



RIVERSIDE VILLAGE

KOMMETJIE · CAPE TOWN

Construction Environmental Management Plan for Individual/Private Dwellings

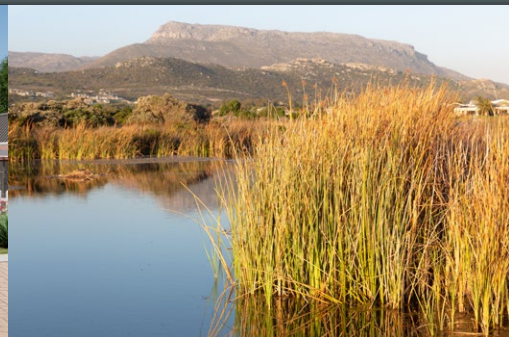


TABLE OF CONTENTS

1. Background and Objective:	2
2. Responsibility:	2
2.1. Environmental Control Officer (ECO)	2
2.2. Developer/Applicant	4
2.3. New Property Owner	4
2.4. Department of Environmental Affairs & Development Planning	4
3. Actions:	5
3.1. Qualification of Builders/Main Contractors	5
3.2. Design and Landscaping	5
3.3. Terms and Conditions for House Construction	5
3.4. Environmental Education.....	5
3.5. Method Statements.....	5
3.6. Penalties	6
3.7. Limits of building activity	6
3.8. Site presentation and spoiling of excess material	6
3.9. Wastewater.....	7
3.10. Cleaning of vehicles/equipment.....	7
3.11. Fires.....	7
3.12. Smoking	7
3.13. Ablution facilities.....	7
3.14. Eating Areas.....	7
3.15. Water provision.....	8
3.16. Fencing of building sites	8
3.17. Protection of sensitive areas.....	8
3.18. Hours of Work & Noise.....	8
3.19. Vehicle Sizes Allowed.....	9
3.20. Deliveries to Builders	9
3.21. Washing of Concrete Delivery Vehicles.....	9
3.22. Cement/Concrete Batching	9
3.23. Storage Sheds/Huts	10
3.24. Speed Limit.....	10
3.25. Building Plan Controls.....	10
3.26. Dust.....	11
3.27. Site clearing after construction	11
3.28. Rehabilitation.....	11
3.29. Landscaping	11

1. Background and Objective:

The purpose of the Private Dwelling Construction EMP document is to set the terms and conditions with which the Builder and Owner must comply, to minimise any negative impact on the environment as well as to ensure that the requirements as specified in the Department of Environmental Affairs and Development Planning's Environmental Authorisation are met.

A number of documents associated with this development provide conditions to ensure that the design, construction and (later) renovation of houses on the property takes place in an orderly fashion with the constraints set to enhance the aesthetic character of the development. These documents include, *inter alia*, the Agreement of Sale, Environmental Authorisation, relevant building and landscaping guidelines, the environmental agreements and the development's overall Environmental Management Programme (of which this document forms part). Should a builder or home owner want greater detail they should consult the developments overall environmental management programme.

2. Responsibility:

2.1. Environmental Control Officer (ECO)

A suitably experienced ECO will be appointed by the Developer, to monitor and control compliance with this CEMP for the duration of the house/private dwelling construction works. Work will not be allowed on an erf. without notification of the ECO.

The ECO will be responsible for undertaking the following tasks for the duration of house construction work on an erf:

- To visit the erf regularly during construction and monitor compliance with this CEMP.
- Inspect and approve the Builder's site set up drawing which indicates the position of storage shed(s), position of topsoil and excavated soil storage areas, the position of building material storage areas and the position of deliveries to the erf.
- To hold Construction EMP education/induction sessions for all staff, contractors and sub-contractors aimed at educating and raising the awareness of the Builder and his personnel and subcontractors as to the sensitivity of the Property prior to commencement of the house construction works, and to target responsible individuals as key players for environmental education, to facilitate the spread of the correct environmental attitude for the duration of the works.
- To review all elements of the works with the Builder to determine which elements require method statements, to instruct the Builder to submit these method statements and to approve such methods.
- The ECO is to ensure that special precautions are taken on erven that border onto sensitive areas as identified in the overall development EMP.

