

**Annex B - Distribution Environmental Screening Document (DESD)**  
(Informative)

**Reticulation Powerlines and Ancillary Services**

Ratified and accepted by:

Environmental Practitioner/ Senior Environmental Advisor/Senior Supervisor Engineering Survey

**(one signature above please)**

Accepted by Land Owner/s/Users .....  
(Kindly cross-out what is non-applicable)

Landowner/land-user declaration:

I have seen the completed document and accept the recommendations made :

**Assessor/s**

Form completed by **Mahlatse Moeng**

Signature: 

in consultation with : **Mvikeli Dlamini (surveyor)**

Signature: .....

CAPACITY (e.g. land owner, specialist): .....

DATE COMPLETED: **27 July 2021**

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**Instructions**

1

**GUIDELINE TO DESD COMPILERS**

**1. PURPOSE**

The purpose of this DESD is to:

- Determine whether or not the project triggers a listed activity in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended and the Environmental Impact Assessment Regulations (EIA) 2014, and thus require an Environmental Authorisation before construction can commence.
- Identify and mitigate the negative impact of Eskom's activities to a minimum in line with both Legislation and Eskom's Environmental Policies.
- Inform route selection and engineering design.
- Provide opportunity for alternative selection of routes upon assessment of impacts on proposed location and provide mitigation measures.

**2. INSTRUCTIONS AND SUBMISSION PROCESS**

2.1 The DESD must be completed on site, ensure that all three (3) alternatives are assessed Mark the appropriate box with an 'x' where applicable.

2.2 Please COMPLETE ALL REQUIRED INFORMATION and where the question / statement is not applicable mark N/A.

2.3 DESD forms must be accompanied by a locality map with a project drawing and photographs of the site.

2.4 Indicate sensitive areas on a map and/or spanning plans.

2.5 DESDs must be **scanned and e-mailed with supplementary information** to the following people:

- i. To the responsible Head of Survey or Senior Supervisor Engineering Survey who issued work/ TO (and copy environmental section). A hardcopy must be sent to Senior Supervisor Engineering Survey.

### **3. APPROVAL OF DESDs AND FEEDBACK TO CONTRACTOR/ CNC**

**Step 1:** Head of Survey or Senior Supervisor Engineering Survey will register the DESD submission and forward the DESD and supplementary information to Environmental Management

**Step 2:** Environmental Management has **5 days** to approve/ reject the DESD or to seek additional information. During this time the DESD will be evaluated, the impact of the project assessed and mitigation measures identified.

**Step 3:** Feedback on the DESD will be given by returning (i) a ratification sheet, and (ii) an Environmental Management Plan

**Step 4:** Head of Survey or Senior Supervisor Engineering Survey will forward the above documentation with the spanning sheets, way-leaves and/or stat approvals (if applicable) to the relevant Project Engineering Designer

**Step 5:** The Project Engineering Designer shall ensure that the DESD and documents specified in Step 3 above is included in the Project Package that is given to the contractor and relevant CNC. These documentation must form part of the project specification to the project engineering designer and contractor (to the CNC if not constructed by a contractor).

**Step 6:** The Project Execution representative shall inform Environmental Management of construction start 5 days in advance.

**Step 7:** Environmental Management will randomly select 2 to 5 projects per month to audit compliance with ratification conditions and EMP. The NCR process will be followed for non-compliance.

### **4. ADDITIONAL INFORMATION NEEDED WITH DESD SUBMISSION**

Additional supplementary information is required to apply for relevant permits from authorities and to adequately assess the DESD. Note that DESDs submitted with no supplementary information might be delayed and/or rejected. The following must accompany the DESD application. Please indicate what supplementary information has been submitted with DESD.

## SECTION A: PROJECT SCOPE AND ADDITIONAL INFORMATION

### 1. PROPERTY INFORMATION (PLEASE COMPLETE IN FULL)

Area/ Town:	Van Stadensrus is the nearest		
Municipality:	Naledi Local municipality		
Rural Scheme Feeder:	Welbedacht-dam-Van Stadensrus 11kV and Driedorp-Boesmanskop 22kV		
Voltage:	22kV		
Supply from (Scheme name, pole numbers for tee-off):	WSR 200-86-68-50		
Erf or Farm Name and Nr etc. (property for which application is made)	Workshop 97 portion 2		
Street Address :	N/A		
GPS Coordinates of Property (A logical centre point. Format based on WGS84):	Refer to DGN		
Extent of Property (Hectares):	-		
Land Use (e.g. Agricultural, Residential, Industrial, etc.):	Agricultural		
Land Owners Telephone Nr:	(Home)	(Cell)	(Fax)
Land Owners Email Address:			
Total Length of Line (m)	3873.93		

