CONSTRUCTION ENVIRONMENTAL MANAGEMENT PROGRAMME

Remainder of Farm 225 Grootvlei, Caledon

November 2025

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Please note: A copy of the EAPs CV can be provided on request.

KEY TERMS AND ABBREVIATIONS

Applicant/Operator - Bapchix (Pty) Ltd. The applicant/operator has the overall environmental responsibility to ensure that the implementation of the construction and operational requirements complies with the relevant legislation and the conditions of the approved EMPr.

Auditing - A systematic and objective assessment of an organization's activities and services conducted and documented on a periodic basis to a predetermined standard.

Contractor –

(i) the main or specialised contractors as engaged by the Applicant/Operator from time to time for the execution of the works, including all sub-contractors appointed by the main contractor of his own volition for the execution of parts of the works;

(ii) any other contractor from time to time engaged by the Applicant/Operator directly in connection with any part of the Works which is not a nominated subcontractor or a subcontractor to the main contractor.

Council – the local authority, Theewaterskloof Local Municipality, its successors in title or assigns.

Department of Environmental Affairs and Development Planning (DEA&DP) – the provincial authority for sustainable environmental management and integrated development planning.

Environmental Assessment Practitioner (EAP) – a suitably qualified environmental consultant to be appointed by the applicant to develop the EMPr and/or conduct external auditing as required.

Environmental Management Programme (EMPr) an environmental management tool used to ensure that undue or reasonably avoidable adverse impacts of the construction, operation, and decommissioning of a project are managed, and that positive benefit of the projects are enhanced.

Environmental Control Officer (ECO) – a suitably qualified individual who understands the onsite operations to be appointed by the applicant to oversee the implementation of the EMPr until the completion of works on the site.

Landowner - Zonderend Valley Farm (Pty) Ltd.

Method statement (MS) - describes the environmental management measures to be applied to the establishment and operation of the construction site during various phases of the project.

National Environmental Management Act (Act 107 of 1998, as amended) (NEMA)– national legislation that provides principles for decision-making on matters that affect the environment.

National Water Act (NWA) – national legislation that provides principles for decision making on matters that relate to watercourse/water use/water bodies.

Site - Area where the proposed development will take place.

Site Manager / Control Officer – A suitably qualified individual to fulfill a combined function of managing the day-to-day activities onsite and overseeing the implementation of the EMPr.

Workdays – the days of the week excluding Sundays and public holidays.

Works – the building construction operations and all related and incidental works such as, but not limited to, site works, earthworks, roads, landscaping and the installation of services in connection with the execution and carrying to completion of the development plan.

SECTION 1: CONTEXTUAL INFORMATION

1.1. Project Background

This report aims to supply a Construction Environmental Management Programme (EMPr) for the development of an additional poultry rearing facility on the Remainder (RE) of Farm 225 Grootvlei, Caledon. The farm is located approximately 15 kilometres northeast of Caledon and approximately 3 kilometres north of the N2 with access via a dirt road (Figure 1).

The property is a working farm and is approximately 317 ha in size. The property was initially used primarily for grain cultivation with a poultry rearing facility later developed onsite. A registered composting facility is also located onsite. The proposed development entails the development of an additional ten 1000m^2 chicken pens with free range pasture located between the pens.

This CEMPr describes management and mitigation measures in detail, and is prescriptive, identifying specific individuals or organisations responsible for undertaking specific tasks to ensure that impacts on the environment are minimized during construction and operation of the existing and proposed development. This EMPr is an open-ended document and information gained during on-going monitoring of procedures on site could lead to changes in the recommendations and specifications of this document.

This document is intended to guide and manage development of the chicken rearing farm on RE/225 Grootvlei, Caledon. Along with the contract, this document forms an agreement between the council and the Developer that the environmentally sensitive features on the site will be suitably protected during the construction phase of the development.

