

APPENDIX 1:

(MINIMUM) CONSTRUCTION AUDIT CHECKLIST

PROJECT START-UP CHECKLIST

ENVIRONMENTAL ASPECT	YES/NO (√ or X)	COMMENTS
All environmental method statements required before commencement of the works have been submitted and approved		
A copy of the Contract Document is on Site		
Environmental Awareness education course has been given to everyone on Site and the attendance register given to ECO /ER		
Telephone numbers of emergency services are available on Site		
List of hazardous materials on Site with storage, handling and disposal procedures, and relevant MSDS sheets		
Location and type of boundary fencing has been erected and complies with the specification		
Solid waste management system has been established		
Wastewater management system has been established		
Location of construction camp and working area infrastructure comply with specifications		
All necessary fire-fighting equipment is on Site and in good working order		

Completed by:**Sign:****Date:**.....

WEEKLY CHECKLIST:

ENVIRONMENTAL ASPECT	YES/NO (√ or X)	COMMENTS
Contractor's camp is neat and tidy and the labourers' facilities are of an acceptable standard		
Integrated Waste Management control and removal system is being maintained		
Sufficient fire-fighting equipment is available on Site and is in good working order		
Wastewater control system is being maintained		
Boundary and other fences are being maintained		
Bunds/ drip trays are being emptied on a regular basis especially after rain)		
All construction vehicles are in good working order and no leakages are visible		
Refuelling of vehicles is in accordance with the EMPr and EA specifications		
No go areas, remaining natural features, nor infrastructure or trees have been damaged		
Dust control measures (if necessary) are in place and are effectively controlling dust		
Noise Control measures (if necessary) are in place and are working effectively		
Erosion control measures (if necessary) are in place and are effective in controlling erosion		
Stockpiles of topsoil are located within the boundary of the site and do not exceed 2 m in height		
Any spot fines, penalties recorded in the Site Diary		

Completed by: **Sign:** **Date:**

MONTHLY CHECKLIST:

ENVIRONMENTAL ASPECT	YES/NO (√ OR X)	COMMENTS
The EMPr is an item on the Monthly Site Meeting Agenda		
The Contractor has made staff numbers report available		
All new personnel on site are aware of the contents of the EMPr and EA and have been through the environmental awareness course		
Construction activities are being undertaken according to approved method statements		
Fuel and flammable material storage areas comply with general fire safety requirements		
Public complaints have been recorded and dealt with in a satisfactory manner		
Monthly Compliance Certificate has been completed		

Completed by:**Sign:****Date:**.....

SITE CLOSURE CHECKLIST

ENVIRONMENTAL ASPECT	YES / NO (√ OR X)	COMMENTS
Contractor has cleared everything not forming part of the permanent works		
Environmental Snag List has been compiled		
Re-vegetation and rehabilitation has been satisfactorily completed and in accordance with the Re-vegetation and Rehabilitation Specification		
All areas disturbed by the Contractor have been rehabilitated in accordance with the Re-vegetation and Rehabilitation Specification		
Outstanding fines have been deducted from the Final Payment Certificate		

Completed by:.....**Sign:****Date:**

MONTHLY COMPLIANCE CERTIFICATE

FOR PERIOD..... TO.....

CONTRACT:

ENGINEER'S REPRESENTATIVE:

SIGN:

Date of Submission:

Key activities on site during the month:

NON-CONFORMANCE

Area of activity:

Reason:

Responsible Party:

Results:

Corrective action taken:

Intended follow-up:

GOOD PERFORMANCE

Description of activity or action in which contract went beyond compliance towards responsible care for the environment:

INTERACTION WITH THE PUBLIC AND ADDITIONAL COMMENTS

*Supporting photographs to be attached if appropriate

Name: _____	Date: _____
Name of Auditor: _____	Construction Representative: _____