- The ECO will as far as possible undertake and facilitate the following
 - i. review method statements and determine the most environmentally sensitive options of modus operandi for the construction related tasks, when considered necessary by the ECO.
 - ii. To make on-site decisions regarding any tree or other vegetation removal or retention.
 - iii. To take immediate action on site where clearly defined no-go areas are violated, or in danger of being violated, and to inform the Owner and HOA immediately of the occurrence and the action taken.
 - iv. To keep a site diary of visits.
 - v. The ECO shall advise the Builder on environmental matters relating to, or arising in the course of, the execution of the works on an erf.
 - vi. The ECO is empowered to order the Builder to immediately cease any element of the works which contravene the conditions of this Construction EMP, and/or which are required to be stopped as a matter of urgency in order to prevent serious adverse environmental damage or potential environmental damage to any of the adjacent properties or areas outside the boundaries of the erf, provided that the ECO shall without delay report on such action to the, the Developer or his nominee and the Owner.
 - vii. The ECO shall refer to the Owner any impending, apparent or alleged failure by the Builder to carry out their obligations in terms of this Construction EMP or to heed advice or any order given by the ECO in terms of paragraphs this clause.
 - viii. To visit the erf at the completion of house construction, ensure that landscaping has been completed as required.
 - ix. The ECO shall liaise with the Owner and the Developer or his nominee on a regular basis.
 - x. Major incidents that may impact on the larger development or surrounds will be reported to the Developer or his nominee and to the Department of Environmental Affairs and Development Planning.

- The following will also apply
 - i. Instructions to the Builder will be issued only by the Owner through their system established for the project management and control of the house construction operations.
 - ii. The Owner and/or Builder will consult with the ECO with respect to any aspects of the house construction operations, which may impact on the environment.

2.2. Developer/Applicant

The Applicant or his nominee will be responsible for ensuring, appointing and funding an ECO to monitor compliance of the house construction once ownership has been transferred. The Applicant or his nominee will not be responsible for compliance of the new home owners.

2.3. New Property Owner

The new property owner (once the property has been transferred from Developer) Will ensure that this individual house CEMP is complied with at all times by the owner and any representatives, contractors sub-contractors and similar working on the property.

The new property owner will provided the ECO (as appointed by the Applicant or his nominee) access to the property and building until construction and landscaping has been completed.

2.4. Department of Environmental Affairs & Development Planning

DEA&DP is responsible for ensuring that matters of ongoing non-compliance as raised by the ECO are addressed as required.

3. Actions:

3.1. Qualification of Builders/Main Contractors

Builders must have reasonable experience in the building industry. An owner builder must qualify as above. Builders are at all times fully responsible for their sub-contractors, employees and suppliers while on the Property.

3.2. Design and Landscaping

Owners will ensure that all plans are in line with the relevant landscaping guidelines. All vegetation must be indigenous and non-invasive.

It is the responsibility of the home owner to keep their property free from invasive alien vegetation and clear these as required before they set seed.

Building plans are to be approved by the relevant authorities and must be in line with the relevant building guidelines.

3.3. Terms and Conditions for House Construction

When a builder is found to be in breach of the stated rules and regulations a penalty will be levied by the ECO against the owner. The extent of the penalty is detailed below the description of each condition. Where a penalty is insufficient to cover the cost of repairing the environmental damage caused by the breach, the developer/applicant reserves the right to recover the additional costs from the Owner.

All penalties collected by the applicant/developer will be placed into a holding account managed by the developer. The funds will be used to assist with the management/improvement of the conservation worthy areas or will be donated to a suitable environmental organisation. The developer must keep proper record of this process.