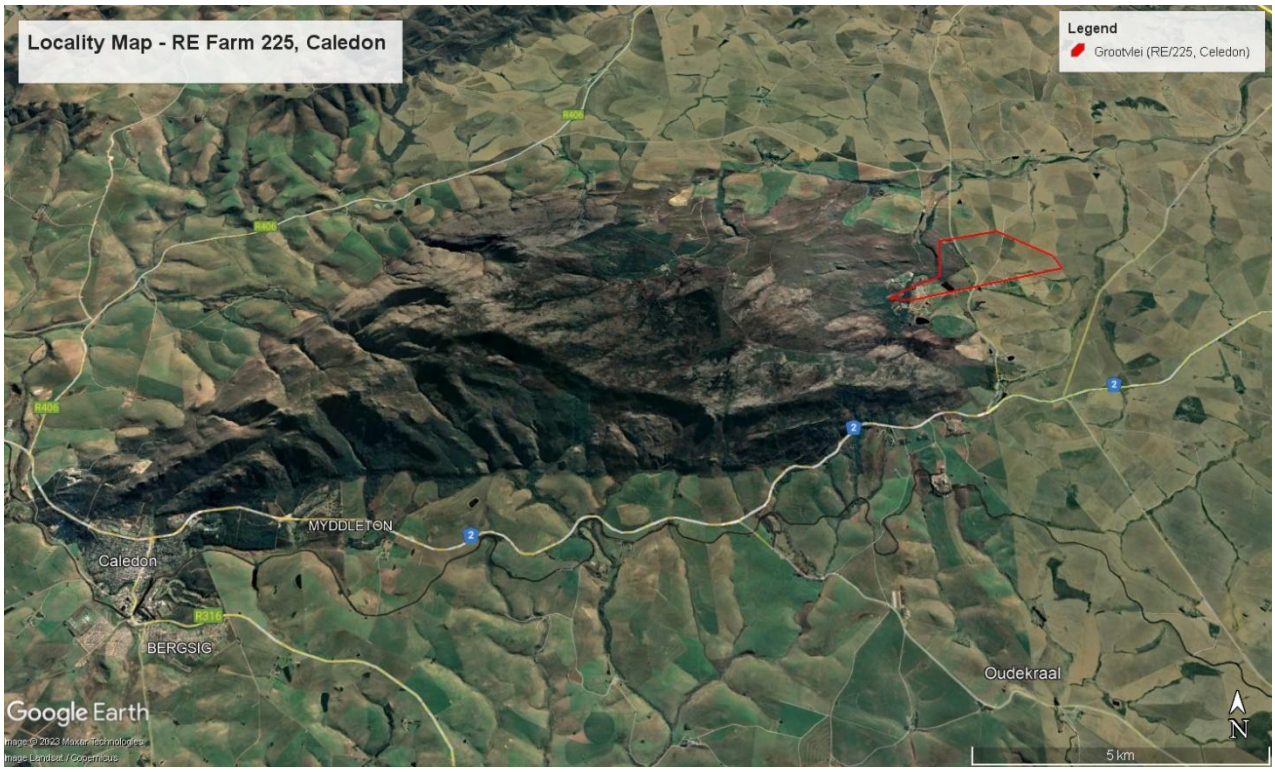

Figure 1: Location of the development site – RE/225, Grootvlei, Caledon

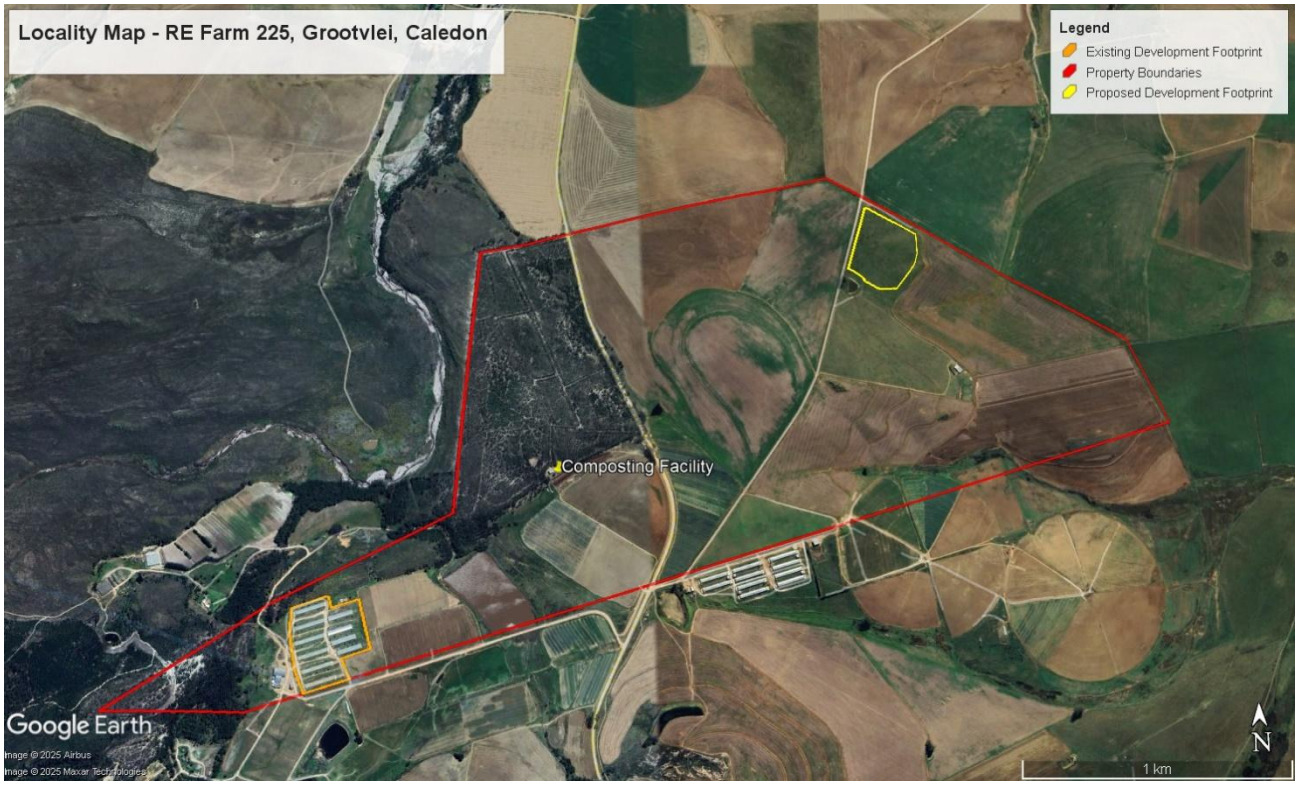

Figure 2: Site map indicating the location of the existing unlawful development and the proposed additional development.

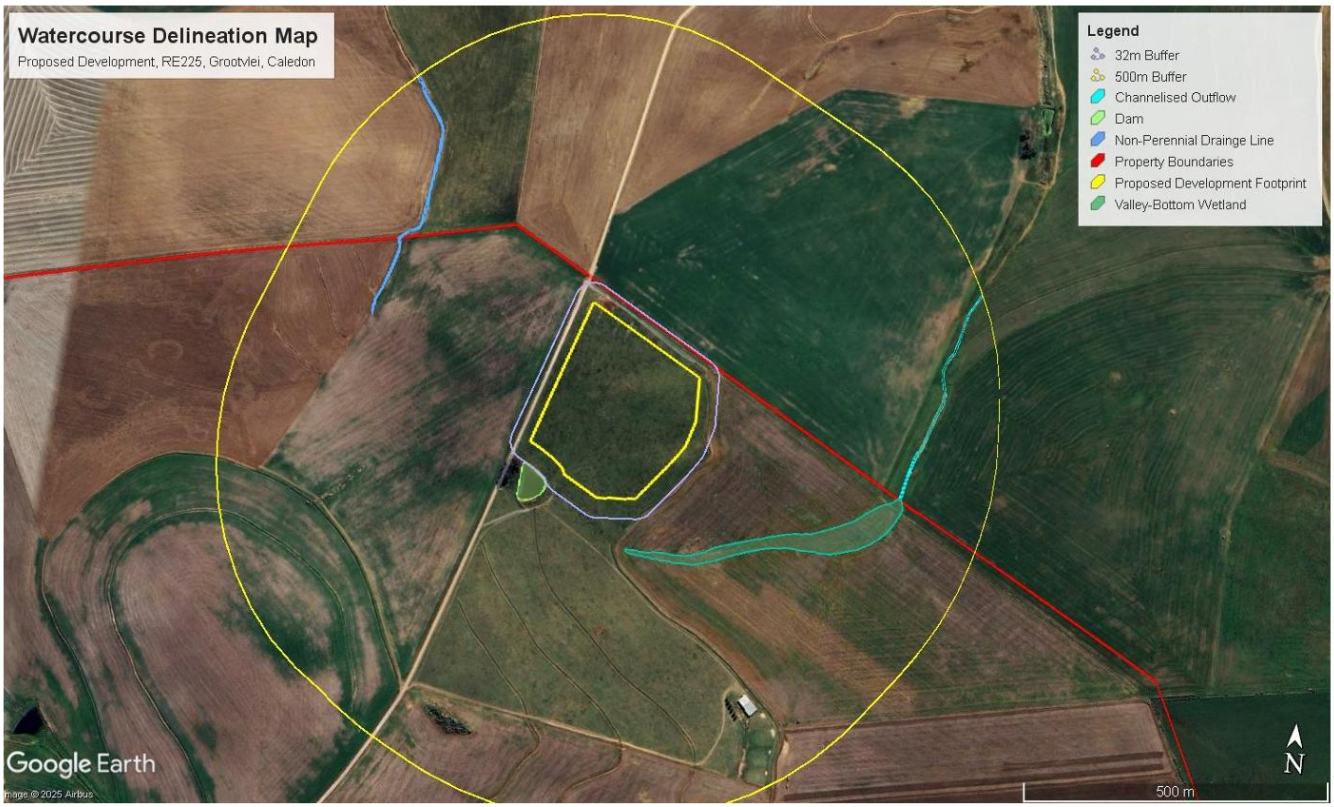

Figure 3: Environmental Sensitivities Map: Proposed development on RE/225, Grootvlei Caledon

1.2. Status of the CEMPr

The CEMPr must form part of all contractual documents for this project. The Environmental Authorization ascribes legal status to the EMPr and any subsequent amendments thereto. The EMPr includes all relevant documentation within this report and/or referred to within it. The National Environmental Management Act, 1998 (Act No. 107 of 1998) is pertinent to the proposed project. All activities on site must adhere and comply with the provisions of the Act. The approval of the EMPr by DEA&DP will require that the applicant/ landowner and all appointed contractors must comply with the requirements therein. Any amendments/ changes/ upgrades to the EMPr will require submission to and approval by DEA&DP.

1.3. Comment to the EMPr

The EMPr forms part of the contract identifying and specifying the procedures to be followed by the Contractor (construction team) in order to eliminate or reduce adverse impacts of the construction works on natural vegetation. Should an employee of the Contractor persistently fail to observe the provisions of the EMPr, the Environmental Control Officer (ECO) / site manager can recommend that the relevant persons be removed from the site.

A copy of the EMPr will be issued to each contractor at the tender stage to allow for costs of implementing the EMPr to be included in the cost estimates. This will also ensure that each contractor is aware of his responsibilities prior to commencing work. Copies of the EMPr will be made available to all senior personnel on site, who will be required to familiarize themselves with the contents of the document and to follow procedures accordingly.

Each Contractor involved in the project will be expected to sign for, and thus acknowledge receipt of the final EMPr, and thereby will be expected to abide by the specifications of the document, as well as annexures and any amendments thereto. The applicant/operator will be responsible for the overall implementation of the EMPr.

NOTE: The EMPr must be implemented in conjunction with conditions contained in the Environmental Authorization.

