, wetlands or open water bodies), in or around the site,

may be used for the purpose of swimming, washing of bodies, clothes or machinery.

The graveyard on site is to be fenced off as a no-go area and no access is allowed into this area

If any remains or artifacts are discovered on site during earthworks, the Contractor shall stop works immediately and contact the ESM, who will ensure that the SAHRA is notified.

No work in this area can continue until authorised to do so by SAHRA.

RECORDS AND DOCUMENT CONTROL:

Details of any incidents are to be recorded in [Appendix 4](#). (Examples of incidents to be recorded could include damage to vegetation; wildlife found on the site; transgressions into "no-go" areas, discovery of objects of archaeological or historical value etc.)

<p><u>SPECIFICATION:</u></p> <p>Fuels, Flammables & Stores</p>	<p><u>CEMP REF:</u></p> <p>10</p>
<p><u>OBJECTIVES:</u></p> <p>Prevent accidents and spillages when handling and storing fuels and flammables.</p>	
<p><u>GOALS:</u></p> <p>Maintain a 'no-incident' record & institute all applicable Health & Safety Regulations.</p>	
<p><u>RESPONSIBILITIES:</u></p> <p>The Contractor is to ensure that</p> <ul style="list-style-type: none"> ○ fuels and flammable materials are stored in adequate facilities and handled correctly; ○ staff handling these substances receive the appropriate training and PPC & PPE; ○ the necessary fire-fighting equipment and signage is in place. 	
<p><u>PROCEDURES:</u></p>	

Refueling

No vehicles/machines are to be refueled on site except at designated refueling locations. If refueling on site, or from drums, the ground must be protected and proper dispensing equipment is to be used (i.e. hand pumps and funnels). Drums may not be tipped over.

Storage

All fuels and flammable materials are to be stored safely and clearly labeled.

Ensure that the required MHDS are kept on file in the site office

Safety signage ("No Smoking", "No Naked Lights" and "Danger"), & product identification signs, are to be clearly displayed on fuel stores and tanks.

All liquid fuels (petrol and diesel) are to be stored in tanks or containers with lids.

Temporary above ground fuel storage tanks can only be installed with authorisation from the Department of Tourism, Environment and Economic Affairs, the Metsimaholo Municipality (Northern Free State District Municipality) and the Chief Fire Officer.

These temporary tanks must be bunded with an impermeable lining, and the capacity of the bunding shall be 110% of the total volume of the tanks.

The tanks shall be situated on a smooth impermeable base.

Adequate precautions shall be provided to prevent spillage during the filling of any tank and during the dispensing of the contents.

The capacity of the tank shall be clearly displayed and the product contained within the tank clearly identified using the emergency information system detailed in SABS 0232 part 1.

Tanks on site shall not be linked or joined via any pipe work, but shall remain as separate entities.

The tanks and bunded areas shall be covered by a roofed structure to prevent the bunded

area from filling up with rainwater.

Enretech, or similar must be placed in the bunding to absorb spills and water.

Empty fuel tanks and storage containers are to be sealed and stored in an area where the ground is protected by an impermeable lining.

Fuel and flammable materials are to be kept under lock and key at all times.

Storage areas for flammable materials are to comply with standard fire safety regulations.

Adequate fire-fighting equipment shall be available close at hand.

No smoking is permitted within the vicinity of the stores.

Application of shutter oils

Appropriately sized containers to be used for the application of decanted shutter oil.

Brushes or roller tools are to be provided for application (i.e. no rags or makeshift items).

Materials Handling

Fuels and flammable materials are to be handled in a safety conscious manner.

All personnel handling fuels & hazardous materials are to be issued with appropriate PPE.

RECORDS AND DOCUMENT CONTROL:

Details of any incidents are to be recorded in [Appendix 4](#). (Examples of incidents to be recorded could include fuel spills, theft from stores, fire caused by negligent use etc.)