Should an owner fail to pay the fine after 60 days the matter will be brought to the attention of the Department of Environmental Affairs and Development Planning who will decide on the steps to be taken.

3.4. Environmental Education

The ECO shall hold education sessions, as and when required, for all employees and subcontractors of the Builder on the terms and conditions of this Construction EMP. All staff and subcontractors must attend this education session prior to working on the Property. Personnel who have not attended an education session will not be allowed onto the Property.

3.5. Method Statements

The ECO may require method statements from the builder in which the methodology for undertaking certain elements of the works are described, and such method statements must be

submitted to the ECO for approval prior to commencement of any house construction works on the erf. Work by the Builder will be stopped by the ECO until a method statement or statements have been submitted to the ECO for approval.

Once approved by the ECO the specifications within the Method Statements must be adhered to by the contractor and will form part of this document and its associated agreements.

3.6. Penalties

The ECO will provide 1 written warning to the Owner. The Owner will have four days in which to respond. Should no suitable response or action be forthcoming, the ECO will issue a final written warning. The Owner will have a further three days to respond or to undertake corrective action. Should the same transgressions continue after the issuing of a final warning, the Department of Environmental Affairs and Development Planning will be informed. DEA&DP will then decide on the process to be undertaken. This may include the stopping of works, administrative fines or prosecution.

3.7. Limits of building activity

The owner cannot allow the contractor to begin on site until the ECO and Developer has been notified of commencement.

All activities relating to the house construction must be confined to within the erf boundaries where the works are executed. It is the responsibility of the Builder to ensure that his personnel remain within the demarcated areas of the erf on which they are working. Areas where construction activities (including traffic accommodation) are prohibited are referred to as no-go areas. Entry into these areas by any person, vehicle or equipment without the ER's written permission will result in a penalty. All declared no-go areas will be demarcated by temporary fencing, the position of which shall be agreed to by the ER and ECO, or with input from the relevant specialist. All private property outside of the construction areas as set out in the site layout plan shall be considered no-go areas.

If there are transgressions, the Developer/applicant or ECO will stop work by the Builder until such time as the Builder's equipment/staff has been moved to within the boundaries of the erf.

3.8. Site presentation and spoiling of excess material

The Builder shall keep the appearance of the erf neat and tidy at all times to the satisfaction of the ECO and the Applicant or his nominee. Building rubble must be removed from the erf at intervals not exceeding one week, and litter must be removed from the erf on a daily basis. Measures shall be taken to reduce the potential for litter and negligent behaviour with regard to the disposal of all refuse. No litter may be stored or mixed in amongst building rubble. Refuse

drums must be supplied for the purpose of storing refuse until removed from erf by the Builder.

No material or building rubble shall be spoiled on the erf. of surrounding erven.

No burning, on-site burying or dumping of waste shall occur. Used (empty) cement bags shall be collected and stored in weatherproof containers to prevent windblown cement dust and water contamination. Used cement bags shall not be used for any other purpose and shall be disposed of on a weekly basis via the solid waste management system. All solid waste shall be disposed of offsite at an approved landfill site.

3.9. Wastewater

Waste water from activities such as washing tools batching and similar will be collected in a drum or conservancy tank. This water will then be re-used for batching or for wetting and compacting sub-base material during road and parking surfacing or similar.

Small volume waste water collected from washing and other small volume cement work activities will be disposed of on top of the general rubble pile where it will be absorbed. This will be done in such a way as to ensure that there is no run-off from the rubble pile to surrounding areas. The waste water shall not be of such volume that it will saturate the entire body of rubble or will soak through the rubble pile.

3.10. Cleaning of vehicles/equipment

The washing of Builder's vehicles and equipment is not permitted on the property.

3.11. Fires

No fires will be allowed on any part of the erf. The Builder is to provide at least one fully operational fire extinguisher, which must be on site at all times. The Builder will be held legally and financially responsible for any damage caused by a fire resulting from builder negligence.