SECTION 2: RESPONSIBILITIES AND ENFORCEMENT OF THE EMPR

2.1. The Applicant / Operator

The applicant/operator is accountable for the potential impacts of the activities that are undertaken and is responsible for managing these impacts.

The applicant must ensure that he/she is fully familiar with the requirements of this EMPr, any relevant Environmental Authorisation, General Authorisation (water use) or any other legally binding documentation. Training on the requirements of the EMPr will be presented to the applicant by the ECO upon appointment.

Environmental awareness training of all staff/contractors involved in the EMPr work activities will be completed by the site manager or ECO on their roles and responsibilities, compliance to the EMPr and required monitoring as outlined in Section 4 of this document. The applicant must ensure that the required training takes place.

2.2. Engineers and Contractors

The Engineers and Contractors, where applicable, are responsible for physically carrying out the relevant activities. The responsibilities indicated here are also relevant to Sub-Contractors.

The responsibilities of the Engineers and Contractors include but are not limited to the following:

- Be conversant with the EMPr, any relevant Environmental Authorisation, GA or any other legally binding documentation;
- Have a responsibility to adhere to any conditions and recommendations laid out in above mentioned documentation;
- Prevent actions that may cause harm to the environment;

- Be responsible for any remedial activities in response to an environmental incident;
- Review and amend any construction activities to align with the EMPr and Best Practice Principles;
- Ensure compliance of all site personnel and / or visitors to the EMPr and any other authorisations.

2.3. Environmental control onsite

2.3.1. Environmental Control Officer (ECO)

A suitably qualified individual will be designated and appointed by the applicant to fulfill the role of Environmental Control Officer, to ensure and oversee the implementation of the EMPr onsite in its entirety during construction. The role of the ECO is essentially seen as an interactive one and should include regular site visits. Site visits may need to be made more frequently during certain stages of development, depending on the sensitivity of the area in which construction is taking place.

The responsibilities of the ECO during the construction phase of the project will include:

- To conduct environmental awareness training and raise the awareness of the Contractors and their staff to facilitate the spread of the correct environmental attitude during the contract work,
- To review method statements and to determine the most environmentally sensitive options of *modus operandi* for the development tasks,
- To assist the contractor/site manager in finding environmentally responsible solutions to problems,
- To oversee the implementation of environmental procedures set out in this document,
- To report on environmental issues,
- To receive notice and minutes of all site meetings,
- To maintain open and direct communication with the landowner, operator, site manager, contractors, and authorities,
- To monitor contractors, the EMPr and the implementation thereof; followed by reporting to the relevant authorities,
- To take immediate action on site where clearly defined no-go areas/actions are violated, or in danger of being violated, and to inform the operator and site manager immediately,
- To keep an up-to-date record of works on site, as they relate to environmental issues in the Site Control Register including records of non-compliance incidents, and
- To be contactable by the public regarding matters of environmental concern as they relate to the development.

Reporting and record keeping by the ECO should include monthly monitoring reports when construction is taking place. The ECO must keep photographic records of all site visits and records of communication to and from relevant authorities.

2.3.2. Site Manager

A site manager must be identified to assume overall responsibility for managing the day-to-day operations onsite including managing any contractors that may be required and ensuring that the environmental management requirements are met. All decisions regarding environmental procedures and protocol must be approved by the site manager, who also has the authority to stop any activity in contravention of the EMPr.

The site manager will have the following environmental control responsibilities:

- Present environmental awareness training to all staff in conjunction with the ECO,
- Regularly monitor the site for potential environmental issues,
- Consult with the ECO, applicant/operator, and all staff/contractors to resolve emerging environmental issues, and
- Issue any instructions related to environmental management to the management team via an appropriate management tool.

Issues of non-compliance noted by the ECO are to be communicated to the site manager, who holds the responsibility of ensuring that the relevant parties are made aware of the lack of compliance with EMPr specifications, and that appropriate action is taken to rectify the situation.

SECTION 3: IMPACTS AND MITIGATION

	IMPACT	NATURE OF IMPACT	PROPOSED MITIGATION
1	Intensification of agriculture and more hardened surfaces in the landscape.	Intensification of agriculture and more hardened surfaces in the landscape.	Already Implemented: - Minimized development footprint compared to Layout 1 To be implemented: - Prevent unnecessary exposure of bare ground (vulnerable to erosion) by minimizing the area to be cleared around each unit and clearing land areas in phases as required for construction. - Establish pastureland, site landscaping and tree screenings as soon as possible after clearing. - Colors on panels of units to be natural colors.
2	Adverse impacts on nearby freshwater systems (incl. water quality impacts)	Potential impacts on the CVB wetland through increased sedimentation, altered surface water flow patterns, and impaired water quality resulting from vegetation clearance, soil	Already Implemented: - Development footprint set-back from the freshwater system compared to layout 1 To be implemented: - The CVB wetland and buffer area should be demarcated as a No-Go area for the development. - No polluted stormwater should discharge into the CVB wetland during both the construction and operational phase of the development. - Stormwater management must ensure that no runoff or treated wastewater, which will impair the water quality and lead to increased sedimentation, may enter the onsite wetland. - As far as possible, areas cleared during construction should be revegetated. - Bunded, impervious areas must be designated by an ECO for temporary toilets, stockpiles, vehicle parking / servicing areas, and for pouring / mixing of concrete

		disturbance, compaction, creation of hardened surfaces, and contaminated runoff during construction activities.	/ cement, paint, and chemicals (as applicable). These areas should be more than 32 m away from any delineated watercourse. Clean up any spillages immediately with the use of a chemical spill kit and dispose of contaminated material at an appropriately registered facility. - Inspect all facilities, vehicles, and machinery daily for the early detection of deterioration or leaks and strictly prohibit the use of any vehicles or machinery from which leakage has been detected. - Construction/maintenance vehicles should be regularly serviced. - Mixing and transferring of chemicals or hazardous substances must take place outside of the No Go area, and must take place on drip trays, shutter boards or other impermeable surfaces. - Drip trays must be utilised at all fuel dispensing areas, as applicable. - Vehicles and machinery should preferably be cleaned off site. Should cleaning be required on site it must only take place within designated areas outside of the watercourse and its associated buffer area and should only occur on bunded areas with a water/oil/grease separator. - Dispose of used oils, wash water from cement and other pollutants at an appropriate licensed landfill site. - Concrete should preferably be imported as "ready-mix" concrete from a local supplier. Should onsite concrete mixing be required it must not be done on exposed soils. Concrete must be mixed on an impermeable surface in an area of low environmental sensitivity identified by the ECO / EAP outside of the no-go areas. Surplus or waste concrete must be sent back to the supplier who will dispose of it. - Construct temporary bunds around areas where cement is to be cast in situ. - Dispose of concrete and cement-related mortars in an environmentally sensitive manner (can be toxic to aquatic life). Disposal of any of these waste materials into the No Go areas is strictly prohibited. - Washout must not be discharged into the no-go area. A washout area should be designated, and wash water should be treated on-site. Alternatively, contaminated water must be collected in suitable containers and removed from site for suitable disposal. - Clear and remove any rubble or litter that may have been accidentally deposited into the watercourse and associated buffer area as a result of construction activities and dispose of at an appropriate registered facility. - Undertake construction related activities during the dry season when flow within the watercourse is at its lowest. - Implement appropriate erosion control measures in susceptible areas, such as using geotextiles, brush packing, straw bales, mulch, sandbags, and silt fences or traps to prevent sediment runoff.
3	Temporary job creation during construction.	Employment opportunities during the construction phase – The proposed expansion will lead to	Not required.