<p><u>SPECIFICATION:</u></p> <p>Pollution Prevention & Remediation</p>	<p><u>CEMP REF:</u></p> <p>11</p>
<p><u>OBJECTIVES:</u></p> <p>Protect the immediate and surrounding environment from pollution events.</p>	
<p><u>GOALS:</u></p> <p>Institute pollution prevention when construction activities could result in pollution events. Have sufficient pollution remediation materials on site to deal with minor pollution events.</p>	
<p><u>RESPONSIBILITIES:</u></p> <p>The Contractor is to undertake a risk assessment to determine when and where the possibility exists of pollution events occurring. He is also to ensure that adequate pollution prevention measures are instituted and provide pollution control materials. The ESM is to undertake compliance monitoring, and provide advise if required.</p>	
<p><u>PROCEDURES:</u></p>	

Pollution prevention

Plant and vehicles are to be serviced regularly and are to be repaired immediately upon developing leaks or other breakages.

If static plant is to be stored for longer than 6 months it shall be located in a lined (plastic or concrete) and bunded area to prevent pollution from stormwater runoff.

Use drip trays and/or bunding where losses cannot be prevented but are likely to occur.

Appropriately sized drip trays are to be provided for all plant and machinery.

Drip trays are to be inspected daily for leaks & emptied when necessary, more frequently during rain events to prevent overflow. Oil & diesel spills are considered hazardous and disposal of such contaminants is required to follow the procedures set out in Spec 5.

Drip trays to be supplied for all repair work undertaken on site and in the campsite.

Air pollution prevention

No fires are permitted on site – see procedures set out in Specification 8 – Fire Protection.

Pumping

Dewatering pumps to be placed on drip trays to prevent fuel spills and leaks from contaminating the water in the pumped area.

Silt-laden water shall be cleaned by filtering it through a geotextile sock and ensuring that the overland flow is dispersed as widely as possible, and through vegetation if possible.

Erosion from overland dispersal shall be prevented by berms and/or cut-off drains.

Spill remediation

Appropriate equipment to deal with fire or pollution incidents is to be readily available on site. Including sandbags, fire extinguishers, absorbent material (sufficient to treat a

minimum of 200 of hydrocarbon liquid spill), drip trays for plant /machinery leaks, drums/containers for contaminated water & products of drip trays or minor spills. Soil contaminated with hazardous substances, fuel or oil shall be bio-remediated with Enretech or similar product and disposed of as required by the manufacturer.

RECORDS AND DOCUMENT CONTROL:

Details of any incidents are to be recorded in Appendix 4. (Details of the type of pollution event and method of containment and remediation or rehabilitation are to be provided).

<p><u>SPECIFICATION:</u></p> <p>Landscaping and Rehabilitation</p>	<p><u>CEMP REF:</u></p> <p>12</p>
<p><u>OBJECTIVES:</u></p> <p>Provide guidelines for the removal of alien vegetation. Provide installation guidelines for the revegetation and landscaping of impacted areas.</p>	
<p><u>GOALS:</u></p> <p>Create an aesthetically pleasing environment that compliments the surrounding natural environment and residential fabric.</p>	
<p><u>RESPONSIBILITIES:</u></p> <p>The Contractor is to ensure that all preparation work for alien clearing and landscaping is undertaken timeously and according to specification.</p> <p>The employer of the Alien Clearing and Landscaping Contractor(s), be it the main Contractor, or the Developer, is to ensure that they are contractually bound, in terms of their appointment, to comply with the specifications set out in the CEMP.</p> <p>The Landscape Architect is to ensure that all landscaping installation is undertaken according to specifications.</p> <p>The ESM is to monitor the compliance of the Contractor and Landscaping Contractor to the specifications of the CEMP.</p>	
<p><u>PROCEDURES:</u></p>	

Alien Clearing

Clearing of the boundaries of the site shall be undertaken prior to construction work commencing on site, to facilitate the erection of the boundary fencing.

Other clearing can be undertaken post-construction.

All clearing is to be undertaken according to the Conservation of Agricultural Resources Act (CARA) Regulations.

Trees of historical importance specified by the LA/Heritage Practitioner may be retained.

The alien clearing is to be undertaken by a suitably trained and experienced team.

If pesticides, herbicides or other poisonous substances have been specified, a Method Statement must be submitted to the ESM. (Containing a list of the chemicals to be used, quantities, strengths, and indicate areas where mixing is to take place).