3.12. Smoking

The builder shall ensure that his employees do not smoke on the Property except in a designated site within a five-metre radius of a portable fire extinguisher.

3.13. Ablution facilities

Builders must make adequate provision for potable water and temporary toilets located on the erf for the use of their employees until such time as the water and sewer reticulation systems are available. Temporary toilets will be kept clean and in good order and secured.

3.14. Eating Areas

If none is available, the Contractor shall provide adequate temporary shade within the construction areas to ensure that site personnel do not move off site to eat.

3.15. Water provision

The Contractor shall make available safe drinking water fit for human consumption at the site offices and all other working areas.

All drinking water must be from a legal source and comply with recognised standards for potable use. The Contractor shall comply with the provisions of the National Water Act and its Regulations for taking water from rivers or streams and the use thereof.

No water is to be wasted on site. All leaks are to be reported and repaired immediately. Leaking hose pipes must be properly repaired to a leak free state or replaced.

3.16. Fencing of building sites

The Builder shall fence the boundaries of the erf. prior to any activities taking place on the site.

A temporary fence approved by the ECO or the permanent property boundary must be erected.

The Contractor shall maintain in good order all demarcation fencing and barriers for the duration of construction activities, or as otherwise instructed.

3.17. Protection of sensitive areas

When building takes place on erven fronting onto a sensitive area (as deemed by the ECO), suitable fencing (1.8m covered with shade cloth) must be placed along the boundary of the buffer area of the erf for the duration of construction (placement and fencing to be determined on site with the ECO), to prevent damage by litter and spoil from the construction activities. This will also prevent access into these areas.

No activity will be permitted in any ecological buffer areas.

This temporary fencing is to be removed on completion of building operations. The Builder will be denied access onto the Property until such screening structures are in place.

3.18. Hours of Work & Noise

Builders may only be present on the Property during the working hours accepted by the local authorities. Builders are not allowed to be active on the Property on Sundays and public holidays,

The Builder shall endeavour to keep noise generating activities to a minimum. All plant, equipment and vehicles are to have effective silencers/mufflers fitted that would otherwise cause a noise level exceeding 85 dB. Exhaust systems are to be in good repair with no holes in the piping.

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

No sound amplification equipment (hooters, loud music speakers, sirens etc.) is to be used on site except in emergencies.

Excessively noisy plant or plant requiring repairs are to be removed from site.

3.19. Vehicle Sizes Allowed

Vehicles sizes will be limited to that which can manoeuvre without having to drive off road ways or requiring turning circles larger than what can be accommodated on the site under construction.

3.20. Deliveries to Builders

Builders will at all times be responsible for the compliance of delivery personnel with the contents of this Agreement. The Builder shall ensure that all delivery times will be limited to times defined above. The Builder shall ensure that the size of delivery vehicles is limited as defined above. The Builder shall ensure that deliveries to the building site take place only from the street frontage of the site.

The delivery of concrete has the potential to cause the most damage to the road surfacing and vegetation. It is therefore important that these deliveries are handled in an environmentally sensitive way. The Builder shall ensure that drivers of concrete delivery vehicles are briefed on the conditions of this document.

Drivers found contravening this CEMP will be requested to leave the site.

3.21. Washing of Concrete Delivery Vehicles

The washing of premixed concrete delivery vehicles must not take place on site. Under no circumstances may concrete be spilled onto the road surface and the Builder will be held responsible for the repair to the road if this occurs.

3.22. Cement/Concrete Batching

Concrete mixing directly on the ground shall not be allowed and shall take place on impermeable surfaces to the satisfaction of the ECO.

All runoff from batching areas shall be strictly controlled, and cement-contaminated water shall be collected, stored and disposed of at a site approved by the ECO. Settling tanks or sumps may also be used provided these do not leak and are impermeable. Once settling has occurred the top two thirds of the contaminated water can be drained into a sewer line with the approval of the Engineer. The remaining material can be stockpiled and removed with general rubble and waste from site.