		temporary employment opportunities during construction.	
4	Generation of construction waste.	Waste generation from construction activities – general construction waste.	- Minimise new materials brought on site. - Reuse existing materials where possible. - No burning of waste on site - Maximise recycling of waste from construction activities. - Provide portable toilets where work is being undertaken (1 toilet per 10 workers). These toilets must be located within an area designated by the ECO outside of the no-go area and should preferably be located on level ground. Portable toilets must be regularly serviced and maintained. - Provide an adequate number of bins on site and encourage construction personnel to dispose of their waste responsibly. - All waste materials are to be stored within the fenced boundaries of the unit area during construction. - Where required, waste should be stored in closed containers to prevent dispersal by wind. - Waste generated by construction personnel must be removed from the development area and disposed of at a registered waste disposal facility on a weekly basis. - No material (incl. excavated material, building materials or removed vegetation) may be stockpiled, temporarily stored, or dumped within 32m of the delineated CVB wetland and no waste material may be disposed of within 32m of this wetland. - Spoil material must be appropriately disposed of at a registered waste disposal facility. - The Contractor must ensure that no building rubble or waste is left behind in the area designated as pasture or any other area. All construction waste must be disposed of at an appropriate registered facility.
5	Dust emissions during construction activities.	A degree of dust will be generated during construction of the proposed expansion	Already Implemented: - Minimized development footprint compared to Layout 1 To be implemented: - Minimise area to be cleared around each unit to prevent unnecessary exposure of bare ground. - Clear land areas in phases as required for construction purposes to minimize unnecessary exposure of bare ground. - Establish planted pastures between units. - Ensure all intervening areas between buildings, poultry houses, and roads are appropriately vegetated. - Establish boundary landscaping for screening purposes. - Shield dust blowing onto adjacent roads and adjacent land users. - Dissipate dust with water if needed. - A suitable speed limit (20-40km/h) must be enforced on all private access roads. Development on large farm limited to no direct receptors.

6	Noise from construction activities	A degree of noise will be generated during the construction of the proposed expansion.	- Restrict working hours to day-time hours during weekdays and half day Saturday. No work on Sundays and public holidays. - Awareness on site of workers to keep noise levels down outside of working hours. - All transport vehicles and machinery/equipment used onsite must be regularly maintained and kept in good working order to prevent excessive noise. - Development on large farm limited to no direct receptors
7	Increased visual intrusion in the agricultural landscape.	Possible increase in visual intrusion within the agricultural landscape	Already Implemented: - Minimized development footprint compared to Layout 1 To be implemented: - Minimize area to be cleared around each unit to prevent cleared areas being noticeable. - Clear land areas in phases as required for construction purposes to prevent unnecessary exposure of large portions of bare ground. - Plant trees for screening visual absorption in the landscape. - The development will take place on a large farm with limited to no direct receptors.
8	Faunal Impacts	Potential impact on grasshopper SCC and blue cranes in the region.	Overall, the proposed development is unlikely to generate significant negative impacts on the grasshopper SCC flagged, or on the breeding activities of the Blue Crane. The specialists' opinion is that the proposed development will have an overall low significance on the insect and Blue Crane – no mitigation measures were recommended.

SECTION 4: METHOD STATEMENTS AND REQUIREMENTS

4.1. General Requirements

4.1.1 Contractual communication procedures on site

A logbook should be kept on site for the purposes of recording on-site instructions and as a general record of environmental issues. The diary must be kept for a minimum of two years after the activity is completed for the relevant authority to review if deemed necessary. A photographic record of the site before and after construction will be kept for visual reference purposes. The logbook will consist of three sections:

a) Environmental Site Instruction Section

The Environmental Site Instruction Section will be used for the recording of general site instructions relating to the protection of environmentally sensitive or potentially impacted areas or features on the site.

b) Site Diary Section

The purpose of this section will be to record the comments of the ECO / site manger as they relate to activities on the site, any problems encountered, or comments or complaints received from the public about works from the site. This book is to remain on site at all times and is to be made available for monitoring purposes by the local authority as required.

4.1.2 Communication/Contractual Network

There is to be continual communication between the site manager and Contractor, as well as the site manager and the ECO. The ECO will advise the site manager on factors relating to the EMPr and all environmental matters on site.

The ECO / site manager is empowered to order the Contractor immediately to cease any activities or operations that are required to be stopped as a matter of urgency to prevent serious adverse environmental impacts or potential impacts on the site or any of the adjacent properties or areas outside the boundaries of the site. The ECO / site manager shall without delay report any such actions to the applicant. The suspension will be enforced until corrective action has been taken, with no extension of time for such delays. In such a case, all costs are to be borne by the Contractor.

4.1.3 Method Statement Format

For any activity the Contractor is requested to submit a method statement for comment by the ECO, the format should clearly indicate the following:

- What - a brief description of the work to be undertaken;
- How - a detailed description of the process of work, methods and materials;
- Where - a description/sketch map of the locality of work; and
- When - the sequencing of actions with due commencement dates and completion date estimates.

The Contractor must submit the method statement to the ECO prior to the start of any construction activity. Work may not commence until the comments of the ECO have been received and taken into consideration. The ECO must communicate and inform the Responsible Authority (DEA&DP) when clearance of the ground surface and the bulk earthworks will commence.

4.1.4 Programming of Construction Events

The ECO must be supplied with a detailed program of all construction events to allow for proper monitoring on site. Any amendments to the program of construction events for any reason must be communicated with the ECO.

4.1.5 Bylaws and Regulations

All national and provincial laws and regulations, as well as all local authority bylaws and regulations which apply to the development of this site are to be adhered to.

4.1.6 Protection of sensitive features

Sensitive areas within the development area as identified by the ECO should be fenced off prior to the start of construction on site (if applicable), to ensure minimum disturbance to these areas during construction activities. Any required buffer areas or no-go areas should be marked prior to the start of construction on site and communicated to the site manager.

Water resources

The proposed new development footprint is located approximately 80m upslope of a delineated Channeled Valley Bottom (CVB) wetland. The CVB wetland and its associated 32m buffer must be suitably demarcated as a no-go area during construction to the satisfaction of the ECO. No material may be stockpiled, temporarily stored, or dumped within 32m of this wetland and no waste material may be disposed of within 32m of this wetland.

An Aquatic Biodiversity Compliance Statement and Risk Assessment has been undertaken for the proposed development. The mitigation measures as outlined within this assessment have been incorporated into this CEMPr and must be implemented in full.

Reptiles, birdlife and mammals

Any living organism needs to be respected during the construction phase and should not be killed or run over. Reptiles like snakes need to be removed and suitably released.

Archaeological remains

The following elements need to be focused on:

- If any heritage remains are found Heritage Western Cape (HWC) needs to be informed;
- If heritage remains are disturbed it should be left and demarcated for inspection by HWC;
- If any archaeological remains (including but not limited to fossil bones and shells, coins, ceramics, antique, marine shell heaps, stone artefacts and bone remains) are discovered HWC need to be notified; and
- If any graves or human remains are discovered HWC needs to be notified.

4.1.7 Visual Impacts

The construction phase will be short term. It is recommended that the following measures are taken to avoid or minimize potential visual impacts associated with the construction of the proposed new development:

- Minimize the area to be cleared around each unit to prevent cleared areas being noticeable.
- Clear land areas in phases as required for construction purposes to prevent unnecessary exposure of large portions of bare ground.
- Plant trees for visual absorption in the landscape.

4.1.8 Noise Impacts

The contractor must take appropriate measures to limit the impact of unreasonable noise from construction activities. Appropriate measures should include holding discussions with affected parties to determine if there are times of the day when noise is less likely to be a problem and restricting working hours as far as reasonably practical. Construction activities should be limited to day-time hours. No construction activities should be allowed on Sundays and public holidays.

4.1.9 Cleanliness of roads

The Contractor must ensure that construction vehicles do not spill or drop any construction materials (sand, cement, debris, etc.) onto public or private roads. If this should occur, it is the responsibility of the Contractor to ensure that the roads are suitably cleaned.

4.1.10 Safety

The Contractor is to appoint a safety steward, who will be responsible for safety of the labor force, construction activities and handling emergency situations on site during construction hours.