Landscaping and Revegetation

Landscaping and revegetation requires specialist input and should be drawn up by a Landscape Architect (LA). This specification therefore, only provides procedures, which govern the methods that the landscaping specifications are implemented.

Only planting as specified in the approved Landscape Plan shall be implemented.

If possible, a "search and rescue" of plant material on the site shall be carried out by

suitably qualified individuals to assist future landscaping installation. Such a programme is to be approved by the LA, ECO and ESM.

Imported topsoil and compost is to be weed free.

The installation of landscaping should only occur once all construction activities in the specified area have ceased.

All landscaped areas shall be considered 'no-go' areas.

A maintenance contract shall be implemented according to the LA's specification.

Rehabilitation

In the event of damage to the environment occurring as a result of negligent actions, or non-compliance with the CEMP, by the Contractor during construction, the ESM may require that rehabilitation of the area be carried out.

Should such rehabilitation be called for, the Contractor, in consultation with the ESM, shall be required to appoint a suitably qualified person to undertake the necessary rehabilitation. This appointment, and the works necessary will be at the Contractors cost, and no extension of time will be granted.

RECORDS AND DOCUMENT CONTROL:

Details of any incidents are to be recorded in [Appendix 4](#). (Incidents may include the removal of incorrect species, damage to historic or other features during clearing or landscaping installation etc.).

<u>SPECIFICATION:</u> Safety & Security	<u>CEMP REF:</u> 13
<u>OBJECTIVES:</u> Employ the highest standards of safety on the site. Ensure that while site security is undertaken, impacts on the environment minimised.	
<u>GOALS:</u> Maintain a “no-accident” record for the duration of the contract. Comply with all the regulations of the Occupational Health and Safety Act.	
<u>RESPONSIBILITIES:</u> The Contractor is to ensure that all safety and security issues are dealt with, and that precautionary procedures are in place.	
<u>PROCEDURES:</u>	

Safety Plan

Emergency contact numbers are to be displayed conspicuously on the outside of the Site office: These include 1) the Fire Department, 2) the Police & 3) the Ambulance service. Contact numbers for Contractor, Site manager, Engineer & ESM are also to be displayed. The Contractor is to comply with the Occupational Health & Safety Act (1993) and the Construction Regulations (2003) in all respects.

Safety (Fire Safety see Specification 8 & Hazardous Materials see Specification 10)

All structures that are vulnerable to high winds must be secured, including toilets. All manhole openings are to be covered and clearly demarcated with danger tape. Any open excavations deeper than 0,5m are to be clearly demarcated with danger tape. Road safety precautions shall be implemented when works are undertaken on or near public roads to ensure traffic safety. Traffic is to include pedestrians and horse-riders. Necessary safety gear appropriate to the task being undertaken is to be provided to all site personnel (e.g. hard hats, safety boots, masks etc.). No unauthorized firearms are permitted on site. If a site is to be closed for longer than a week then the Contractor is to comply with the specifications to be followed in the Site Closure Checklist (Appendix 8).

Security

Night watchmen are to be provided with adequate cooking and heating facilities, a suitable method of disposing of wastewater, and access to communication equipment. Valuable plant and equipment is to be stored so as to prevent it from being stolen. Access to fuel stores is to be strictly controlled.

Training

The Contractor is to ensure that his personnel are aware of procedures to be followed in case of emergencies such as fire, hydrocarbon spill or leaks. The correct use and need for PPE must also be covered. Night watchmen are to be included in environmental education training.

RECORDS AND DOCUMENT CONTROL:

Details of any incidents are to be recorded in Appendix 4. (Incidents may include theft, traffic accidents on or near the site, even if not related to construction activities).