### 2. PROPERTIES TRAVERSED

Farm Name:	Workshop 97 portion 2		
Farm Number (Registration Nr, Division and Sub-division):			
GPS Coordinates of Property (A logical centre point. Format based on WGS84):	29°55'34.21" S 27° 4'17.07"E	Line Length (m):	3873.93
Farm Name:			
Farm Number (Registration Nr, Division and Sub-division):			
GPS Coordinates of Property (A logical centre point. Format based on WGS84):		Line Length (m):	
Farm Name:			

Farm Number (Registration Nr, Division and Sub-division):			
GPS Coordinates of Property (A logical centre point. Format based on WGS84):		Line Length (m):	

### 3. PROJECT SCOPE AND SUPPLEMENTARY INFORMATION

Give a brief description of the project scope, including all activities anticipated:				
Will the power line/ cable be 300m or longer? (Y/N)	YES		NO	
Will the line be near any old structures or buildings or known historical towns. <b>Approx. 40m away from occupied farmhouse</b>	YES		NO	
Are there any marked or unmarked graves on the route/ or on site?	YES		NO	
Will any planned activity or infrastructure be within 100meters of a watercourse (rivers/ streams/ dams)? <b>+/- 40m away</b>	YES		NO	
Is any portion of the power line or cable or any other infrastructure within 32m of a watercourse/ wetland? <i>If yes , is the physical footprint of the structure 100 square meters or more</i>	YES		NO	
Will any planned activity or infrastructure be within 500meters of a wetland (seasonal and permanent)?	YES		NO	
Is any portion of the power line or proposed activity within 100m of the high-water mark of the sea/ estuary/ lagoon in the Urban area and 1000m in the rural areas? <b>N/A</b>	YES		NO	
Is any property affected a nature reserve or conservancy?	YES		NO	
Will the power line be going through or adjacent to a forest/ plantation area?	YES		NO	
Will any portion of project be cabled through veld/ natural vegetation? <b>Line not cable but will traverse natural veld</b>	YES		NO	
Will any portion of project be cabled through a river-bed/ stream?	YES		NO	
Are new access roads/ tracks needed to maintain & operate the power line?	YES		NO	
Are there any protected trees/ heritage trees along the power line or close to it? (Owner might know)	YES		NO	
Will natural/ indigenous vegetation have to be removed prior to construction?	YES		NO	
Did you observe any evidence of wildlife in close proximity to the power line? For example, birds, nests, giraffe, elephants, etc.	YES		NO	

## SECTION B: ENVIRONMENTAL IMPACT SCREENING

1. WATER RESOURCES					
Aspect (Mark with an 'X' if applicable)		Present Condition (Mark with an 'X' if applicable)		Potential Impact (Mark with an 'X' if applicable)	
Streams	<b>X</b>	Non-seasonal/ Permanently Wet Watercourse	<b>x-stream is seasonal and had wetland characteristics</b>	Erosion of bed and banks of the watercourse	<b>x</b>
Rivers	<b>N/A</b>	Seasonal Watercourse/ Dry waterbed	<b>N/A</b>	Compaction of ground of bed and banks of a watercourse	<b>N/A</b>
Dams	<b>X</b>	Man-made Dam or other watercourse	<b>x-farm dam along natural stream channel</b>	Activity may divert/ restrict the flow of watercourse	<b>N/A</b>
Wetlands	<b>X</b>	Degraded watercourse (in poor condition)	<b>N/A</b>	Activity has the potential to cause flooding	<b>N/A</b>
Sea/ Estuary	<b>N/A</b>	Drainage Channel	<b>x</b>	Risk of oil, fuels, hydraulic fluids, chemicals or other pollutants near watercourse resulting from activity	<b>x</b>
Floodplains	<b>N/A</b>	Pristine Condition	<b>N/A</b>	No Impact	<b>N/A</b>
Springs	<b>N/A</b>	Alien Vegetation	<b>N/A</b>	Other (specify):	<b>N/A</b>
Other (specify):		N/A		N/A	