4.1.11 Fire Control

The contractor must take appropriate measures to guard against accidental fire, and it will be presumed that any bush fire which starts on the site, or within 100m thereof during the construction period would be the responsibility of the contractor and incur legal liability thereof.

Fire beaters are to be kept on site, and easily accessible at all times, and not locked away. In the case of any welding, grinding or other “hot work”, a fire extinguisher is to be readily available to extinguish any fire that may result from these activities.

All excavation equipment should carry fire extinguishers, and all staff should be able to use them if required.

No open fires may be lit anywhere on the construction site, except at locations approved by the ECO and site manager. The burning of refuse or vegetation material on site as a means of disposal is not allowed.

4.1.12 Emergency

All accidents and emergency situations are to be reported to the ECO and site manager, and full details included in the monthly environmental report.

Fire

In the case of a fire occurring on site, the site manager, safety steward and ECO are to be notified immediately. If fairly localized, an effort should be made to extinguish the fire immediately, and if required, the assistance of the local fire department should be sought by the safety steward.

First Aid

The Contractor must provide and maintain a suitable first aid kit on site, with a member of staff suitable qualified in first aid on site during working hours, in accordance with the Occupational Health and Safety Act.

4.1.13 Public Complaints

All public complaints received are to be registered by the ECO or site manager and addressed immediately. Public complaints and responses are to be recorded in the Site Diary and included in the monthly environmental report by the ECO.

4.2 Site Establishment Requirements

The Applicant/Operator must appoint a suitably experienced ECO prior to commencing with any development activities.

4.2.1. Site Definition and Demarcation

Prior to any work commencing on site, a site survey and the placement of demarcation pegs must be undertaken. Peg coding is to be communicated to the Contractor and all other relevant parties as they may be identified. The development site must be clearly fenced off by the building contractor to the satisfaction of the ECO. Following this, all construction works, as well as the storage or preparation of any materials must be within the fenced boundaries of the development site. The construction at any of the proposed unit sites needs to be contained to the boundaries of the predetermined development footprint.

Bunded, impervious areas must be designated by an ECO for temporary toilets, stockpiles, vehicle parking / servicing areas, and for pouring / mixing of concrete / cement, paint, and chemicals (as applicable). These areas should be more than 32 m away from any delineated watercourse.

The CVB wetland located approximately 80m southwest of the proposed development footprint must be flagged as a no-go area for the any activities related to the proposed development. Furthermore it is recommended that construction related activities are undertaken during the dry season when flow within the watercourse is at its lowest.

4.2.2. Environmental Awareness Training

All contractor teams involved in work on the development must be briefed on their obligations towards environmental controls and methodologies. The briefing should take the form of an on-site talk and demonstration by the ECO and/or site manager. The education program should be aimed at all levels of management within the Contractor team. All environmental impacts and aspects and their mitigating measures must be discussed, explained, and communicated to employees.

The environmental awareness education program should commence with entry onto the site, prior to any construction activities taking place by each team, and is likely to be an ongoing process. All personnel must be made aware of the details of the CEMPr which will be applicable to them. It must be ensured that staff members who are not proficient in the language of instruction are provided with training in a suitable alternative language. Contractor teams must also be aware of safety and emergency procedures to be followed.

A regularly updated record must be kept of all personnel attending the Environmental Awareness training sessions.

As a minimum the training must include:

- Explanation of the **reason of complying** with the EMPr;
- Discussion of the potential **environmental impacts** of construction and operation activities;
- Employees' **roles and responsibilities on site**, including emergency preparedness;
- Explanation of the **mitigation measures** that must be implemented when carrying out the activities;
- Explanation of the specifics of this **EMPr** and its specifications (no-go areas, etc.);
- Explanation of the **management structure** of individuals responsible for matters pertaining to the EMPr.
- Information on **human/wildlife conflict mitigation**.

Environmental meetings can be held with management, and selected groups of supervisors and/or employee representatives. The meetings will aid in environmental awareness being generated at all levels, as well as assist in identifying new environmental issues, concerns, or potential pollution sources.

On the job training is an essential tool in environmental awareness. Employees will be given details of the expected environmental issues and concerns specifically related to their occupation. Employees will be trained how to respond if an environmental problem or source of environmental pollution arises. The training will be on-going, and all new employees will be provided with the same standard of training as existing employees.

4.2.3. Contractor's Camp

There should be a single Contractor's camp for use by all contractors and subcontractors, for the provision of staff facilities as well as the storage of all materials and equipment. The most suitable location for the Contractor's Camp should be

determined by the site manager and ECO. Care should be taken that the contractors' camp is located on already impacted areas, also ensuring minimal risk to existing operations on the property.

4.2.4. Toilet Facilities

The Contractor should ensure that ablutions are restricted to the sanitary facilities only (1 toilet per 10 workers). Where chemical toilets are provided, the Contractor should ensure that they are kept in hygienic condition and must be regularly serviced and maintained. These toilets must be located within an area designated by the ECO outside of the no-go area and should preferably be located on level ground.

Care must be taken that no spillage occurs when chemical toilets are cleaned, and their contents are safely stored and removed off site. A contingency plan for spills must be supplied by the contractor and approved by the ECO. Toilets should be located where their use would result in minimal impact on the environment and may not be in areas of running or standing water during winter and must be secured to prevent them from blowing over.

4.2.5. Fencing of Sensitive Features

Should this be required, all fencing is to be erected prior to construction works commencing on site and are to remain in position and in good repair for the duration of the works. No materials, rubble or equipment is to be stored or stockpiled within the fenced areas, and no-one should enter these areas. Any deviations from these specifications are subject to the approval of the ECO.

4.2.6. Vegetation Clearance

Due to the potential fire risk in the area, no vegetation may be removed using fires, and no excess vegetation material may be burned or stockpiled anywhere on site. Vegetation removed from the proposed development site must be suitably disposed of offsite or re-used onsite. No removed vegetation may be disposed of or re-used within onsite watercourses or their associated 32m buffer areas. As far as possible, areas cleared during construction should be revegetated.

4.3. Construction Phase Requirements

4.3.1. Material Handling and Storage

All building materials are to be prepared at a dedicated batching / contractor's area identified by the site manager and approved by the ECO, or within the Contractor's Camp, to enable the effects of cement and other substances, and the resulting effluent and building waste to be more easily managed.

a) Fuels and hazardous materials

Fuels and flammable materials are to be stored in suitably equipped storage areas, inside the Contractor's Camp. These areas shall comply with general fire safety requirements. Impervious materials are to be used in these storage areas to prevent contamination of the ground in the event of spillages or leaks. Quantities of fuels and hazardous materials stored on site should be appropriate to the requirement for these substances on site. Mixing and transferring of chemicals or hazardous substances must take place outside of the No Go area, and must take place on drip trays, shutter boards or other impermeable surfaces. Bulk fuel depots are to be placed within hardened bund areas; bunds are to have a holding capacity equal to 110% of the largest fuel container. The Contractor is to ensure that he is aware of the effects of all substances on staff and the environment, and the correct action to take in the case of any incident involving these materials.

b) Stockpiles

Stockpiles of construction material may only be stored within the predetermined disturbance footprint – suitable storage areas must be agreed on prior to construction commencement and must be managed by the ECO and/or site manager in terms of best practice codes. Stockpile sites should preferably be in areas with a gentle gradient at the furthest point away from designated environmentally sensitive areas. Stockpiles should be stabilized if required. Stockpiles of erodible material must be covered by an erosion blanket (geotextile weighted with bricks).

4.3.2. Effluent / Waste Management

a) General Waste

Waste management during the construction phase is the responsibility of the Contractor. The Contractor must establish a system acceptable to the ECO for control during execution of the works. Refuse refers to all construction debris (cement bags, rubble, timber, cans, nails, wire, spilt bitumen, glass, packaging, plastic, organic matter, etc.). Refuse generated during the execution phase of the works should be stored in an appropriate area on site, protected against wind dispersion and removed on a regular basis for disposal of at a permitted disposal site. No burning or burying of refuse on site should be allowed. Refuse bins must be watertight and wind- proof.

