



ENVIRONMENTAL MANAGEMENT PLAN

A. Construction Activities

1. Code of conduct

a) Environmental care

- i. Disturbance to flora is prohibited outside of designated construction areas for development (such as approved site clearing or alien invasive plant eradication). Any persons caught collecting, cutting, clearing, burning or otherwise disturbing plant material from prohibited areas is to face disciplinary actions (to be determined by the co-management body)
- ii. Disturbance to fauna is prohibited. Any persons caught hunting, snaring, capturing, or otherwise disturbing any animal, insect, fish, bird or nest area are to face disciplinary actions. Any animal or nesting site found to be in a demarcated area for development/construction is to be brought to the attention of the ECO
- iii. Any areas disturbed or damaged by construction activities without permission will be subject to reinstatement or rehabilitation to the contractor's/culprit's cost
- iv. Any persons found to be deliberately polluting any part of the site or adjacent areas will face disciplinary action (to be determined by the co-management body).
- v. All persons employed on the Victoria Country Club Estate development are to comply with the existing QEP and/or VCC environmental rules whilst working on the QEPNCC properties (rules to be supplied by Ezemvelo KZN Wildlife and VCC).
- vi. No water may be abstracted from any water sources/bodies on the site without permission from the co-management body and DWAF (if relevant). No swimming, bathing, or washing activities may occur in any water source/body on the site, Persons found in contravention of this will face disciplinary action (to be determined by the co-management body).
- vii. No open fires will be permitted on the site, unless authorised by the co-management body and relevant government authorities

b) Construction & visitor management

- i. All persons employed on the Victoria Country Club Estate development are to comply with the existing QEP and/or VCC 'Code of Conduct' documents whilst working on the QEPNCC properties
- ii. All persons employed in the development of the Victoria Country Club Estate may in no way interfere with neighbours or visitors to QEPNCC. All interactions with neighbours/visitors should be through the ECO and co-management body. Complaints from the public with regard to interference will be regarded in a serious light, and disciplinary action may be taken against contractors found to be in contravention of this.

c) Construction practices

- i. Areas for construction, including access routes are to be determined on a site layout plan. Areas for conservation and protection are to be determined on a site layout plan. Prohibited areas for QEPNCC visitors, and prohibited areas for construction/development staff are to be determined on a site layout plan.
- ii. QEPNCC visitors are to be made aware of construction activities, and prohibited areas, through signposting and demarcations.
- iii. Where necessary, prohibited areas or areas for construction are to be roped off/fenced or demarcated on the ground. Signposting of these areas is essential.
- iv. Where possible, temporary access routes and haul roads are to be located with designated areas for construction such that construction vehicle movement is confined to these areas, or approved routes between these areas. Pedestrian movement between construction areas is to be along approved routes only.

- v. Materials storage is only to occur within designated construction areas, and where practicable, within storage facilities in the site office/camp.
- vi. Any trees, plants or ecosystems that require protection within areas demarcated for construction are to be clearly tagged and/or taped. It is further advisable that their location is plotted on a site plan and their status is made known to all construction staff. Damage or disturbance to these trees, plants or ecosystems is liable for disciplinary action.
- vii. No persons involved in the development of the Victoria Country Club estate may access surrounding private property.

d) Site access

- i. Should existing access routes be used by construction vehicles, the roads and storm water systems are to be maintained in a condition similar to, or better than, prior to the onset of construction activities
- ii. No unauthorised site access is permitted
- iii. No persons will be permitted to stray from the approved site access roads or construction areas. All access pathways require approval from the ECO.