2. SOIL					
Aspect (Mark with an 'X' if applicable)		Present Condition (Mark with an 'X' if applicable)		Potential Impact (Mark with an 'X' if applicable)	
Sandy	Loamy soil	Unstable rocky or steep slopes	x- slightly steep slopes but not unstable	Contamination of soil with concrete and cement	x
Rocky	X- some parts on top of ridge	Saturated/ wet soils/ shallow water table	N/A	Compaction of soil due to driving	x
Clayey	N/A	Sensitive to erosion or evidence of erosion in the area	x	Erosion	x
Other (Specify):	N/A	N/A	N/A	N/A	

3. TOPOGRAPHY					
Aspect (Mark with an 'X' if applicable)		Present Condition (Mark with an 'X' if applicable)		Potential Impact (Mark with an 'X' if applicable)	
Flat	N/A	Unstable rocky or steep slopes	Slightly steep slopes	Difficult to construct in area	N/A
Ridgeline	N/A	Erosion present on site	x	Erosion	x
Mountainous/ Side slope of hill/ mountain	X side slope	Steep slopes with loose soil	N/A	Difficult vehicular access	no
Undulating plain/ low hills	x	Rocky outcrops	x- at some portions	New access roads needed	no
Dune (In-land or Coastal)	no	Dolomite, sinkhole or doline areas	no	Seasonal dune movement (impact on clearance)	N/A
Sea-front	N/A	Any other unstable soil or geological feature	N/A	Other (Specify):	N/A
Valleys/ Ravine/ Donga		Other (Specify):			
Other (Specify):		N/A			

4 GROUNDCOVER AND FLORA					
Aspect (Mark with an 'X' if applicable)		Present Condition (Mark with an 'X' if applicable)		Potential Impact (Mark with an 'X' if applicable)	
Natural Vegetation	x- mostly grasslands	Natural veld in good condition	x	Contamination of ground due to driving during construction	x
Alien Vegetation	unconfirmed	Natural veld with scattered aliens	unconfirmed	Trampling and loss of natural vegetation due to driving and walking over it	x
Bare Soil	x- mostly next to new proposed sub	Natural veld with heavy alien infestation	no	Fire risk	x
Other (Specify):		Thick bush	no	Erosion risk x	
		Gardens/ Sport fields		Vegetation clearance is required for construction and maintenance: no	
		Paved/ hardened Surface		Other (Specify):	

5 FAUNA					
Aspect (Mark with an 'X' if applicable)		Present Condition (Mark with an 'X' if applicable)		Potential Impact (Mark with an 'X' if applicable)	
Birds (Specify if you can identify type, e.g. vulture, eagle, blue crane, raptor):	None observed during visit. Landowner mentioned vultures can be seen frequently in the area	Bird nests present	None observed	Threat of electrocution	X
Mammals	x- cattle; ground squirrels	Game (Giraffe, Elephants, etc)	N/A	Threat of collision/electrocution	X
Other (Specify):		Other (Specify):		Other (Specify):	

6.RESTRICTED AREAS			
Aspect (Mark with an 'X' if applicable)		Potential Impact (Mark with an 'X' if applicable)	
Nature Reserve/ Conservancy	N/A	Construction within nature reserve or a conservancy	N/A
Heritage Site/ Areas of cultural significance	South African heritage resource agency (SAHRA) palaeontology map indicates this area of high paleontological sensitivity	Loss of natural vegetation/ biodiversity	X
Green belts/ Vegetation Corridors	N/A	Require permits	Comments required from SAHRA due to paleontological sensitivity
Residential Areas	x- houses next to T-off	Objection from public/ other interest groups	None received
Sacred/ Holy Grounds	None observes	Threat of Encroachment/ Direct Impact on restricted area	N/a
Other (Specify):		Other (Specify):	

7.VISUAL AESTHETICS			
Aspect (Mark with an 'X' if applicable)		Potential Impact (Mark with an 'X' if applicable)	
Easily Seen	x	Infrastructure will be obtrusive in landscape (not fit in)	x
Hidden Partially	NO	Objection by members of public/ interest group/ owners	None
Hidden Completely	No	Negatively impact on a business (e.g. Tourism)	None foreseen
Other (Specify):		Other (Specify):	