All waste materials are to be stored within the fenced boundaries of the unit area during construction. Where required, waste should be stored in closed containers to prevent dispersal by wind. No excavated material, building materials or removed vegetation may be disposed of within a watercourses or the 32m buffer thereof. Spoil material must be appropriately disposed of at a registered waste disposal facility.

b) Construction Materials

Concrete and cement-related mortars must be disposed of in an environmentally sensitive manner as these can be toxic to aquatic life. Disposal of any of these waste materials within the No Go areas is strictly prohibited.

Concrete should preferably be imported as "ready-mix" concrete from a local supplier. Should onsite concrete mixing be required it must not be done on exposed soils. Concrete must be mixed on an impermeable surface in an area of low environmental sensitivity identified by the ECO / EAP outside of the no-go areas. Surplus or waste concrete must be sent back to the supplier who will dispose of it. Temporary bunds must be constructed around areas where cement is to be cast in situ.

c) Discharge of construction water

No polluted stormwater should discharge into the CVB wetland during both the construction and operational phase of the development. Stormwater management must ensure that no runoff, which will impair the water quality and lead to increased sedimentation, may enter the onsite wetland.

All effluent from mixer washings and run-off from batching areas and other work areas shall be contained in suitable sedimentation ponds. Sedimentation ponds which must be suitably lined to prevent contamination of the ground shall be allowed to dry on a regular basis to allow for solid material to be removed. The material must be disposed of in a suitable manner, depending on the nature of the material, and to the discretion of the ECO.

No effluent, including harmful substances such as paint or solvents, may be discharged off the demarcated sites. No washout may be discharged into the no-go area. Contaminated water must be collected in suitable containers and removed from site for suitable disposal.

d) Eating areas

If construction workers can eat on the development site, other than within the Contractor's Camp, the Contractor shall provide adequate refuse bins at all such places and ensure that they are used. Waste generated by construction personnel must be removed from the development area and disposed of at a registered waste disposal facility on a weekly basis.

4.3.3. Stormwater Management and Construction Site Runoff

A stormwater management plan including drainage measures for the construction phase and relevant method statements shall be presented to the ECO for approval before the start of any works. The Contractor must take suitable measures to prevent erosion resulting from a diversion, restriction or increase in flow of stormwater caused by the presence of his own works, operations and activities to the satisfaction of the ECO. Measures must be put in place to prevent silt from entering any downstream areas.

The Contractor may need to implement control measures to prevent potentially contaminated stormwater leaving the site. Control measures can include the collection of stormwaters from the site within bunded areas. Any runoff collected in such

bunded areas, which contain oils, fuels, chemicals, or other potentially harmful substances, must be pumped out, collected in suitable containers, and removed from site for suitable disposal.

4.3.4. Construction Machinery

All mechanical equipment and work vehicles which may be kept on site are to be stored, serviced, and refueled only at designated areas within the Construction Camp. Within these areas drip trays and other impervious materials, for example plastic or metal sheeting, are to be used to prevent contamination of the ground in any way. All vehicles, and machinery should be inspected daily for the early detection of deterioration or leaks. The ECO / site manager may order the removal of equipment that is causing continual environmental damage by leaking oil or diesel for example, until such equipment has been repaired. Construction/maintenance vehicles should be regularly serviced.

Vehicles and machinery should preferably be cleaned off site. Should cleaning be required on site it must only take place within designated areas outside of the watercourse and its associated buffer area and should only occur on bunded areas with a water/oil/grease separator.

4.3.5. Topsoil Removal and Stockpiling

Where services are to be installed, topsoil is to be removed from the work areas, stockpiled separately from subsoil, and must be stabilised within a day of stockpiling. Stockpiles should be convex at the top to promote run- off, so that water is not able to accumulate and result in leaching of nutrients from the soil. Topsoil stockpiles should not exceed 1.5m height. Topsoil can be utilized for rehabilitation and landscaping purposes.

4.3.6. Erosion Control

Care must be taken at all times to prevent erosion of soils on the construction site. Should any erosion be detected on site, the ECO or site manager must identify the cause of such erosion and ensure that the most appropriate method of mitigation or stabilization is employed as soon as possible. Examples of erosion control measures include:

- Covering steep/unstable/erosion prone areas with geotextiles.
- Covering areas prone to erosion with brush packing, straw bales, mulch.
- Stabilizing cleared/disturbed areas susceptible to erosion with sandbags.
- Constructing silt fences / traps in areas prone to erosion, to retain sediment-laden runoff. Silt fences must be adequately maintained. Furthermore, the ECO / site manager must monitor sediment fences / traps after every heavy rainfall event and any sediment that has accumulated must be removed by hand.

4.3.7. Dust Control

The contractor shall take appropriate measures, to the satisfaction of the ECO to minimize the generation of dust and mud on the site, by supplying suitable stabilization (such as mulch or straw stabilization) for all cleared ground. Watering of exposed working areas may be considered for the control of dust during windy conditions, although great care must be taken that this does not result in excessive run-off, and erosive action. It is further recommended that a speed limit of 20-40km/h is enforced on all internal access roads.

4.3.8. Earth Shaping

The CVB wetland and 32m buffer area should be demarcated as a No-Go area for the development. Any major earth works are to be restricted to the site boundaries. Bulldozer and heavy machinery operations are to be under constant supervision and must be aware of all the environmental obligations and penalties for transgressions, as they have the potential to inflict severe damage to the surrounding environment.

4.3.9. Trenching for Service Installation

The excavation of trenches for the installation of services should be undertaken in a phased manner where possible, to allow for trenches to stand open for a maximum of five days only. Materials removed from trenches must be stockpiled in a suitable position close by, and should be stabilized if backfilling is not expected to occur within the following two days. Service installation should be coordinated to prevent the undue reopening of trenches for the installation of additional services.

4.3.10. Construction Traffic Management

All construction vehicles carrying materials must use sheeting to prevent loss of loads due to wind or rain. Movement of all construction vehicles on site is to be strictly limited to access routes approved by the ECO. Construction/maintenance vehicles should be regularly serviced.

4.3.11. Site Clean-up and Rehabilitation

Any spillages must be clean up immediately with the use of a chemical spill kit and dispose of contaminated material at an appropriately registered facility.

The Contractor must ensure that all structures, equipment, materials and facilities used on site construction activities are removed once the project has been completed. The construction site shall be cleared and cleaned to the satisfaction of the ECO. The Contractor will ensure that no building rubble or waste is left behind in the area designated as pasture or any other area. This includes the removal of any rubble or litter that may have been accidentally deposited into the watercourse and associated buffer area as a result of construction activities. All construction waste must be disposed of at an appropriate registered facility.

4.3.12. Archaeology and Cultural Heritage

If any heritage remains are exposed during excavations or any other action on the site these must immediately be reported to the Provincial Heritage Resources Authority of the Western Cape. Heritage remains uncovered or disturbed during earthworks must not be further disturbed until the necessary approval has been obtained from the competent authority.

A qualified archaeologist and/or palaeontologist must be contracted where necessary (at the expense of the applicant) to remove any heritage remains.

4.4. Construction Phase Requirements – Units

4.4.1. Architecture

Each unit is to be uniform and similar in design to the existing units. They must comply with approved building plans. Units should be raised from the ground to ensures that rainwater does not enter the units during rainfall events,

4.4.2. Sustainable Building Guidelines

A sustainable building is not something that requires significant resources or great expertise to develop. With a little knowledge much can be gained at no extra initial costs, resulting in a more environmentally friendly and healthier living space, and with much lower operating costs. Some choices cost more up-front but pay for themselves over the life of the building.