AUDIT QUESTION		YES	NO	ACTION	COMMENTS
Vegetation Management					
1	Are the relevant permits available for the cutting of protected trees and indigenous species such as fynbos?				
2	Have construction activities remained within the designated working areas?				
3	Has bush clearing been done according to the Standard determined by ECO?				
4	Have all the bush cuttings been removed from the construction site?				
5	Have all herbicide spraying been undertaken under the supervision of a registered Pest Control Officer.				
6	Was all herbicide usage undertaken according to Company's guidelines and the Standard for the Safe Use of Pesticides and Herbicides?				
7	Has one access route been used?				
Oil Spills					
8	Have any oil or diesel spills occurred on site?				
9	Have oil spills been reported to the ECO via a flash report within 24 hours of the spills occurring?				
10	Have oil spills been managed according to the Waste Management Procedure?				
11	Is there a stock of oil remediation chemicals on site?				
Erosion					
12	Have any complaints been received from property owners regarding occurrence of erosion on their properties as a result of construction activities?				

AUDIT QUESTION		YES	NO	ACTION	COMMENTS
13	Were any signs of erosion visible during the audit?				
Topsoil Management					
14	Has all the topsoil been backfilled or levelled on site?				
Fire Management					
15	Are the emergency numbers available on site?				
16	Have any incidents of veld fires occurred?				
17	Is the sufficient fire fighting equipment on site?				
Disturbance to the Natural Heritage Resources					
18	Were tribal graves or archaeological sites identified during the construction activities?				
19	If yes, were construction activities stopped immediately and the ECO?				
20	Was the HWC authority contacted?				
Property Access					
21	Was permission obtained from property owners before construction commenced?				
22	Were entrance gates, walls and paths rehabilitated to the property owner's satisfaction?				
Water Management					
23	Had any incidents of water pollution occurred?				
24	If yes, was a flash report issued within 24hrs to the ECO?				
25	Was the incident investigated and recommendations implemented?				
26	Is there sufficient potable water available?				
27	Are there sufficient portable toilets available?				

AUDIT QUESTION		YES	NO	ACTION	COMMENTS
Social Issues					
28	Were any public complaints registered and actioned?				
Waste Management					
29	Are there sufficient waste bins on site?				
30	Was litter noted during site inspection?				
Use of cement and/or concrete					
31	Was any excess cement of concrete noted during the site inspection?				
Environmental Records					
32	Is a copy of the EA as well as an EMPr available on site?				

APPENDIX 2:
METHOD STATEMENTS

Example Method Statement

Description of the Works	
Method	
Control Measures	
<i>Measure</i>	<i>Frequency</i>
Environmental Aspects	
Health and Safety Associated Risks	

APPENDIX 3:
UNDERTAKINGS

APPLICANT

I _____, the applicant, acknowledge that I am working in an environmentally sensitive area, have studied, and understand the contents of this document in its entirety. I hereby duly undertake to adhere to the conditions as set out therein including any conditions as may be set by the Environmental Authorisation.

Furthermore, I recognise and submit myself to the disciplinary procedures and associated penalty system as described in this EMPr.

Signed at thisday of.....20

.....
Signature of applicant

.....
Designation

CONTRACTOR

I _____, the Contractor acknowledge that I am working in an environmentally sensitive area, have studied, and understand the contents of this document in its entirety. I hereby duly undertake to adhere to the conditions as set out therein including any conditions as may be set by the Environmental Authorisation.

Furthermore, I recognise and submit myself to the disciplinary procedures and associated penalty system as described in this EMPr.

Signed at thisday of.....20

.....
Signature of contractor

.....
Designation

APPENDIX 4:
FIRE MANAGEMENT PROTOCOL

Fire as a Management Tool

Since the early pastoralists inhabited the Cape, fire is a tool to modify the vegetation for grazing, or to achieve some short-term goal such as hunting.

Intensive research into fire ecology in this last century has inspired a historic shift away from fire exclusion policies, to the application of management practices where fire is actively used for the production of water, eradication of invader species and the enhancement of biodiversity. The following paragraphs refer to the National Veldt and Forest Fires Act, 1998 (Act No. 101 of 1998).