### 8.NATURAL HERITAGE

Aspect (Mark with an 'X' if applicable)		Potential Impact (Mark with an 'X' if applicable)	
Area of cultural significance	None known	Infrastructure will be obtrusive in landscape (not fit in)	x
Known Archaeological objects present on site	No	Objection by members of public/ interest group/ owners	None
Known Palaeontological objects present on site	None known- South African heritage resource agency (SAHRA) palaeontology map indicates this area of high paleontological sensitivity . See sensitivity screening report as addendum to this DESD	Negatively impact on a business (e.g. Tourism)	No
Monuments	No	Threat of encroachment	No
Graves	No	Direct impact (e.g. Cutting of heritage trees, etc.)	No
Meteorites	No	Require permits/ other special permission	Will need to submit paleontology specialist report to SAHRA for comment to SAHRA before construction can commence
Ruins/ Old buildings (structures older than 60 years)	None that will be impacted by line construction	Deface/ damage to heritage resource	No
Windbreak Trees/ Trees with heritage significance/ Trees registered as a heritage resource/ national champion tree	None	Objection by public/ interest group	NO
Other (Specify):		Other (Specify):	

### 9. LAND USE, COMMERCIAL & OTHER INFRASTRUCTURE

Aspect	Potential Impact
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(Mark with an 'X' if applicable)		(Mark with an 'X' if applicable)	
Agriculture / Farm lands (Crops, Orchards, <b>Grazing</b> , etc.) Please Specify:	x	Objection by members of public/ interest group/ owners	x- claim around electrocution of cow of landowner to be resolved before landowner can sign wayleave.
Forestry Area	no	Negatively impact on a business (e.g. Tourism)	no
Mining Activity ( including sand mining): Please specify:	no	Impact on centre pivots or other farming/ mining implements	no
Factories/ Shops/ Industrial (Please specify):	no	Threat of encroachment with or contact( Safety risk/ clearance)	x- if clearance is compromised by high vehicles
Road Crossings or near main roads (National Roads, etc.)	no	Construction limited to specific season/ time period	x
Other infrastructure (e.g. <b>Railways, communication towers, existing power lines</b> , sewer, water pipes, cables) Please specify:	x- Telkom line, railway and existing powerline	Loss of orchards, crops, etc.	None
Air fields, landing strips/ wind turbines (Please specify):	No – just windmills in vicinity	Other (Specify):	

**13. SPECIAL CONDITIONS TO BE ADHERED TO DURING DESIGN / CONSTRUCTION / OPERATIONS PHASES** (specific issues identified during the scoping as needing attention/migratory measures i.e. anti-erosion berms, bird flappers, protected trees, avoid wetlands with vehicles, landowner's specific request, etc.)

**Key points to note:**

- a) Project will require **General Water use authorisation** to be obtained from Department of Water and Sanitation as portion of line situated within 100m from the edge of a stream and 500m within edge of wetland area. In order to submit this application, would need landowner to have signed the wayleave as landowner permission is required for application for a General authorisation
- b) Due to project area indicated as falling within an area identified by the South African Heritage Resource Agency as being of a high paleontological sensitivity, we will be required to undertake **a paleontology specialist study** and submit to SAHRA for comments before construction can commence.