- Make sure that the proposed buildings are “right sized” (avoiding wasted space and energy consumption). The savings can fund improved features and energy efficient materials, fittings and performance.
- Use ‘local’ as far as possible. Local materials, knowledge and skills will save transport costs and is often matched to local climatic conditions and assist development/sustainability of local economies.
- Consider using standard building material sizes. When, where and if feasible to avoid waste and extra transport with the removal of waste from the building site.
- Indigenous vegetation and planting is best suited to the local soil and climate. Deciduous trees can help shade buildings in summer and allow sunlight to warm spaces in winter, reducing the need for heating and cooling. The required visual shielding of the buildings will be done with indigenous trees and landscaping.
- Water saving appliances Dual-flush toilets, low-flow showerheads and tap aerators are inexpensive and save huge amounts of water over their lifetime. Installation of rainwater tanks to supplement water use should also be considered.
- Good sealing of doors and windows. Those ensure optimum control of conditions in individual rooms or particular spaces in the building.

- Investigation of energy efficient, non-toxic insulation materials. It is important, such as treated organic fiber (waste timber) chip, recycled paper and possibly polyester.
- It often makes sense to employ competent professionals familiar with technology and practice for sustainable buildings. It saves having to upgrade poorly performing buildings and pay for extra heating, lighting, air conditioning, water heating and so on.

4.4.3. Materials

Select recyclable materials which use the least embodied energy, require the least transport and produce the least pollution and waste. Some innovative alternative technologies are beginning to become better understood in South Africa and should also be investigated. Some examples are the use of timber frames and panels, sandbags in timber frame, soil-cement and unfired clay bricks and cob or straw bale construction. The following table provides a list of technology options to consider.

Building element	**Conventional material**	**Alternative choices**
Foundations, substructure	Concrete strip footings reinforced concrete ground beams, concrete raft foundations.	Brickwork pillars / timber posts supporting suspended floors, rock / sandbags in shallow trenches. Substructure should be termite and damp proof.
Floors, paving	Concrete slab on DPM (Damp Proof Membrane), suspended reinforced concrete slab on frame /load-bearing brickwork.	Composite sand-clay-fibre floors, suspended timber floor, suspended composite clay floor / concrete / screed on permanent shutter – board / timber or recycled roof sheets.
Walls	230mm baked clay brick wall, 280mm cavity brick wall, concrete bricks.	Soil, cement bricks, timber frame with panels (timber, composite boards, or metal sheeting), stacked sand in containers in timber frame, unfired clay bricks, cob, straw bale.
Windows and doors	Mild steel, meranti (imported rainforest “hard” wood), aluminium.	Treated plantation timber (SA Pine, saligna laminated?), recycled, timber, uPVC Ensure windows and suitable opening sections and investigate “smart glass” to control sun loading / heat escape.

Roof	Roof sheeting ("zinc" steel, aluminium, asbestos / fibre cement), concrete roof tiles (on SA Pine structures, waterproofed reinforced concrete slabs.	Fibre reinforced concrete / clay roof tiles, timber board under water proof membrane, shingles, brick vaulted barrels, thatch, composite panels, and water-proofed light-weight concrete screeds on shuttering, slate.
Ceiling and insulation	Gypsum board, painted plaster, suspended composite boards, insulated with fibreglass quilt, reflective aluminium sheet.	Timber – T&G, timber / composite boards, plywood, reeds/bamboo. Insulation - treated polyester, organic fibre, recycled paper.
Finishes	Carpets, ceramic tiles, cement plaster, paints (acrylic / enamel) veneered composite / timber board.	Tinted / painted finishes to concrete floors, clay / concrete tiles on screed, plantation timber, new (environmentally friendly and 'breathing' paint types, clay / gypsum plasters.
Services	Piped water supply, sewer drains, ESCOM electricity, municipal garbage disposal, municipal storm water drains.	The alternative services are discussed elsewhere, but should look to using on-site sources (rainwater / solar / wind energy) and recycling to avoid waste.
Fixtures, fittings and furniture	Electrical geysers, incandescent and fluorescent lights, standard 20 litre flush toilets, baths, electrical stoves and fridges, air conditioning, electrical Heaters.	Solar heaters, energy efficient light bulbs, water saving cisterns, showers, gas stoves, fridges and heaters, fans.
Lighting	Incandescent lights	CFL's (Compact Fluorescent Lights) and LED's (Lighting Emitting Diodes) should be used for light wherever possible.

4.4.4. Water Measures

Rainwater capture

Potential does exist for the collection of rainwater run-off. For every 100m² and every 10mm of rain, 1000 liters of water could be cleaned and stored for future use.

4.4.5. Energy Efficiency

Where possible, use passive solar design to reduce energy consumption and thus the need for extra equipment such as air conditioning and to ensure comfortable accommodation:

- North orientation to ensure that as many well-used spaces face north as possible. Sun control is more difficult on East and West facing windows. South facing windows can capture good, reflected light from the sky and elsewhere, but little solar energy.
- Good insulation in the roof and walls to keep the inside temperature warm in winter or cool in summer.
- Suitable roof overhangs to let in the lower winter sun but shade from the hot-summer sun.
- Sensible fenestration (windows) – let in the light and catches the winter sun, but not too much window area so that warmth or cool cannot be retained inside when needed. They can be combined with shading and reflecting devices - such as overhangs, screens, shutters, awnings, trees, planting, different glass types - to control the amount, quality and time of daylight entering the building.
- Suitable ventilation for fresh air and cool breezes.
- Natural lighting through windows and light wells.

SECTION 5: MONITORING AND COMPLIANCE

5.1. Monitoring

The monitoring of works on site is necessary to demonstrate compliance with the specifications of the EMPr and to allow for problems or issues of non-conformance to be identified and appropriate corrective measures to minimize environmental damage to be implemented.

Monitoring should include daily visual checks by the site manager, checks on requirements for site activities by the ECO, as well as a review of site documentation. Monitoring should include photographic records. The ECO shall complete the performance record at the end of each table in section 4.2 of this document, as a record of transgressions or problems experienced on site, and how they were dealt with. Monitoring of activities on site by the ECO should be done on a monthly basis when construction is taking place.

5.2. Environmental Control Sheets

5.2.1. Communication

TASK	MITIGATION AND ENVIRONMENTAL CONTROLS	ACTION
Site Diary and Environmental Instruction Book	• To be updated on a regular basis	ECO, Site Manager
Public complaints	• To be recorded, along with records of responses to them in the Site Diary	ECO/Site Manager
Environmental Awareness education	• Each contractor team to attend a training session prior to commencing work on site • Record of members attending training sessions to be kept, and updated regularly	ECO
Method Statements	• Method statements to indicate What, How, Where and When activities are to take place. • Method statements for each relevant activity to be submitted to ECO prior to the start of that activity on site. • Work is not to commence until method statement approved by ECO and site manager if necessary.	Contractor

COMMENTS/ UPDATE

RECORD OF PERFORMANCE					
Acceptable		Details of Transgression	Responsible Party	Action Taken	Date
Yes	No				

5.2.2 Site Preparation

TASK	MITIGATION AND ENVIRONMENTAL CONTROLS	ACTION
Site definition	• Site survey to be undertaken, and site demarcated with hazard tape prior to any other works on site.	Surveyor
Vegetation clearance	• All vegetation to be removed from site to be indicated on a site plan, and clearly marked on site. • Fires may not be used as a method of vegetation clearance. • No vegetation outside of approved development footprint to be cleared. • Buffer zones need to be identified and marked on site to ensure no encroachment. • Sensitive portions of the site should be fenced off prior to construction.	ECO, Site Manager and Contractor

Fencing of sensitive features Topsoil removal	• All extra fencing material is to be removed from site or stored in the Contractor's Camp. • Fencing must remain in place for the duration of the works on site. • If damaged, fencing is to be repaired or replaced immediately. • No dumping or stockpiling of any materials is allowed within fenced areas, and no- one should enter these areas. • Topsoil to be removed from all work areas and stockpiled separately from subsoil. • Stockpiles should be suitably shaped to prevent leaching of nutrients, and stabilised.	Contractor Contractor