<p><u>SPECIFICATION:</u></p> <p>Site Communication</p>	<p><u>CEMP REF:</u></p> <p>14</p>
<p><u>OBJECTIVES:</u></p> <p>Institute functional communication between site personnel, Engineer, Developer & ESM. Avoid undue negative impacts by implementing an effective communication structure. Provide a mechanism for issuing site instructions, fines and penalties.</p>	
<p><u>GOALS:</u></p> <p>Establish a record of communication on site; including site instructions & penalties.</p>	
<p><u>RESPONSIBILITIES:</u></p> <p>The Developer, Engineer and/or Contractor are to ensure that the ESM is included in site meeting proceedings.</p> <p>The Contractor is to inform the ESM if any planned activities could potentially have a negative impact on the immediate and/or surrounding environment.</p> <p>The ESM is responsible for advising the Contractor of any potential environmental impacts that come to his/her attention, and workshop possible solutions.</p>	
<p><u>PROCEDURES:</u></p>	

Site Meetings

Regular site meetings shall be established at the commencement of site works. The frequency of meetings is to be dictated by the amount and type of work being undertaken at the time, and may alter during the contract.

Minutes are to be taken and distributed within a reasonable time following the meeting.

Environmental Site Instruction Book (ESI Book)

A duplicate ESI Book, as a minimum, is to be made available to the ESM at all times.

Any instructions of an environmental nature are to be put in writing by the ESM.

Should instructions have cost implications for the contract beyond the expected cost related to the carrying out of duties to ensure compliance with the CEMP, these will be discussed with the Engineer, and the way forward recorded in the ESI Book.

Instructions and actions are to be acknowledged in writing & dated by the Contractor.

Outstanding items are to be discussed at Site Meetings and non-compliances recorded.

Outstanding items can also be subject to penalties.

The ESI Book can also be used to issue warnings for non-compliance with specifications.

The ESI Book can also be utilised by the Contractor, to inform the ESM of activities that may have detrimental impacts on the environment. Any actions discussed by the ESM & Contractor to mitigate these impacts can then also be recorded.

Penalty Book

A separate book is to be held on site throughout the construction contract for the issuance of penalties & fines. Again, a duplicate book is required as a minimum.

All penalties/fines are to be issued in writing by the ESM & signed for by the Contractor.

Copies of fines are to be forwarded to the Developer, who will be responsible for deducting the amounts from the Contractor's payment certificates.

Written Approval

In situations where written approval from the ESM is required, this may take the form of: ○

- A formal letter from the ESM or RE.
- Written acknowledgement of a request noted in the ESI book by the Contractor.
- Written permission in the ESI Book of a verbal request from the Contractor.

RECORDS AND DOCUMENT CONTROL:

The ESI & Penalty Books are to be retained on site, & utilised by the ESM & Contractor.

The **Engineer or Developer** will be responsible for site meetings and related minutes.

Minutes of Site Meetings are to be filed in Appendix 5 of the Site CEMP File.

<p><u>SPECIFICATION:</u></p> <p>Method Statements</p>	<p><u>CEMP REF:</u></p> <p>15</p>
<p><u>REASON FOR METHOD STATEMENTS:</u></p> <p>Written method statements are required for any activities that have been identified as potentially harmful to the environment, or when work is to be undertaken in environmentally sensitive areas.</p> <p>To provide construction detail for activities not outlined in this CEMP, or those that deviate from the specifications contained herein.</p>	
<p><u>PURPOSE AND OBJECTIVES:</u></p> <p>The purpose of the Method Statement is to assist the Contractor and ESM in determining what, if any, impacts the activity might have on the environment.</p> <p>The objective of the Method Statement would then be to determine what mitigation can be undertaken to minimise the potential negative impacts.</p>	
<p><u>GOALS:</u></p> <p>Prevent damage or disturbance to the environment, particularly if in environmentally sensitive areas.</p> <p>Create awareness in how to approach and implement work procedures that are environmentally sensitive such that they have minimum impact on the surrounding environment.</p> <p>Provide a construction procedure that can be viably implemented on site.</p> <p>Provide a standard by which the construction activity can be audited against.</p>	
<p><u>RESPONSIBILITIES:</u></p> <p>The ESM has the authority to call for Method Statements to be prepared for activities being undertaken in environmentally sensitive areas or that require more detail than provided in specification of this CEMP.</p> <p>The ESM is responsible for approving submitted Method Statements, in consultation with the ECO where necessary.</p> <p>The Contractor will draw up Method Statements when required to do so by the ESM.</p>	
<p><u>PROCEDURES:</u></p>	

Method Statements will be drawn up by the contractor, and produced within a reasonable time as required by the ESM.