## **Annex C – Generic Environmental Management Plan (Normative)**

### **ENVIRONMENTAL MANAGEMENT PROGRAMME**

#### **Conditions of Environmental Management Plan to be adhered to during construction and operational phase:**

- 1.1 The Eskom project manager or coordinator shall be responsible for ensuring that the land owners have been informed before any work is carried out on site. Contractors shall find out if the landowners have been informed before moving onto site.
- 1.2 No infrastructure may be placed with 100 meters of edge of rivers, streams **(Permit required!!!)** **If this cannot be avoided, consultation is needed with Department of Water and Sanitation and an application for a Water Use License (WULA) or General Authorisation. Please contact the Land Development-Environmental Management Department to provide this service.**
- 1.3 No Infrastructure may be placed within 500meters of any wetland (seasonal or permanent) without permit. **(Permit required!!!)** **If this cannot be avoided, consultation is needed with Department of Water Affairs and an application for a Water Use License (WULA) or General Authorisation. Please contact the Land Development-Environmental Management Department to provide this service.**
- 1.4 No Infrastructure may be placed within 100meters of the high-water mark of the sea or estuary or any river with a saline component (particularly relevant to coastal towns) without an Environmental Authorisation (on completion of EIA process). **Please contact the Land Development-Environmental Management Department to provide this service.**
- 1.5 No tree cutting/ clearance/ pruning may be done without identifying the type of tree, identifying whether it is a protected tree or not and/ or whether it is in a forest/ plantation area. **(Permit required!!!)** **A permit is required if Eskom needs to cut/ disturb any protected tree, champion tree, heritage value tree or any tree in a forest/ plantation area. Please contact the Land Development-Environmental Management Department to provide this service.**
- 1.6 No fences, gates or locks shall be damaged to obtain access onto a line route. Arrangements shall be made in advance to obtain permission for access.
- 1.7 Use of private roads shall be arranged in advance. Any damage to private roads shall be repaired at the contractor's expense and to the satisfaction of the landowner. This shall be the responsibility of the project manager or coordinator.
- 1.8 Gates shall be left as they are found, i.e. closed gates shall be kept closed and open gates shall be left open. Gates to adjacent properties or onto public roads shall be closed at all times. Any Eskom gates installed on the line route shall be kept closed and locked except while stringing is taking place. Open gates shall be guarded to prevent animals straying and unauthorised persons and vehicles entering into adjacent camps or properties.
- 1.9 Permission shall be obtained from landowners before any water is used.
- 1.10 No fires shall be lit on private property. If fires are lit on Eskom's property or in the construction camp, provision shall be made that no accidental fires are started. No firewood shall be collected in the veld.
- 1.12 No property may be accessed after normal working hours except with the permission of the landowner. Privacy shall be respected at all times.

1.13 Eskom, Eskom's contractors and their employees shall at all times be courteous towards landowners, tenants and the local community.

1.14 Eskom, Eskom's contractors and their employees shall not cause damage to property, crops or animals. Activities that may cause conflict with landowners, tenants, the local work force or the local community shall be avoided. Should conflict arise it shall be immediately reported to the Eskom project manager or coordinator.

1.15 Vehicles shall be driven at a moderate speed on private roads and stay within the statutory speed limit on public roads.

1.16 All movement of vehicles shall take place on the established Eskom servitude road or on private roads as agreed in advance. Keep to existing tracks. No movement shall take place through the veld.

1.17 Special care shall be taken to prevent excess damage during wet weather.

1.18 If any vehicle should get stuck, the damage shall be repaired immediately so that no deep ruts remain.

1.19 Any damage to private property shall immediately be reported to Eskom and the owner. The damage shall be rectified immediately if possible and/or appropriate compensation shall be paid to the owner at the discretion of the project manager/coordinator in consultation with the property owner, Tender committee approval shall be obtained. A record of damages and rectifying action shall be kept. The landowner's satisfaction with the outcome of rectifying action shall be obtained in writing.

1.20 A proper system of waste management shall be instituted in the construction camp. This entails that sufficient waste bins are available on site and in the construction camp. The waste shall be dumped at an approved waste disposal site. No containers, scrap metal, conductor etc. shall be left on site. All scrap shall be removed and taken to an appropriate disposal site. No oil, diesel or other chemicals shall be spilled or discarded anywhere. If an accidental spill occurs, it shall be reported immediately and cleaned to the satisfaction of Eskom and the landowner. No waste shall be left in the veld or on the line route.

1.21 Washing and toilet facilities shall be provided on site and in the construction camp. The facilities shall comply with Eskom standards and shall have the approval of the landowner.

1.22 Herbicides shall only be applied with Eskom's permission and in accordance with the Eskom Policy on Herbicides ESKPBAAD4.

1.23 Camp and office sites shall be dismantled and removed after completion of the construction phase of the project. The site shall be rehabilitated to as close as possible to its original condition to the satisfaction of the landowner, which shall be in writing.

1.24 All excavations shall be enclosed to prevent animals or people from accidentally falling into excavations.

1.25 No trees shall be cut or removed without prior permission from the landowner. Permits shall be obtained for the cutting and removal protected trees (protected trees shall be dealt with in 2, **Special conditions**)

1.26 Should any natural heritage object be found, or exposed during excavations, all work shall be terminated immediately and the finding reported to the Project Manager who shall inform the Eskom Environmental Practitioner and the SAHRA.

**ADDITIONAL SITE SPECIFIC CONDITIONS:**

**Key points to note:**

- a) Project will require **General Water use authorisation** to be obtained from Department of Water and Sanitation as portion of line situated within 100m from the edge of a stream and 500m within edge of wetland area. In order to submit this application, would need landowner to have signed the wayleave as landowner permission is required for application for a General authorisation
- b) Due to project area indicated as falling within an area identified by the South African Heritage Resource Agency as being of a high paleontological sensitivity, we will be required to undertake **a paleontology specialist study** and submit to SAHRA for comments before construction can commence.