Firebreaks

In terms of Section 12 and 14 every landowner must prepare and maintain a firebreak as determined in Section 13. Failure to do so is an offence in terms of section 25(3), unless exempted by the Minister in terms of Section 15.

Fire Fighting Preparedness

There is a duty on landowners to have equipment, protective clothing and trained personnel available in the eventuality of fire on the property (section 17). Failure to meet this requirement is an offence in terms of section 25(4).

Actions to Fight Fires

Every landowner must do everything in his power to stop the spread of fire from his land onto that of any adjoining land (section 18(1) (b)). Failure to do so is an offence in terms of section 25(5).

Agreements for Mutual Assistance

Section 19 of the Act provides for agreements to be entered into to provide mutual assistance in fighting of fires. These agreements may provide for payment of compensation for the assistance rendered.

Regulations

The Minister may make regulations in terms of section 20 of the Act to deal with *inter alia*:

- any matter that may or must be prescribed in terms of the Act;
- model constitutions of Fire Protection Associations; and
- procedures relating to the registration of fire protection associations and the election of certain fire protection officers.

Regulations promulgated in Government Gazette No. 24870 dated 16 May 2003 regulate Fire Protection Associations.

Penalties

Section 24 of the Act makes provision for the imposition of a fine and/or imprisonment for offences committed in terms of section 25.

Presumption of Negligence

Should any person institute civil proceedings for loss suffered from a veld fire that a defendant caused, or started, or spread from land owned by the defendant, the defendant is **presumed to have been negligent** until the contrary is proven--- unless the defendant is a member of a fire protection association (FPA) in the area where the fire occurred (section 34).

Thus if the operator is a member of a FPA the presumption of negligence does not arise and the ***onus is then on the plaintiff*** to prove the operator's negligence.

The plaintiff must prove that any act or omission to act by the defendant was wrongful. Mere negligence is however sufficient to constitute an offence in terms of section 25.

The responsibilities of people who own or control land

The landowner on whose land a fire may start, or from whose land it may spread across boundaries, must have in place:

- Have prepared firebreaks on own side of the farm boundary, if there is a reasonable risk of fire;
- Have available such equipment, protective clothing and trained personnel required to extinguishing such fire as may occur. As prescribed in the regulations. If no regulations are applicable, then only as reasonably required in the circumstances;
- Take all reasonable steps to notify the Fire Protection Officer (FPO) of the local FPA should a fire start; and
- Do everything in their reasonable power to stop the spread of the fire.

The Act also requires that should the owner be absent, a known and identified other person responsible needs to be present on or near this land to:

- Extinguish a fire if one breaks out, or assist or instruct others to do so; and
- Take all reasonable steps to alert the neighbours and the FPO.

The owner may appoint an agent to act on his or her behalf to perform these duties.

General construction guidelines

Tracer Belts ("Skoffel" Belts) prepared for prescribed burning should be to a minimum width of two and half times the height of the adjacent vegetation *including* further a brush cut shoulder of 1m. Hoed vegetation should be raked and dispersed deep into the area to be burnt –if piled too close to the tracer's edge it poses a fire hazard and suppresses vegetation growth if stacked too densely. Where possible avoid steep gradients and the routing of tracer belts perpendicular to steep slopes to prevent soil erosion. Existing cut fire belts on the boundary should be bush cut once a year before the start of the fire season, preferably in October month. Special attention to be given to these areas in regards to erosion, especially wind erosion. Other patrol roads will also serve as firebreaks and be maintained as such.

Brush-Cut and Hoed Belts are wider than tracer belts (5-10 m and wider), and are maintained on a regular basis, and should only be routed over less steep terrain to avoid soil erosion. Preferably, a narrower tracer belt to be constructed as an "ignition line" and the greater remain brush cut to reduce the fuel load. Pre-determined fire belts will to be in place before a prescribed burn takes place. A tractor with a bush cutter is to be used for this purpose.

It is important that only the above ground portion of any vegetation is hoed-off, ensuring that the roots of re-sprouting plants can continue to bind the soil and to prevent erosion.