COMMENTS/ UPDATE

RECORD OF PERFORMANCE

Acceptable		**Details of Transgression**	**Responsible Party**	**Action Taken**	**Date**
Yes	**No**				

5.2.3 Site Procedures

TASK	MITIGATION AND ENVIRONMENTAL CONTROLS	ACTION
Contractor Camp location	• Contractor Camp is located at the most suitable site as identified by the ECO and site manager.	Contractor
Toilet facilities	• Suitable toilet facilities are provided for all staff. • Ablutions are to be restricted to the facilities provided. • Toilets are to be kept in a hygienic condition and emptied regularly.	Contractor
Working hours	• To be limited to between 07h00 and 18h00 on weekdays, and 07h00 and 14h00 on Saturdays. • No work on Sundays and public holidays except for vital tasks	Contractor
Public roads	• Construction materials spilled on private or public roads cleaned up.	Contractor
Fire control	• Required firefighting equipment is available on site, and in working order. • No open fires are lit on site without approval of the ECO and site manager.	Contractor
Material handling and storage	• Fuels and hazardous materials to be stored in suitably equipped storage areas in the Contractor camp. • These areas shall comply with fire safety requirements. • Impervious materials are to be used to prevent contamination of the ground in the event of spillages or leaks.	Contractor
Stockpiles	• Sites for stockpiling as identified by the Contractor are to be marked on a plan and approved by the ECO and site manager. • Stockpiles must be suitably stabilised where necessary.	Contractor
Waste management	• All waste to be stored in an appropriate area on site and protected against wind dispersal. • Waste to be removed on a regular basis for disposal at a permitted disposal site. • No burning or burying of refuge on site is allowed.	Contractor
Discharge of construction water	• All runoff from batching plants, work areas and mixer washings to be contained in sedimentation ponds, which are suitably lined. • Ponds must be allowed to dry out regularly, and solid waste removed and disposed of at a site approved by the local authority.	Contractor
Maintenance of equipment	• All mechanical equipment and work vehicles to be stored, serviced, and refuelled at designated areas in the contractor camp. • Drip trays or impervious materials to be used to prevent contamination of ground.	Contractor
Stormwater management	• Suitable measures must be in place to prevent erosion resulting from diversion, restriction or increase in stormwater runoff. • Measures must be taken to prevent stormwater from flowing from excavated areas or stockpiles to areas not part of SDP.	Contractor

Erosion control	• No polluted stormwater should discharge into the CVB wetland during both the construction and operational phase of the development. Stormwater management must ensure that no runoff or treated wastewater (WW), which will impair the water quality and lead to increased sedimentation, may enter the onsite wetland. • Washout must not be discharged into the no-go area. A washout area should be designated, and wash water should be treated on-site. • Stormwater containing harmful substances to be contained and removed from site. • Stormwater channels are to be kept clear from soil and debris. • Erosion or stormwater damage resulting from Contractor operations to be suitably repaired. • Suitable stabilisation measures are to be implemented wherever works are taking place. • Where erosion is detected, suitable mitigation methods are to be employed as soon as possible.	Contractor Contractor
Dust control	• All cleared ground is to be suitably stabilised to prevent dust. • If ground is watered to prevent dust, care must be taken that runoff is not excessive, or erosive.	Contractor Contractor
Construction traffic management	• All construction vehicles carrying materials must use sheeting to prevent loss of loads due to wind or rain. • Movement of construction vehicles must be limited to approved haul and access routes.	
Site rehabilitation	• All structures, equipment materials and facilities are to be removed from site on completion of the project. • Construction site shall be cleared and cleaned to the ECO's satisfaction.	

COMMENTS/ UPDATE

RECORD OF PERFORMANCE

Acceptable		**Details of Transgression**	**Responsible Party**	**Action Taken**	**Date**
Yes	**No**				

5.2.4 Construction Activities

TASK	MITIGATION AND ENVIRONMENTAL CONTROLS	ACTION
Preparation of building materials	• Preparation of materials to be limited to a batching plant, or the Contractor Camp	Contractor
	• Concrete should preferably be imported as "ready-mix" concrete from a local supplier. Should onsite concrete mixing be required it must not be done on exposed soils. Concrete must be mixed on an impermeable surface in an area of low environmental sensitivity identified by the ECO / EAP outside of the no-go areas. Surplus or waste concrete must be sent back to the supplier who will dispose of it.	Contractor
Earth shaping	• Works to be restricted to within surveyed boundaries of the site. • Bulldozer/ heavy machinery operators to be under constant supervision. • Use and excessive movement of heavy machinery to be avoided in areas of environmental sensitivity or high erosion potential.	Contractor Contractor
Excavation of trenches for service installation	• Trenching to be undertaken in a phased manner. • Trenches to stand open a maximum of 5 days for installation of services.	Contractor
Dewatering of trenches if flooded	• Water to be pumped to sedimentation ponds, not allowed to flow into adjacent land.	Contractor
Backfilling of trenches	• To be undertaken in a phased manner as services are installed. • Fill material to be replaced in same work area from which it originated as far as possible. • Fill material to be compacted to its approximate original density.	
Temporary stabilisation	• All areas in which service have been installed are to be stabilised as soon as possible after backfilling. • Monthly maintenance checks to be carried out and remedial action implemented where necessary.	

COMMENTS/ UPDATE

RECORD OF PERFORMANCE

Acceptable		Details of Transgression	Responsible Party	Action Taken	Date
Yes	No				

5.3 Penalties and Incentives

Transgressions relate to actions by the Contractor or contractor team members whereby damage or harm is inflicted upon the environment or any feature thereof and where any of the conditions or specifications of the EMPr are infringed upon.

In the instance of environmental damage, the damage is where possible to be repaired and rehabilitated using appropriate measures, as specified and undertaken by appropriate specialists, for the account of the contractor or other guilty party.

Where infringement of the specifications or conditions of the EMPr is registered, appropriate remedial action or measures are to be implemented for the account of the Contractor. Transgressions are most likely to occur with respect to litter on site, disturbance of sensitive areas, and erosion. If excessive infringement with regard to any of the specifications is registered, the Client reserves the right to terminate the Contractor's contract.

Issues of non-compliance noted by the ECO are to be communicated to the site manager, who holds the responsibility of ensuring that the relevant parties are made aware of the lack of compliance with EMPr specifications, and that appropriate action is taken to rectify the situation. The ECO will advise on appropriate corrective actions when necessary.

5.4 Site record

Minutes of the Contractor's meetings on site must reflect environmental queries, complaints, actions agreed upon, dates of eventual compliance and must form part of the official environmental site record, along with the Environmental Instruction Book and Site Diary.

In addition to the summary report, the ECO shall keep a monthly photographic record of progress on site and an ad hoc record of incidents or events on site, especially in the case of transgressions from EMPr specifications.

5.5 Review of EMPr

The EMPr will be reviewed by the ECO on an ongoing basis. Based on observations during site inspections and issues raised at site meetings, the ECO will determine whether any procedures require modification to improve the efficiency and applicability of the EMPr on site. Any such changes or updates will be registered in the ECO's monthly record, as well as being included as an annexure to this document. Annexures of this nature must be distributed to all relevant parties on site.

5.6 Environmental Audits

A suitably qualified Environmental Auditor is to be appointed, at the expense of the applicant, to undertake audits of compliance with the EMPr. An external audit is to be undertaken 6 months into construction and 6 months after completion of construction activities. Objectives should be to audit compliances with the key components of the EMPr, to identify main areas requiring attention and recommend priority actions. The audit should cover a cross section of issues, including implementation of environmental controls, environmental management and environmental monitoring. Results of the audits should inform changes required to the specifications of the EMPr or additional specifications to deal with any environmental issues which arise on site and have not been dealt with in the current document.