	Y		N
RECOMMENDED FOR COMPLIANCE AUDITING DURING CONSTRUCTION? YES	<input checked="" type="checkbox"/>	N/A	<input type="checkbox"/>

## 2 Special conditions

(Specific issues identified during the scoping as needing attention i.e. erosion berms, bird flappers, protected trees. etc.).

### Key points to note:

- a) Project will require **General Water use authorisation** to be obtained from Department of Water and Sanitation as portion of line situated within 100m from the edge of a stream and 500m within edge of wetland area. In order to submit this application, would need landowner to have signed the wayleave as landowner permission is required for application for a General authorisation
- b) Due to project area indicated as falling within an area identified by the South African Heritage Resource Agency as being of a high paleontological sensitivity, we will be required to undertake **a paleontology specialist study** and submit to SAHRA for comments before construction can commence.

**Annex C**  
(continued)

**TYPICAL MITIGATION MEASURES**

ENVIRONMENTAL CONCERNS	MITIGATION MEASURES
<b>AGRICULTURE</b>	
Loss of standing crop due to access road and tower work site.	<ul style="list-style-type: none"> <li>- limit width of access and size of tower site.</li> <li>- avoidance of crop areas.</li> <li>- monetary compensation for crop loss.</li> <li>- time construction to avoid growing season.</li> </ul>
Soil Compaction	<ul style="list-style-type: none"> <li>- scheduling activities to times of the year when soils are least susceptible to compaction.</li> <li>- stop activities when ground conditions are poor.</li> <li>- use of equipment with low bearing capacity.</li> <li>- chisel ploughing.</li> </ul>
Construction of new lines	<ul style="list-style-type: none"> <li>- locate access roads along existing traffic routs.</li> </ul>
Topsoil – subsoil mixing/soil rutting	<ul style="list-style-type: none"> <li>- scheduling activities.</li> <li>- stop activity when ground conditions are poor.</li> <li>- use of equipment with low bearing capacity.</li> <li>- use of gravel roads.</li> <li>- addition of manures to offset fertility loss.</li> <li>- compensation for reduced soil pEAactivity.</li> <li>- removal of spoil and/or bentonite from foundation operations.</li> <li>- Segregation of topsoil and subsoil.</li> </ul>
Disturbance to farm operations	<ul style="list-style-type: none"> <li>- maintain contact with landowner/tenant regarding preferences.</li> </ul>
Loss of livestock	<ul style="list-style-type: none"> <li>- employ noise control measures near sensitive livestock.</li> <li>- Construction of farm gates.</li> <li>- Securing farm gates.</li> <li>- Clean-up construction materials which could be ingested.</li> <li>- Compensation for lost, injured livestock.</li> </ul>
<b>SOCIAL IMPACTS</b>	
Mud and Dust	<ul style="list-style-type: none"> <li>- wetting down dry soils.</li> <li>- chemical control of dust.</li> <li>- cleaning roads to remove mud.</li> <li>- temporary planting of grasses.</li> </ul>

## Annex C

(continued)