No activity may commence, except in the case of emergencies, prior to the approval of the Method Statement. Doing so may result in the issuing of a penalty.

The ESM is to comment on & respond with any changes and/or additions within 1 week. The ESM may also seek additional advice from the ECO before issuing final approval.

Work shall be carried out in accordance with the specifications of the Method Statement, and compliance auditing will be carried out by the ESM.

Approved Method Statements shall be added to [Appendix 7](#) of the Site CEMP File and are thereby incorporated into the CEMP and contraventions can be penalised accordingly.

Method Statements are to include the following information: (A template is provided in Appendix 7).

- **What** work is to be undertaken ○ **How** the work will be carried out (work process, methods & materials to be used) ○ **Where** work will be done (describe locality, provide diagram) ○ **Timeframe** of work (begin and estimated completion dates, together with time sequence of actions)
- Describe the process to follow to ensure that no damage, disturbance or pollution to the environment occurs. Describe the remedial process that will be undertaken if any damage/pollution occurs. ○ Describe the emergency procedure to follow in case of fire/accident/spillage related to the work being undertaken.

Method Statements that may be required, but not limited to, are listed below:

- **Access routes** – location, upgrading, construction, and rehabilitation of temporary haul routes
- **Alien plant clearing** – method of control or eradication of alien vegetation ○ **Blasting** – method and associated safety logistics for blasting ○ **Bundling** – method of bundling for static plant and bulk fuel storage ○ **Cement/concrete batching** – location, layout and preparation of cement batching works and/or mixing areas
- **Demolition** –method, handling and disposal of demolished and hazardous materials; noise and dust mitigation; safety issues.
- **Hazardous and poisonous substances** – handling/storage; emergency/spillage/ fire procedures; herbicide/pesticide and poisonous substance use; disposal methods for hazardous building materials if found
- **Piling, jacking and thrust boring-** piling operation method (e.g. driven or bored), in situ casting or pre-cast pile structures
- **Rock breaking-** details of chemical applications used for rock breaking ○ **Rehabilitation** – rehabilitation of disturbed areas, revegetation post-construction ○ **Settlement ponds and sumps** – layout and preparation for ponds and sumps ○ **Sources of materials-** when applicable, details of materials imported to the site ○ **Sensitive environments** – construction of boundary walls adjacent to wetland ○ **Traffic** – traffic safety measures for entry/exit onto and off public road ○ **Vegetation clearing-** method of clearing during site establishment
- **Water abstraction-** methods of abstraction and utilisation of water from natural water sources

RECORDS AND DOCUMENT CONTROL:

Copies of approved Method Statements are to be inserted into [Appendix 7](#) of the Site CEMP File, and list updated.

<p><u>SPECIFICATION:</u></p> <p>Penalties and Incentives</p>	<p><u>CEMP REF:</u></p> <p>16</p>
<p><u>OBJECTIVES:</u></p> <p>Enforcement of the specifications of the CEMP.</p>	
<p><u>GOALS:</u></p> <p>Provide a structure for the issuance of penalties or fines, the collection of these fines, and the destination of these monies.</p>	
<p><u>RESPONSIBILITIES:</u></p> <p>The ESM is responsible for the issuing of penalties or fines in respect of non-compliance with the specifications contained in the CEMP.</p> <p>The ESM shall record these penalties/fines in the Penalty Book and provide a copy to the Developer.</p> <p>The Developer shall be responsible for the collection of these fines and ensuring that these monies are paid over to the nominated environmental organisation.</p> <p>The City of Cape Town shall verify that the monies are paid over to the nominated organisation prior to issuing final clearance for the development.</p> <p>The Contractor shall be responsible for the payment of the fines and any corrective measures stipulated.</p>	
<p><u>PROCEDURES:</u></p>	

Spot Fines and Penalties

Spot fines may be issued by the ESM to an individual or the Contractor for noncompliance with the CEMP.

Spot fines may be imposed immediately on the non-compliance, and the amount will be at the discretion of the ESM and will be dependant on the severity of the impact on the environment.