No chemical vegetation suppressants to be used in the preparation and maintenance of tracer/hoed belts.

Recommended fire fighting requirements

Where members are required to provide fire-fighting resources as stipulated, the following requirements need be met at all times:

- Maintain fire-fighting equipment in good condition, for inspection and testing weekly during the fire season; and
- Minimum fire fighting equipment for prescribed burns must comply with the conditions of each permit.

Minimum level requirements recommended for fire-fighting equipment:

- Fire beaters 10
- 15-liter rucksack pumps 5
- Drip torches 1
- Rake hoes 10
- First Aid kits 1
- Cell phone 1
- Trailer pump or “bakkie sakkie” fast reaction unit carrying minimum 500 litre of water 1

Minimum requirements recommended fire-fighting personnel:

- Fire Fighters 9
- Crew Leader 1

Minimum safety equipment and protective clothing recommended for any person involved in fire fighting:

- One 100% cotton overall;
- A cotton T-shirt as undershirt;
- One pair leather boots;
- Helmet fitted with a heat shield visor, or a pair of large goggles; and
- Suitable pair of gloves.

The above minimum requirements and equipment may change according to the Cape West Coast FPA plans as currently being formulated within the communities.

Guidelines Regarding Fire-Belts

Tracer belts for prescribed burn preparation of backfire defenses, as well as brush-cut and hoed belts can be used as a management tool where such an aid is considered essential, or indeed deemed preferable to burnt fire belts, or to assist with the containment or spread of a potential fire. Consider terrain features such as roads, footpaths, gorges, rivers or recently burnt areas for control lines as alternatives to hoed belts.

Prescribed Burns

Vegetation needs fire on a 12 to 15 year cycle. After any burn, *continuing patrols* must endure for a period of 48 hours; with *intermittent patrols* for an additional minimum period of 5 – 7 days being sensible. Weather forecasts and fire danger indices are to be monitored to formulate appropriate management actions during the mopping up and patrol operations.

Only in exceptional cases, allow burns on Fridays or on the day prior to a Public Holiday. No burning may be carried out on Saturdays, Sundays or Public Holidays. Night time burning is permissible and considered safer if personnel safety can be reasonably assured.

Weather patterns to be studied before any burning operation is initiated. Weather patterns to be stable. Wind speed and direction should get special attention. Extra care must be exercised on days that can be an indicator to unstable on coming weather systems. During all burning operations or fire suppression operations, weather forecasts should preferably be obtained at least 6-hourly and recorded formally on the farm for the preceding 24 hour cycle.

If possible, no area larger than that, which can practically be burnt in 24 hours, should be subjected to prescribed burning. Operations that take longer than a day to complete could be subject to unexpected weather changes.

Planning and Authorisation process before any burn:

- Discuss with neighbours and reach agreement;
- Determine mutually acceptable dates;
- Have enough people present to prevent it from spreading;
- If the neighbours are not present on the agreed day, you can burn in his/her absence;
- Give 14 days' written notice to neighbours and FPA of day/s on which you intend burning;
- Burning cannot go ahead if FPA objects; and
- Determine high fire danger rating.

Requirement for firebreaks

The Act does not specify requirements for firebreaks. This is because requirements vary from one situation to the next. Local practice and local issues must determine what these reasonable requirements are. The Act states that the owner must pay attention to weather, climate, terrain and vegetation in deciding on how to prepare the break.

The break must:

- Be wide enough and long enough to have a reasonable chance of stopping runaway fires but not so wide as to cause soil erosion
- Be reasonably free of inflammable material

Exemption from preparing firebreaks

An owner can apply to the Minister to be exempt from preparing firebreaks. The Minister can grant an exemption "for good reason". The FPA in the area must be consulted before seeking any such exemption.

A fence patrol road and brush cut firebreak should both protect the property from outside fire as well as fires emanating inside the property from spreading. This will further protect the boundary fence from fire damage in the case of a fire. Internal patrol and management roads further provide useful breaks that are to be used to fight controlled or uncontrolled burns.