Aesthetics	<ul style="list-style-type: none"> <li>- screen with natural or planted vegetation restoration.</li> <li>- avoid linear access down the right-of-way.</li> <li>- addition of topsoil to gravel access roads.</li> <li>- hoarding construction sites.</li> <li>- installation of landscaping in advance of site completion.</li> </ul>
Inconvenience	<ul style="list-style-type: none"> <li>- select route and method of installation to suit landowners' conditions.</li> <li>- select timing of activity.</li> </ul>
Heritage resources	<ul style="list-style-type: none"> <li>- avoidance/isolation.</li> <li>- design measures to make facility less obtrusive.</li> <li>- screening.</li> <li>- alternate methods of equipment.</li> <li>- protection by use of enclosures, barrier fencing, covering.</li> <li>- salvage in conjunction with SAHRA.</li> <li>- relocation in conjunction with SAHRA.</li> </ul>
Tourism and recreation resources	<ul style="list-style-type: none"> <li>- design measures to make facility less obtrusive or disruptive.</li> <li>- screening and restoration.</li> <li>- minimise noise and dust.</li> <li>- safety precautions to protect the public.</li> <li>- scheduling to avoid peak use periods.</li> </ul>
<b>WATER QUALITY</b>	
Sedimentation of streams due to erosion from the right-of way.	<ul style="list-style-type: none"> <li>- minimise use of slopes adjacent to streams during soils testing, construction and maintenance.</li> <li>- maintain a cover crop.</li> <li>- retain buffers.</li> </ul>
Stream bank erosion.	<ul style="list-style-type: none"> <li>- mechanical erosion control.</li> <li>- retain shrubby stream bank vegetation and selectively cut or prune trees during line clearing/maintenance.</li> <li>- selective spraying of herbicides.</li> <li>- Mechanical erosion control.</li> </ul>
Impedance of natural flow streams/others surface waters.	<ul style="list-style-type: none"> <li>- use and maintenance of appropriate stream crossing device.</li> </ul>
Ponding or channelization of surface waters due to rutting.	<ul style="list-style-type: none"> <li>- timing activities to stable ground conditions.</li> <li>- use of gravel roads.</li> </ul>
Contamination of surface or ground waters through spills or leaks of toxic substances.	<ul style="list-style-type: none"> <li>- spill control material and procedures readily available.</li> <li>- site selection where possible.</li> </ul>
Soil compaction/topsoil-subsoil mixing.	<ul style="list-style-type: none"> <li>- avoidance of rutting by vehicles where possible.</li> <li>- construction timing.</li> <li>- use of gravel roads.</li> <li>- use of vehicles with low bearing pressures.</li> <li>- stop activities when ground conditions are poor.</li> </ul>
Wind/water erosion.	<ul style="list-style-type: none"> <li>- avoidance of areas with high erosion potential.</li> <li>- timing activities to the most stable ground conditions.</li> <li>- slope stabilisation.</li> <li>- mechanical erosion control.</li> <li>- vegetation erosion control.</li> <li>- recompaction of trenches.</li> <li>- avoid trenching parallel to the fall of a slope.</li> </ul>

## Annex C

(continued)

Contamination by petrochemicals.	<ul style="list-style-type: none"> <li>- spill control material and procedures made readily available.</li> <li>- restoration methods investigated.</li> </ul>
<b>FAUNA &amp; FLORA</b>	
Loss of habitat, breeding and/or food source for terrestrial wildlife.	<ul style="list-style-type: none"> <li>- environmental mapping to identify sensitive areas.</li> <li>- avoidance of areas containing rare/endangered species.</li> <li>- construction and maintenance activities to be timed where possible to avoid peak breeding periods.</li> <li>- the creation of "edge" (may be considered a positive impact.)</li> <li>- promotion of wildlife habitat through vegetation control.</li> <li>- avoid the filling of small wetlands.</li> <li>- use design with low risk to wildlife electrocution or collision</li> <li>- fit bird flight divertors to powerlines in bird migration areas.</li> </ul>
Changes in composition of vegetation as a result of disturbance.	<ul style="list-style-type: none"> <li>- construction timing to minimise soil disturbance.</li> <li>- restoration of soils to a stable condition.</li> </ul>
Removal or burial of stream bottom habitat and increased turbidity due to sedimentation.	<ul style="list-style-type: none"> <li>- minimise erosion from the right-of-way by maintaining a cover crop.</li> <li>- mechanical erosion control.</li> <li>- minimise stream bank erosion by retaining shrubby bank vegetation and selective cutting, pruning of trees near watercourses.</li> <li>- installation of sediment traps when necessary.</li> </ul>
Possible loss of wildlife/fish migration/travel routes.	<ul style="list-style-type: none"> <li>- avoid filling small wetlands servings as staging areas for waterfowl migration.</li> <li>- Installation and maintenance of a proper stream crossing device.</li> <li>- time construction activities to avoid disturbance to migrating fish and wildlife or during breeding.</li> <li>- Follow Eskom standards for the application of herbicides near watercourses.</li> <li>- Preserve and/or augment existing natural corridor crossings; investigate tower placement to optimise clearances to preserve existing vegetation.</li> </ul>
IntEAuction of exotic plant species resulting from vegetative erosion control.	<ul style="list-style-type: none"> <li>- use of native species for erosion control.</li> </ul>
Vegetation stress due to nutrient loss as a result of soil deterioration.	<ul style="list-style-type: none"> <li>- erosion control measures.</li> </ul>
Changes in vegetation due to soil disturbance (topsoil-subsoil mixing).	<ul style="list-style-type: none"> <li>- time construction/clearing to take advantage of stable soil conditions.</li> </ul>