Penalties may be issued by the ESM for activities, or lack of action, on the part of the Contractor to ensure that the specifications of the CEMP are upheld.

In the case of penalties, the ESM may issue a warning prior to fining which states a time period by which the non-compliance is to be corrected.

Penalties can be issued over and above the costs of rehabilitating damage done to the environment. Such corrective measures shall be for the Contractors cost and cannot be claimed for in the Contract Bill and no extension of time shall be granted for undertaking such work.

Repeated offences may result in the suspension of all or part of the works, or the removal from site, personnel and/or equipment committing the non-compliance.

Where possible and applicable, sub-contractors or individual perpetrators will be identified

on the record of the penalty or fine.

The passing down of penalties by the Contractor to sub-contractors or individuals, shall be at the Contractor's own discretion.

For each subsequent offence of the same nature the penalty or fine may be doubled in value to a maximum of R5000.

Penalties or fines issued for non-compliance to the CEMP do not prevent any prosecution under any other law.

The list below is to be used as a guide in determining the severity of spot fines or penalties in respect of non-compliances.

Spot fines to an individual...

entering a demarcated "no-go" area R20 – R100 driving a vehicle into a "no-go" area
 R200 – R1000 driving earthmoving plant into a "no-go" area R500 – R3000 failing
 to adhere to speed limits R100 – R1000
 plant operator ignoring verbal warnings to repair oil leaks R50 – R200 individual littering
 on site R20 – R200 individual not utilising the ablution facilities on site R20 – R200
 spilling fuels (i.e. not making use of funnels/pumps etc) R50 – R500 causing
 unnecessary damage to flora or fauna R20 – R2000
 smoking in "no-smoking" zones R20 – R500 mixing concrete or cement directly on the ground
 R50 – R200
 cleaning cement/painting/grouting equipment directly on the ground R100 – R500

Penalties**Failure to notify or act**

Failure to notify the ESM of activities that could potentially be R100 – R3000
 detrimental to the environment.
 Failure to request permission to enter "no-go" areas to undertake R100 – R3000
 designated works
 Failure to act on ESI's within a specified or reasonable time period R100 – R2000
 Failure to maintain areas impacted by construction (i.e. cleaning of R100 – R1000 roads,
 pavements and restoration of planted areas)

Waste management

Excessive litter on the site or in the camp site R100 – R1000 Inadequate provision
 of waster bins and/or ablution facilities R100 – R1000
 Failing to delegate a specific waste management job description to an R100 – R1000
 individual or team when directed by the ESM
 Burning or burying of waste R100 – R1000

Failing to remove rubble on a regular basis	R100 – R1000
Dumping or cleaning cement, concrete, paint, grouting etc in an unauthorised manner or area	R100 – R2000
Water wastage	R100 – R1000
Contamination of water bodies, groundwater or stormwater system (including washing of vehicles on site, & not berming mixing areas)	R100 – R2000
Spillage of fuels or oil (including shutter oil) on site	R100 – R1000
Failing to dispose of the products of spills correctly, or at all	R100 – R1000
Construction activities & management	
Mixing concrete or cement directly on the ground	R100 – R1000
Lack of provision of cement/paint cleaning facilities (i.e. cleaning pits)	R100 – R1000
Unnecessary dust generation or negligent dust control measures	R100 – R1000
Unnecessary noise generation or lack of noise control	R100 – R1000
Uncontrolled or uncontained fires on site	R100 – R2000
Lack of fire extinguishers or other preventative measures on site	R100 – R1000
Lack of hydrocarbon fuel absorbents on site	R100 – R1000
Inadequate erosion controls or preventative measures	R100 – R2000
Environmental	
Unauthorised removal of vegetation (site clearance)	R100 – R5000
Unauthorised removal, pruning or damage to trees	R100 – R5000
Damage to flora and/or fauna on site or surrounding areas	R100 – R3000

Suspension of Works – “Stop-Works” Orders

The ESM may suspend all, or part of the works, if it is deemed that damage to the environment will result from continuing with the activity. The suspension can be enforced until the activities, procedure or equipment is corrected. (No extension of time will be granted for such delays and all costs for corrective and/or rehabilitation measures will be borne by the Contractor).