Cement contaminated water may also be collected and recycled for reuse in batching activities. Contaminated water storage facilities shall not be allowed to overflow and appropriate protection from rain and flooding shall be implemented.

Small volume batching is permitted provided mortar boards, 250 micron DPC plastic sheeting or similar impervious material is used to prevent contamination with the ground and soil. Unused cement bags shall be stored out of the rain where runoff won't affect it.

Used (empty) cement bags shall be collected and stored in weatherproof containers to prevent windblown cement dust and water contamination. Used cement bags shall not be used for any other purpose and shall be disposed of on a weekly basis via the solid waste management system.

All excess concrete shall be removed from site on completion of concrete works and disposed of. All excess aggregate shall also be removed.

3.23. Storage Sheds/Huts

The Builder will be allowed to erect temporary storage sheds/huts within the boundaries of the erf, to a maximum height of 2,4m above ground level. The position of such structures must be indicated on the site diagram, which must be approved by ECO. The Builder will be instructed to remove any structures that do not conform to this regulation.

3.24. Speed Limit

For security and safety reasons the speed limit on the Property for all vehicles is 35 km/h. The Builder shall ensure that his employees, subcontractors and delivery vehicles adhere to this rule.

3.25. Building Plan Controls

The design of the building must comply with the building guidelines.

The Builder must ensure that the signed approved building plan is available at all times for inspection. Any variations to the approved building plan must be approved by the local authorities. Prior to commencing with the house construction works the Builder must; (i) confirm the height of buildings will be no higher than 8 meters from the lowest point of natural ground level on the erf.; (ii) provide a site drawing indicating the position of storage shed(s); position of topsoil and excavated soil storage areas; the position of building material storage areas; and the position of deliveries.

Should this not be adhered to both the Local building inspectors as well as DEA&DP will be notified.

3.26. Dust

The Contractor shall ensure that the generation of dust is minimised and shall implement a dust control programme to maintain a safe working environment, minimise nuisance for surrounding residential areas/dwellings and protect damage to natural vegetation etc.

The builder and owner will ensure that there are sufficient funds available for this.

3.27. Site clearing after construction

All building material, spoil and equipment, including fencing and temporary toilets, are to be removed from site within two days of completion of building. The ECO is to check the site and sign a site clearance form, indicating that site clearance has been satisfactorily undertaken and any remediation required has been undertaken to the satisfaction of the ECO.

3.28. Rehabilitation

Any environmental damage that occurs as a result of non-compliance with this CEMP will be rehabilitated to the satisfaction of the ECO. This will be for the cost of the home owner and builder.

3.29. Landscaping

Planting must be done with indigenous non-invasive species. Kikuyu lawn is not permitted in POS or buffer areas.

Trees are to be planted along the streets to help 'soften' the development and screen buildings.

Below is a list of recommended plant species for landscaping:

TREES:

1. *Brachylaena discolor*
2. *Olea europaea sub. africana*
3. *Rhus lancea*
4. *Sideroxylon inerme*
5. *Syzigium cordatum*
6. *Tarchonanthus camphoratus*

STRANDVELD:

1. *Carpobrotus acinaciformis*
2. *Coleonema album*
3. *Euclea racemosa*
4. *Helichrysum dymyanthemum*
5. *Metalasia muricata*
6. *Passerina vulgaris*
7. *Protea scolymocephala*
8. *Rhus lucida*
9. *Ruschia macowarri*
10. *Salvia aurea*
11. *Sutherlandia frutescens*

12. *Thamnocortus spicigenus*
13. *Psoralea repens*
14. *Hermania myrrnifolia*
15. *Athanasia parviflora*
16. *Leucospermum praecox*
17. *Felecia amoena*
18. *Arctotis* sp.