e) Site security

- i. Should the construction site be accessed via existing QEP or VCC access routes, the construction staff and delivery personnel are to adhere to any security regulations imposed by the facility in question. Similarly, the code of conduct relevant to the facility applies to all construction staff and delivery personnel whilst on the premises of the QEP or VCC.
- ii. The site/office camp facility is to be fenced. Further to this, any area of the site currently accessed by animals in the QEP is to be fenced during construction to prevent large animal entry.
- iii. A security company/guard is to be employed at the site office/camp for the duration of the site office activities. The security company/guard is to be in contact with the contractor by means of a 'Nlo-way radio or cell phone to deal with any emergencies. In the absence of a guard during working hours, the contractor will be responsible for controlling site access
- iv. The ESO is to notify the gate security of all scheduled deliveries, and delivery personnel are to sign in and out at the gate.
- v. Any person other than those involved in the development of the Victoria Country Club Estate wishing to enter the premises shall be required to sign in at the site offices and will require security clearance

f) Vehicle & Plant use/storage/management

- i. All plant is to be stored within the secure area of the site office/camp when not in use. The area is to be paved or suitably hardened to prevent contamination from oil/fuel leaks. No unauthorised access to the machinery is permitted. Signs are to warn of the penalties of trespassing.
- ii. If any vehicles/machinery are to be refuelled on site, then refuelling is to be undertaken at the designated dispensing area in the site office/camp, designed to prevent or contain any pollution.
- iii. All plant is to be maintained in good working order, and vehicle service histories are to be kept up to date to reduce potential noise and air pollution from vehicle emissions. All vehicles and machinery are to be provided with a service pan to be used to trap fuel leaks in the event of a breakdown.
- iv. No washing of plant is permitted in any area other than the area of the site office/camp designated for minor vehicle maintenance and refuelling.
- v. Only very limited vehicle maintenance and basic repair is permitted on site. This is to occur only in the designated area of the site office/camp, unless not practically possible. Should minor repair work occur in situ, it is to be conducted over drip trays/pans to prevent soil contamination.
- vi. All spare parts for machines/vehicles are to be stored in a manner preventing soil/water contamination.
- vii. Contaminated sand and water from wash slab drainage and repair areas, workrags and waste fuel/oil is to be disposed of at an appropriate wastewater or hazardous waste facility.
- viii. Vehicles transporting sand or finer grained materials are to have covered loads to prevent dangers to other road users (dust, falling sand/rocks).

g) Hazardous fuel & chemical use/storage/management

- i. No bulk fuel or oil storage is permitted on site without specific approval from the DAEEA. All bulk fuel storage is to be in compliance with the OHS Act. Bulk fuel should be stored in 1000 litre mobile browsers. If fuels are to be stored in 210 litre drums, the drums are to be positioned on drip trays and pumps are to be used to decant the contents for use.

h) Material use/storage/management

- i. Concrete is only to be mixed in an area demarcated for this purpose on a hardened surface, liners or mixing trays. All concrete spilled outside this area must be promptly removed and taken to a permitted waste disposal facility. After all concrete mixing is complete; all waste concrete must be removed from the batching plant and disposed of at an appropriate waste disposal facility. Storm water must not be allowed to flow through the batching area. Water laden with cement must be collected in a retention area for evaporation and not allowed to escape the batching area (no contaminated water is to be allowed to enter any drainage way). No concrete mixing tools are to be washed out in any other area than the specified concrete mixing area. Operators must wear suitable safety clothing.
- ii. Temporary soil or material stockpiles are not to be placed on any drainage line or adjacent to any watercourse. Building materials are not to be stacked in an unsafe or visually displeasing manor. Where practically possible, stockpiles should be created in areas out of view of QEPNCC visitors, and neighbouring residents. Where this is not possible, stockpiles should be screened, or should not exceed 1.5 metres in height. Stockpile areas should be reinstated to their original or acceptable landscaped condition after use.
- iii. Topsoil should be temporarily stockpiled, separately from subsoil and rocky material, when areas are cleared. If mixed with clay subsoil, the topsoil will lose its usefulness in site rehabilitation. Topsoil stripped from different sites must be stockpiled separately and clearly identified as such. Topsoil obtained from different sites of different soil types must not be mixed
- iv. Stockpiled topsoil should not be compacted and should be replaced as the final soil layer in site rehabilitation. No vehicles are to be allowed access onto the stockpiled areas. These stockpiles are not to be contaminated with any pollutants that may prevent their fertility, or inhibit vegetation growth in the long term.
- v. Stockpiled soil must allow for adequate drainage to prevent slumping and slope failure. The soil stockpile gradients are not to exceed the soils natural angle of repose, and no hazardous slopes are to be created. Stockpiled soil should be protected using erosion-control berms/bunds if exposed for more than 14 days during the wet season. It is recommended that topsoil stockpiles that may be exposed for more than a month be seeded with indigenous grasses, or covered with a suitable fabric to reduce erosion. These stockpiles are to be kept free of weeds and alien invasive plant colonisation.
- vi. Stockpiled vegetation/timber/logs from site clearing are not to pose a fire hazard or danger, and it is advised that this material is removed from site, or chipped, or composted as soon as practically possible.