Stop works orders are to be recorded in the Environmental Site Instruction Book and the Council, Developer, Engineer advised immediately thereof.

The following list of non-compliances may result in the suspension of all or part of the works:

- Where the ESM is of the opinion that activities may have a severely negative or irreversible impact on the environment.
- Commencing work prior to the approval of the Method Statements
- Repeatedly failing to adhere to corrective measures recorded in the ESI Book, or those issued subsequent to penalties.
- Repeated non-compliance with the specifications of the CEMP.

Format of Penalties & Fines:

Details of the non-compliance and subsequent penalty or fine are to be recorded in the Penalty Book as follows:

- Fine No: For record keeping purposes.
- Date of Issue: Day/Month/Year
- Non-compliance: Details of the transgression with reference to the EMP procedure or ESI to be provided.
- Amount: In Rands ○ Corrective measures: Details of remedial or rehabilitative actions to be carried out. Warnings can be given of further penalties to be issued, should non-compliance with the stipulated corrective measures not be undertaken within a specified time period.

Copies of fines are to be forwarded to the Developer, who will be responsible for deducting the amounts from the Contractor's payment certificates.

Collection of Penalties & Fines:

All penalties & fines issued by the ESM are to be copied to the Developer, to be subtracted from the Contractor's monthly payment certificate.

The Developer shall maintain a record of the amounts deducted. This record is to be verified by the ESM.

All monies collected by the Developer as a result of penalties or fines during the contract shall be donated to an environmental organisation, nominated by the City of Cape Town.

Proof of payment to the nominated organisation will be a requirement of Final Clearance, and is included as an item in the Final Site Clearance Checklist.

Incentives

The ESM, in consultation with the ECO, may consider issuing an Environmental Certificate Award to teams or individuals who carry out their work in an environmentally responsible manner, and are co-operative with regards to environmental issues.

The Certificate is to be prepared and presented by the ESM, and a copy provided for the Site CEMP File.

RECORDS AND DOCUMENT CONTROL:

The Penalty Book is to remain on site at all times, and copies of the fines sent to the Developer, for deduction from the Payment Certificate.

The Penalty Book or copies of the Penalties are to be added to [Appendix 9](#) the Site CEMP File at the end of the contract.

Copies of Environmental Certificates are to be filed in [Appendix 9](#) of the Site CEMP File.

SPECIFICATION:

CEMP REF:

Monitoring & Reporting

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OBJECTIVES:

- Provide a detailed record of the carrying out of construction activities in respect of the environment.
- Provide a record of compliance should disputes arise, or claims against the Contractor be levied.

GOALS:

- Improved environmental management during the construction process.

RESPONSIBILITIES:

- The **Contractor** is to ensure that all construction activities are carried out in compliance with the specifications of the CEMP.
- The **Contractor** is also required to keep the Site CEMP File up to date by filling in the required Record Sheets and Incident Report.
- The **ESM** is required to undertake regular on-site monitoring of construction activities and carry out audits of compliance, on a monthly basis.

PROCEDURES:

- Construction activities, in respect of the environmental aspects thereof, are to be documented and recorded by the Contractor as indicated in the CEMP.
- On-site monitoring is to be carried out on a regular basis by the ESM. Site records are to be kept of these visits.
- Photographic records of environmental issues and site activities as related to environmental parameters are to be maintained by the ESM for the duration of the contract.
- Monthly audit reports are to be carried out by the ESM and submitted to the ECO, and provide a copy for the Site CEMP File. (A template is provided in [Appendix 6](#)).
- The Site CEMP File must be updated by the Contractor and provided to the Developer for his records at the end of the contract.
- The ESM & ECO are to maintain a duplicate CEMP File.

RECORDS AND DOCUMENT CONTROL:

- Site notes are to be held by the ESM.
- The ESI Book and Penalty Book are to remain on site at all times.
- The **Site CEMP File** is to remain on site at all times, and be updated regularly.
- A duplicate CEMP File is to be held by the ESM & ECO.
- Audit Reports** are to be kept on record in [Appendix 6](#).