i) Site clearing

- i. Burning of any area of the site for clearing purposes is forbidden unless permission is obtained from the co-management body and the relevant government authorities. Should any burning activities occur on site, immediate neighbours and I&APs are to be given notice of the intended timing and duration of the burning activities. The ECO and representatives of the Fire Department are to be notified of any authorised burning activities, and are to attend the activity if deemed necessary by the authority. Relevant emergency equipment and first aid are to be on hand.
- ii. It is recommended that soil conservation techniques be used on afforested areas of the site if construction activities to that area are only to commence in more than four weeks after afforestation. It is advised that logs are lined along the contour on steeper gradients to reduce storm water runoff velocity and sediment transport
- iii. Soil should be exposed for the minimum time possible once cleared, such that the timing of clearance is coordinated with the onset of construction. This will prevent wind and water erosion.
- iv. Vegetation to be cleared along drainage lines and on steep banks should only be removed at the onset of the construction of that area, or immediately prior to landscaping, to reduce soil erosion to the site.
- v. Any trees, plants or ecosystems that require protection within areas demarcated for site clearance are to be clearly tagged and/or taped. It is further advisable that their location is plotted on a site plan and their status is made known to all construction staff. Damage or disturbance to these trees, plants or ecosystems is liable for disciplinary action.
- vi. Removal of any vegetation is only to occur in areas demarcated for clearance. Disturbance to flora outside of these areas is strictly prohibited and liable for disciplinary action.
- vii. Refuse from site clearing activities is to be removed from the site and disposed of at an appropriate garden refuse facility. Vegetation/timber logs are not to be stockpiled for great lengths of time. These stockpiles pose a fire hazard and may even harbour dangerous reptiles. It is recommended that garden refuse is removed from site, chipped or composted as soon as practically possible.

- viii. Disturbance to any fauna is prohibited. No animals or their nests should be approached, disturbed, injured or killed. Fauna encountered in areas demarcated for construction/clearing are to be reported to the ECO immediately. The co-management body are to determine how the problem is to be addressed.

j) Service disruptions

- i. The contractor is to advise the ECO of any planned disruptions to water, electricity, road thoroughfare, or telecommunications at least 7 days in advance. The ECO is to timeously warn all I&APs who may be affected, as well as the relevant authorities, including the Local Municipality, National Road Agency, Telkom, Eskom, and/or Unmgeni Water as relevant
- ii. In the event of accidental disruptions, the ECO is to warn I&AP's as soon as practicably possible, and advise them of when the problem is likely to be addressed
- iii. All reasonable precautions must be taken during construction to avoid severely interrupting the traffic flow on existing roads, especially during peak periods
- iv. The integrity of private property fences must be maintained
- v. No telephone lines must be dropped during construction operations, except where prior agreement by relevant parties is obtained. All crossings must be protected, raised or relocated as necessary.

k) Site maintenance & erosion control

- i. All sites disturbed by construction should be monitored for colonisation by invasive alien plant species, and cleared of invasive alien plant species where necessary
- ii. All cut and fill surfaces need to be stabilised with appropriate material or measures when major civil works are complete
- iii. Erosion and donga crossings must be dealt with as river crossings. Appropriate soil erosion control procedures must be applied to all embankments that are disturbed or destabilised.
- iv. Adequate sedimentation control measures must be instituted at any river crossings when excavations or disturbance of riverbanks/beds take place. Adequate sedimentation control measures must be implemented where excavations or disturbance of drainage lines or a wetland may take place.
- v. Any slope stability or geotechnical issues/queries are to be directed to the Geotechnical Consultants.
- vi. Any sites thought to be of cultural/archaeological significance are to be demarcated, and no activities are to occur within these areas until such time as the relevant authorities have been notified, as required by AMAFA.

l) General safety

- i. The regulations of the Occupational Health and Safety Act, Act No 85 of 1993 are to be complied with at all times. Safety clothing and equipment must be utilised when necessary.
- ii. Measures must be taken to prevent any interference that could result in flashover of power lines due to breaching of clearances or the collapse of power lines due to collisions by vehicles and equipment
- iii. All tall structures must be properly earthed and protected against lightning strikes. Measures must be taken during thunder storms to protect workers and equipment against lightning strikes.
- iv. The process of excavation and backfilling must be carried out as a sequential process following one another as quickly as possible. Excavations must only remain open for a minimum period of time, and during this time they must be clearly demarcated. If excavations will place the public at risk, these sites are to be fenced.
- v. Residents directly affected by open trenches must be notified of the dangers and the duration of the activity
- vi. Blasting activities are to be conducted in accordance with the Explosives Act, Act No. 26 of 1956 and the Minerals act, Act No. 50 of 1991. Blasting may not endanger the public or private property. Measures must be taken to limit flyrock.

5. Pollution Control

- i. Littering on site and surrounding areas is prohibited. Clearly marked litterbins are to be provided on site. The litterbins are to be animal and weatherproof, and emptied daily (no litter to be left in the bins overnight). The Contractor must monitor the presence of litter on the site and in the site office/camp.
- ii. All waste generated on the site is to be removed from the site at intervals determined by the co-management body. No domestic waste is to be left on site overnight, unless securely stored in the waste facility at the site office/camp

- iii. The construction site is to be kept free of builder's waste at all times. Builder's rubble is to be removed from the construction site and disposed of at an appropriate waste disposal facility specifically for this purpose, and not indiscriminately over the construction site.
- iv. Burning or burying of builder's rubble/refuse is forbidden unless permission is obtained from the co-management body and the relevant government authorities. Should any burning activities occur on site, immediate neighbours and I&APs are to be given notice of the intended timing and duration of the burning activities. The ECO and representatives of the Fire Department are to be notified of any authorised burning activities, and are to attend the activity if deemed necessary by the authority.
- v. Contaminated soil must be treated and disposed of at a permitted waste disposal site, and the area rehabilitated immediately
- vi. The entire works area and all construction sites must be swept of all pieces of wire, metal, wood or other foreign matter to the natural environment

b) Liquid waste storage & management

- i. A secure area of the site office/camp is to be allocated for the storage of all liquid waste, including hazardous liquid waste. These facilities must be sited with the intention of preventing pollution of the surrounding area and environment
- ii. All spent oils, fuels, hazardous chemicals, contaminated soils and domestic liquid wastes are to be stored in appropriate sealed drums at the hazardous waste area of the site office/camp, and disposed of at the appropriate waste disposal facilities. All storage drums are to be labelled for their use.
- iii. All chemical/fuel/oil spills must be contained and cleaned up by the supplier or professional pollution control unit. Runoff from wash bays is to be intercepted and disposed of appropriately.
- iv. Toilet facilities should be managed and serviced by a qualified company. No disposal or leakages of sewerage should occur on or near the site.

c) Air & noise pollution & nuisances

- i. Speed limits must be implemented in all areas of the site and adhered to. Loads in transport are to be covered or netted to prevent dust and material from falling out of the vehicles, posing a hazard to other road users
- ii. Dust must be suppressed on access roads and construction sites during dry periods by the regular application of water or a biodegradable soil stabilisation agent. Water used for this purpose must be used in quantities that will not result in runoff and erosion.
- iii. No open fires are permitted on site, unless approved by the ECO and co-management body
- iv. All vehicles/plant/machinery must have an up to date service history, and be regularly maintained to reduce unnecessary noise pollution. Where necessary, silencers are to be utilised. All employees must be given the necessary safety ear protection gear when utilising noise generating plant. Construction activities are only to occur during normal working hours.
- v. Construction during public holidays or after hours is to be approved by the co-management body, and all neighbours/I&APs are to be informed of the inconvenience.
- vi. No loud music is allowed on site.
- vii. All site lighting is to be focussed in on the site to reduce disturbance to immediate neighbours